



PHASE I & II REMEDIAL INVESTIGATION REPORT

WORK ASSIGNMENT D003825-29

**CHEM-CORE
CITY OF BUFFALO (C)**

**SITE NO. 9-15-176
ERIE COUNTY (C), NY**

Prepared for:
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway, Albany, New York

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DIVISION OF ENVIRONMENTAL REMEDIATION

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Buffalo, New York 14202

**Final
July 2002**

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1.0 INTRODUCTION

The Chem-Core site is situated in a mixed industrial/commercial corridor/urban setting in the City of Buffalo, New York. It was used as a former chemical storage and wholesaling facility located at 1382 Niagara Street (Figure 1-1). In 1999, the New York State Department of Environmental Conservation (NYSDEC) classified the site as "Class 2" on its Registry of Inactive Hazardous Waste Sites. Under the State Superfund Standby Contract, Work Assignment D003825-29, URS Corporation (URS) was tasked to perform a Remedial Investigation/Feasibility Study (RI/FS). This RI report, summarizes the results of the remedial investigation.

1.1 Purpose of Report

The purpose of this RI report is to present, summarize, and provide interpretations regarding data gathered during RI field activities. As part of the Phase I and II RI, activities performed from March 2001 through October 2001 and December 2001 through March 2002 included: site inspection; historical records and literature reviews; geoprobe soil borings and soil sampling; monitoring well installation; analytical testing of groundwater samples; collection and analytical testing of surface water and sediment samples in the Black Rock Canal; a Fish and Wildlife Impact Analysis in the Black Rock Canal (through Step IIA); and a site feature and sampling point survey.

The specific objectives of the RI were to:

- ! Collect necessary data to determine the extent and type of contamination in soil, groundwater, and surface water/sediment including possible presence of dense non-aqueous phase liquid (DNAPL).
- ! Install groundwater monitoring wells to define groundwater flow direction and quality, and to determine the extent of any contaminant plume migrating from the site.
- ! Complete through Step IIA of a Fish and Wildlife Impact Analysis (FWIA).

- ! Identify potential pathways for human exposures as part of a qualitative exposure assessment.
- ! Provide sufficient data to determine the need for remedial action.

1.2 Site Description and History

Site Description

Chem-Core is a Class 2 site, listed on the NYSDEC Registry of Inactive Hazardous Waste Sites (NYSDEC Site No. 9-15-176). The Chem-Core Buffalo site is a former chemical wholesaling facility located at 1382 Niagara Street in the City of Buffalo, Erie County, New York (Figure 1-1). Situated on a historically industrial corridor, the site is in close proximity to residential neighborhoods to the east and a Rail corridor to the west with both the Interstate I-190 highway and the Black Rock Canal (which leads from Lake Erie to the Niagara River) farther to the west.

The site is occupied by a 39,000 square foot industrial building on approximately 0.5 acres. The facility structure occupies most of the property parcel, with exposed soil in a driveway/yard area at the north end of the site. To the north of the driveway/yard area is a two-story structure which is operated by Great Lakes Pressed Steel Corporation. Just beyond the building to the north is West Delevan Avenue which dead-ends at the rail line and is used as a parking area/driveway. A large storm sewer line passes beneath this street and discharges into the Black Rock Canal. Refer to Figure 1-2 for the location of adjacent properties and other features. Figure 1-3 depicts an aerial view of the site vicinity.

To the south of the site is the former location of the Mentholatum Corporation (new owners, the Garrett Leather Corporation). The western portion of this property has a warehouse building with enclosed loading docks at the north end abutting the Chem-Core building. The eastern part of the property is covered by asphalt parking and driveway areas and various concrete slabs, foundations and sidewalks. An approximate six-inch slab of concrete (without visible existence of rebar) was encountered during installation of the MW-3 at the southeast corner of the site (Figure 1-2). Underground Storage Tanks (USTs) were located at this property when Mentholatum operated

a building just south of the Chem-Core site (Figure 1-2). No definite location for the former USTs has been identified, but the NYSDEC has records of their removal. USTs also were removed from a site across Niagara Street to the east/southeast of the site which were part of a former Taxi service.

The Acme Bearing company and a used car lot are located east of the site across Niagara Street (five lane roadway), with residential housing further east (approximately 200 feet from the site). Immediately to the west of the site is an active railway which is utilizing a single track down the center of the rail right-of-way. An approximate 10 feet tall, concrete retaining wall separates the I-190 highway from the west of the railway. The Black Rock Canal is immediately beyond a concrete and sheet-pile retaining wall to the west of the highway right-of-way.

Site History

The facility has been used for commercial operations since the early 1930s as a chemical-handling facility, with several business and commercial tenants operating from rented portions of the site structure. From the review of an aerial photograph taken in 1938, the on-site building appeared to be constructed similar to the current state. During the initial operation of the company, a significant percentage of the business was related to supplying acids to metal fabrication industries. During the 1950s, sales involved chlorinated solvents for dry cleaning industries. In the 1970s and 1980s, the company sold chlorinated degreasing solvents. Another large percentage of sales involved inert materials such as Diatomaceous Earth, Fuller's Earth and Bentonite Clay. The company also marketed propylene glycol and glycerine to the hand lotion industry and primary alcohol to the printing industry.

Until 1980, Chem-Core received Diatomaceous Earth via a rail spur located directly west of the building. During the 1970s and until 1988, the company received bulk liquid materials at a receiving station on the north side of the building. The materials were transferred into 55 gallon drums by a gravity operated drum filling machine connected to the truck with a hose. The company had an EPA hazardous waste identification number and was classified as a RCRA small quantity generator.

1.3 Report Organization

This RI report has been organized and divided into seven sections corresponding to the format outlined by the United States Environmental Protection Agency (USEPA 1988). Site background information, including a discussion of previous investigations, is provided in the following subsections. The scope of work is outlined, and the methods and procedures used during the field investigations are summarized in Section 2.0. The physical characteristics, including a detailed discussion of the site geology and hydrogeology, are described in Section 3.0. A discussion of analytical testing results is provided in Section 4.0. Section 5.0 presents a discussion of the contaminant fate and transport and Section 6.0 provides a qualitative risk assessment. Section 7.0 presents the remedial investigation summary and conclusions. The RI report consists of text followed by tables and figures. Supporting documentation and analytical data are included as appendices. The Data Usability Summary Reports (DUSRs) have been submitted separately.

1.4 Previous Investigations

A number of field investigations were performed at the site during the period from March 1997 through September 2000. The following discussion summarizes these previous field investigations. A detailed discussion of the results of analytical data that were collected during the studies are presented in Section 4.0. The existing data have been reviewed, and will be utilized as appropriate during this project.

Phase I Environmental Site Assessment - Maxim Technologies, Inc., March 1997

Phase II Limited Site Investigation - Maxim Technologies, Inc., June 1997

Report on Activities: Immediate Investigative Work Assignment (IIWA) - NYSDEC,
August 1999

Limited Indoor Air Quality Investigation and Asbestos Sampling and Analysis Report -
Chopra-Lee, Inc., September 2000

A Phase I study in March 1997 and a Phase II Limited Site Investigation in June 1997 were completed for Chem-Core, Inc. by Maxim Technologies, Inc. As part of the Phase II investigation, Maxim advanced eighteen (18) soil borings both inside the building and just north of the building. Nine subsurface soil samples were collected. Samples were analyzed for volatile organics, metals, and Toxicity Characteristic Leaching Procedure (TCLP) parameters. Not all samples were analyzed for all parameters. Analysis of subsurface soil samples showed elevated levels of various volatile organic compounds (VOCs), some in exceedance of TCLP Toxicity Criteria for Hazardous Waste. Due to the limited funds which Chem-Core had committed to the Phase II investigation, bedrock coring for monitoring well construction was omitted in preference to additional soil borings and sample analysis to better define the overburden soil contamination and its area of effect.

In response to the high levels of hazardous substances detected at the site, as well as Chem-Core's subsequent bankruptcy and closure in 1999, an Immediate Investigative Work Assignment (IIWA) was implemented by the NYSDEC to install and sample bedrock groundwater monitoring wells and to install additional borings, at depth, which the Maxim investigations omitted. As part of the IIWA, NYSDEC installed three (3) bedrock monitoring wells (MW-01 through MW-03) around the building, and advanced seven Geoprobe soil borings (SB-1 through SB-6 and PZ-1) inside the building (Figure 1-4 & 1-4A). Boring PZ-1 was converted into an overburden piezometer. Soil samples were collected from 6 borings and analyzed for volatile organics. The three bedrock monitoring wells were sampled for volatiles, and PZ-1 was also sampled for volatiles. A detailed discussion of the analytical results is presented in Section 4.0 and a summary is presented below.

Based on the results of the previous investigations, multiple contaminants [primarily trichloroethene (TCE) and tetrachloroethene (PCE)] have been detected in site soil, soil gas and groundwater. Soil contamination at the site exceeds the Toxicity Characteristic for Hazardous Waste as set forth in 6 NYCRR Part 371, and also exceeds guidelines established by the NYSDEC, Division of Hazardous Waste Remediation, Division Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046 "Determination of Soil Cleanup Objectives and Cleanup Levels", dated January 24, 1994. Based upon Maxim's data, TCLP values for carbon tetrachloride, TCE and PCE exceeded regulatory criteria defining hazardous waste. Areas of contaminated soil with the highest concentrations include the former tanker loading area at the north end of the

building and the former perchloroethylene above-ground storage tank area inside of the building near the loading dock area. Both had high levels of VOCs and are potential sources for groundwater contamination, as contaminants are present at the soil/bedrock interface.

Groundwater analyses showed that significant volatile organic compound contamination exists in groundwater in all three bedrock monitoring wells and in the overburden piezometer PZ-1, and is evidence that source contamination has traveled into the bedrock aquifer. Semivolatile (SVOC) analysis indicated the presence of bis(2-ethylhexyl)phthalate at 14 ppb, 7 (estimated value) and 10 ppb in water from monitoring wells MW-01, MW-02, and MW-03, respectively, and the compounds 2-methylphenol(3 ppb, estimated value) and 4-methylphenol (3 ppb; estimated value) in the sample from monitoring well MW-02 only. Due to the low concentrations of the above compounds, SVOC contamination is not currently seen as a problem in the groundwater. Pesticide/PCB analyses indicated the presence of some pesticides in soil, but no significant amounts were indicated. No PCBs were detected in any samples analyzed for that parameter nor were any pesticides reported in groundwater samples from monitoring wells MW-01, MW-02, or MW-03. Inorganic analytes in soil matrices were not in exceedance of TAGM 4046 guidance although several analytes (iron and sodium), in the groundwater samples from the bedrock monitoring wells, were in exceedance of groundwater standards.

An indoor air quality investigation was conducted by Chopra-Lee, Inc. in September 2000 at the Chem-Core site. The study was conducted to evaluate the indoor air quality at the site. The air quality investigation included real-time monitoring of carbon monoxide, carbon dioxide, relative humidity, temperature, oxygen, and VOCs. Air samples were collected using a low volume air sampling pump with charcoal sorbent and analyzed for acetone, 2-butanone, carbon tetrachloride, 1,1,1-trichloroethane, trichloroethene, and tetrachloroethene. In addition, five grab samples were collected from areas suspected to contain asbestos building materials. A microbial investigation of the building was also conducted by viable air sampling.

Chopra-Lee, Inc. reported that the general gaseous indoor air quality parameters were identified to be within the currently accepted recommendations, standards, and regulations with the exception of relative humidity. The viable airborne results indicated there were elevated

concentrations of fungi including *Aspergillus versicolor* and *Penicillium sp.* *A. versicolor* is reported to be a toxic microbal and Chopra-Lee, Inc. reported that the areas identified to contain the fungi warrants remediation. These areas were identified to exist within the former empty drum storage room (Figure 1-4A). Trace concentrations of tetrachloroethene and acetone were reported in air (0.026 to 0.024 mg/m³) in the former paint booth room. The sample collected from the former flammable materials storage room (Figure 1-4A) reported PCE at 0.026 mg/m³. Four of the five samples analyzed for asbestos were positive. Asbestos was reported to exceed 1%. The areas of confirmed asbestos consisted of overhead pipe insulation, roof flashing, 9" x 9" floor tiles, and transite wall board material. Chopra-Lee, Inc. concluded that the toxic fungi identified warrants remediation prior to future occupancy of the building. In addition, Chopra-Lee, Inc. recommended that a survey be conducted of the unknown building materials and that the asbestos materials be quantified. The known asbestos material will eventually require proper handling and disposal contingencies.

2.0 REMEDIAL INVESTIGATION FIELD ACTIVITIES

The field activities conducted as part of this RI were sequenced to most effectively assess the impact of the site on the environment. There were two primary phases of field work. Phase I RI field activities were conducted between July 9, 2001 and October 10, 2001. The following tasks were conducted:

- ! Site Inspection
- ! Geoprobe borings
- ! Soil sampling
- ! Installation of nine monitoring wells
- ! Development of nine new monitoring wells
- ! Groundwater level measurements
- ! Hydraulic conductivity testing
- ! Collection of representative samples for chemical analysis including forty-four (44) subsurface soil, six (6) paired surface water/sediment samples and twelve (12) groundwater samples from three existing site wells and nine newly installed wells
- ! Site feature and sampling point survey
- ! Fish and wildlife impact analysis (through Step IIA)

Phase II RI field activities were conducted between December 2001 and March 2002. The Phase II effort was based upon the data gathered as part of the Phase I. Additional Phase II soil investigations were not needed because the nature and extent of soil contamination was adequately delineated during the Phase I. For groundwater, however, six additional monitoring wells were installed as part of the Phase II during two separate work events. In the first event, three wells were installed south of the site. Well depths were targeted in the shallow and deep portions of the bedrock aquifer south of the site. Analytical results of the initial three Phase II RI wells reported concentrations of site-related contaminants farther south of the site, and the horizontal extent of groundwater contamination was still not delineated. As a result, NYSDEC directed URS to install three additional monitoring wells at two locations: one location approximately 600 feet south of the southernmost monitoring well, near the foot of Auburn Avenue; and inside the Chem-Core building near the former PCE tank. NYSDEC directed URS to install a shallow/deep bedrock well pair at the

Auburn Avenue location (MW-13S/13D), and a shallow bedrock well inside the Chem-Core building (MW-14). The Phase II RI field activities included the following tasks:

- ! Installation of six new monitoring wells
- ! Development of six new monitoring wells
- ! Groundwater level measurements
- ! Hydraulic conductivity testing
- ! Collection of representative groundwater samples from the six (6) new wells, twelve (12) existing wells, and piezometer PZ-1 inside the building
- ! Survey of new monitoring wells

2.1 Site Inspection

The site inspection was conducted on March 7, 2001 and was attended by the NYSDEC - Albany and Buffalo Project Managers, a representative of MJ Peterson Commercial Real Estate Division, a New York State Department of Health representative, a URS Certified Industrial Hygienist (CIH), and the URS Project Manager. The site inspection consisted of a walkover inside and the area around the former Chem-Core building. At that time, the building was secure with no signs of trespassing or forced entry. There were no working utilities. The former loading dock room along the north side of the building was messy with scattered debris including pallets and lumber. Mold and fungal material was visible in the former storage room near the northeast corner of the building. URS' CIH inspected areas previously identified by Chopra-Lee, Inc. containing significant areas of fungi hazard. As a result of the inspection, URS' CIH established the need for Level "C" dermal and respiratory protective equipment during all RI work field activities in the vicinity of the former storage room. After the inside walkover, the group toured the grounds around the former Chem-Core building. Proposed monitoring well locations were selected and these locations were inspected for access constraints including overhead and underground utilities. The six proposed surface water sediment samples were also agreed upon.

2.2 Geoprobe Borings and Subsurface Soil Sampling

A total of twenty-four (24) soil borings were advanced between July 9 and July 12, 2001. Eight soil borings (GB-01 through GB-08) were advanced outside the building around the northern and eastern perimeter of the site using a Geoprobe direct-push unit. Borings GB-09 through GB-24 were advanced inside the building as depicted in Figure 1-4. The borings were spaced approximately 50 feet apart in a grid pattern. Geoprobe borings were advanced using a macro-core sampler up to the top of bedrock which ranged from 11.5 feet to 18.5 feet deep. Organic soil vapors were monitored with an HNu PID/FID at two-foot intervals in the soil cores. All soil cores were described and all related information was recorded on soil boring logs (Appendix A). Headspace screening of soil samples was conducted at two-foot intervals using an HNu PID/FID. Subsurface soil sample locations for chemical analysis were selected based primarily upon the results of the soil gas screening results (Table 2-1). Table 2-2 provides the soil sampling selection rationale. At most borings two (2) soil samples were collected for analytical testing. A total of forty-four (44) soil samples were collected and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs). In addition, four samples were analyzed for TCL semivolatile organic compounds (SVOCs), TCL pesticides and polychlorinated biphenyls (PCBs), Target Analyte List (TAL) metals, and cyanide (Table 2-1). The soil borings were backfilled with bentonite hole plug to within 6 inches of the ground surface. The remaining annulus was backfilled with concrete patch.

2.3 Monitoring Well Installation

Fifteen monitoring wells were installed during the Phase I and Phase II RI. In the first Phase, nine monitoring wells were drilled and installed at seven locations in the vicinity of the site. At the upgradient location, MW-04S/04D, one paired shallow and deep bedrock monitoring well was installed. An additional deep bedrock well was installed adjacent to existing well MW-01S. Shallow bedrock monitoring wells were installed at five additional locations (MW-05, MW-06, MW-07, MW-08, and MW-10). One shallow overburden monitoring well (MW-09) was installed at a downgradient location adjacent to the Black Rock Canal. Refer to Figure 1-4 for the locations of the monitoring wells. The wells were located to provide adequate coverage, in combination with the existing monitoring wells, for purposes of evaluating groundwater flow direction and potential contaminant transport from the site.

Shallow bedrock monitoring wells were completed as 4-inch diameter open bedrock monitors. Well depths were targeted to monitor the water table aquifer, located in the Akron Dolostone, approximately 25 to 35 feet below ground surface. The wells were installed in boreholes using 8¼-inch inner diameter (ID) hollow-stem augers (HSAs) advanced to top of bedrock. Continuous soil sampling using 2-inch outside diameter (OD) split-spoon samples were conducted at each well boring location to characterize site soil stratigraphy. After encountering bedrock, an Nx sized rock core drill (1.875-inch core diameter and 2.980-inch hole diameter), was used to confirm bedrock. Drilling then proceeded using 7 f -inch roller bit to create a 3- to 5-foot rock socket. A permanent 6-inch carbon steel casing was then grouted from the bottom of the rock socket to the ground surface. After the grout cured for at least 24 hours, the borings were advanced using an Nx core barrel to approximately 35 feet deep. The core holes were then reamed to nominal 4-inch diameter using a 3 f -inch roller bit to depth.

Deep bedrock monitoring wells were also completed as 4-inch diameter open bedrock monitors. Well depths were targeted to monitor deeper groundwater in the Bertie Formation, approximately 40 to 50 feet bgs. Deep monitoring wells were installed similarly to shallow wells, with the exception that a 4-inch ID stainless-steel riser was installed and grouted at a depth of approximately 40 feet bgs. The open bedrock monitor was installed as a nominal 4-inch diameter. Wells were completed with flush-mount protective curb boxes with locking covers and concrete aprons. Locks were provided for all new and existing site monitoring wells. All locks were keyed alike.

The shallow overburden well, MW-09, was completed with 2-inch schedule 40 poly vinyl chloride (PVC) screen (0.010-inch slot) and riser installed through 4¼-inch HSAs. With NYSDEC approval, this monitoring well was added to the drilling program during the field activities. Based upon historical records, the location of MW-09 appears to be located in between the existing Black Rock Canal retaining wall and the former east face of the Old Erie Canal. This area was filled during the construction of the I-190 in the 1950s. MW-09 monitors the fill material located in the former Erie Canal. A silica sand pack was placed around the screen up to 2-feet above the screen. A 2-foot bentonite seal was placed above the sand pack. The remaining annulus was grouted with a cement/bentonite grout mixture. The well was finished with a steel flush-mount protective casing. Monitoring well construction logs are provided in Appendix B. Monitoring well construction data is summarized in Table 2-3.

Six monitoring wells were drilled and installed at five locations during the Phase II RI. A deep bedrock well, MW-08D was installed adjacent to well MW-08S. Shallow bedrock wells were installed at four locations (MW-11, MW-12, MW-13S, and MW-14). An additional deep bedrock well was installed adjacent to well MW-13S. Refer to Figure 1-4 for the locations of the monitoring wells. With the exception of monitoring well MW-14, installation methods were similar to those described above. MW-14 was installed by advancing 6-1/4-inch hollow stem augers to the top of bedrock. A 5-7/8-inch roller bit was advanced approximately 1.5 feet into the top of bedrock. Then, a 4-inch inside diameter stainless steel casing was grouted from the bottom of the rock socket to the surface. After the grout cured, the well was completed into the shallow bedrock aquifer by Hq rock coring to 35 feet bgs. All wells were fitted with steel flush-mount protective casings. Monitoring well construction logs are provided in Appendix B and monitoring well construction data is summarized in Table 2-3.

2.4 Monitoring Well Development

The fifteen RI wells and the three existing wells were developed using a submersible pump with dedicated/disposable high-density polyethylene (HDPE) tubing. Water quality parameters including temperature, pH, specific conductivity and turbidity were monitored during development. With the exception of MW-05, all wells were developed to desired specifications [i.e., stable water quality parameters and turbidity less than 50 nephelometric turbidity units (NTU)]. Monitoring well development records are provided in Appendix C. The pH of groundwater from MW-05 stabilized at approximately 11 despite repeated development efforts. MW-05 is situated immediately adjacent to a very large sewer outfall which may have a localized affect on groundwater pH. Alternatively, MW-05 may need additional development efforts.

Water level measurements in monitoring wells were collected on six dates and are presented in Table 2-4.

2.5 Hydraulic Conductivity Testing

In situ hydraulic conductivity testing (slug tests) was performed in each of the fifteen RI monitoring wells and three existing monitoring wells to estimate the hydraulic conductivity and

variability of the bedrock aquifer and overburden sediments near MW-09. Slug tests were conducted by rising and lowering the water level in the monitoring well by inserting and removing a slug of known volume, and monitoring the return of the water level to its static level. Slug tests were conducted after the monitoring wells were developed. An In-situ data logger/pressure transducer was used to collect the water level data. The data were analyzed using the methods of Bouwer and Rice (1976). The results are summarized in Section 3.0, while slug test data are shown in Appendix D.

2.6 Groundwater Sampling

As part of the Phase I RI field activities, groundwater sampling was conducted between October 8 and 10, 2001 and is referred to as Round 1 sampling. Prior to sampling, each well was purged a minimum of one well volume using a submersible pump with dedicated/disposable HDPE tubing through a low flow cell. The wells were purged until water quality parameters were stable and three consecutive turbidity readings of less than 50 NTU were obtained. After purging was completed, samples were collected directly from the tubing. The purging logs can be found in Appendix E. The groundwater samples from the monitoring wells were analyzed for TCL VOCs. Two samples were also analyzed for TCL SVOCs, TCL pesticides/PCBs, TAL metals and cyanide.

After the Phase II field work was completed, a second round of sampling (i.e., Round 2) was conducted. Fifteen monitoring wells and a piezometer inside the Chem-Core building were sampled for TCL VOCs in January 2002. Selected wells were analyzed for hardness and dissolved iron. The three additional wells (MW-13S/MW-13D, and MW-14) were sampled in March 2002. Samples from these wells were analyzed for TCL VOCs. Sampling methods were identical to those described above. The purging logs can be found in Appendix E.

2.7 Surface Water and Sediment Sampling

Six paired surface water/sediment samples were collected from the Black Rock Canal at approximate locations indicated on Figure 1-4. These samples were analyzed for VOCs in accordance with NYSDEC ASP methodologies. In addition, one surface water and sediment sample was analyzed for TCL SVOCs, TCL Pesticides/PCBs, and TAL metals and cyanide.

Surface water samples were collected from a boat by directly immersing the sample bottles in the water. Sediment samples were collected from a boat using a ponar dredge sampler. For each surface water sample, the water quality parameters were recorded in the field notebook and included pH, temperature, dissolved oxygen, conductivity, turbidity, and visual description. Each sediment sample also was visually described. The parameter information and descriptions are summarized in Tables 2-5 and 2-6.

2.8 Site Survey and Mapping

Following each phase of field activities, sampling locations were surveyed for horizontal location and elevation. Horizontal coordinates are based on the New York State Plane Coordinate System Transverse Mercator Projection, East Zone, North American Datum of 1983. Elevations are based on the North American Vertical Datum of 1988 (mean sea level-msl). Surveyed locations and elevations of monitoring wells and piezometers are summarized in Table 2-7 and the survey notes are provided in Appendix F. The survey information was used to develop a base map of the site and adjacent areas which is used throughout this report.

2.9 Fish and Wildlife Impact Analysis

A Fish and Wildlife Impact Analysis (FWIA) was conducted at the Chem-Core site to assess the potential ecological impacts from site contaminants. The FWIA is a stepwise process for determining the nature and extent of ecological danger from inactive hazardous waste sites. Step I of the FWIA identifies the fish and wildlife resources at the site, and provides information needed as part of the remedial investigation. If it is determined that fish and wildlife resources could be affected by site contaminants, then a Step II contaminant specific impact assessment is conducted. The primary objective of Step II is to determine the impacts of site-related contaminants on identified fish and wildlife resources. The impacts are dependent upon contaminants identified, their concentrations in the various media, the exposure of biota to the contaminants, and the toxic effects from the exposures. The field portion of the FWIA was completed by a URS biologist and wetlands scientist in October 2001. The FWIA report is included as Appendix G.

2.10 Data Validation and Data Usability Summary Reports

The data packages were prepared by the laboratory in accordance with the NYSDEC's Analytical Services Protocol (ASP) Superfund Category Deliverable requirements. They were reviewed for compliance with the applicable methods and United States Environmental Protection Agency (USEPA) Region II *Contract Laboratory Program (CLP) Organic Data Review*, SOP No. HW-6, Revision 12, March 2001, USEPA Region II *Evaluation of Metals Data for the CLP*, SOP No. HW-2, Revision XI, January 1992, and USEPA Region II *TCLP Data Validation*, SOP No. HW-7, Revision #3, March 1993. Qualifications applied to the data include "J/UJ" (estimated concentration/estimated quantitation limit), "D" (result reported from a secondary dilution analysis), "U" (not detected), "JN" (tentative identification), and "R" (rejected). The data validation summary tables are located in Appendix H of this report.

The Data Usability Summary Reports (DUSRs) were prepared for each phase of field work following the guidelines provided in NYSDEC Division of Environmental Remediation *Guidance for the Development of Data Usability Summary Reports*, dated 1999 and the approved project *Final RI/FS Work Plan*, dated May 2001. The DUSRs were submitted separately.

2.11 Investigation-Derived Waste Characterization and Disposal

Investigative-derived waste (IDW) generated as part of the field investigation included decontamination fluids, well development and purge water, drilling cuttings, personal protective equipment, and high-density polyethylene (HDPE) tubing. During the Phase I and II RI, decontamination fluids and well development water were containerized on site in a bulk holding tank. The fluids were manifested as hazardous waste by Frank's Vacuum Service of Niagara Falls, NY. After characterization, the fluids were transported and treated by CECOS International of Niagara Falls, New York. Drilling cuttings were containerized in a 15-cubic yard RCRA box. After characterization, the soils were manifested as non-hazardous waste by Frank's Vacuum Service and transported to Model City, New York for disposal. HDPE tubing and personal protective equipment were disposed of by Frank's Vacuum as non-hazardous waste. Waste profile forms, manifests, and straight bills of lading are provided in Appendix I.

3.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

3.1 Surface Features

The approximate 0.5-acre Chem-Core site is occupied primarily by a 39,000 square foot, two-story masonry building. The site is bounded by Niagara Street to the east, the former Mentholatum building on the south, the CSX rail property on the west, and the Great Lakes Pressed Steel Corporation storage facility on the north (Figure 1-2). The masonry building occupies most of the parcel. At the site the land surface is nearly flat but topography slopes steeply west of the CSX property toward the I-190 and Black Rock Canal. The site is situated at an elevation of approximately 596 feet above mean sea level (amsl). The topography surrounding the site is generally flat except towards the west. Immediately west of the adjacent CSX railtracks topography drops from approximately 590 feet amsl to approximately 580 feet amsl along the Niagara section of the New York State Thruway. Immediately west of the Thruway, topography drops again to the water surface in the Black Rock Canal, approximately 570 feet amsl.

3.2 Demography and Land Use

The site is located on the west side of the City of Buffalo, which had a population of 327,931 people in 2000 (Census 2000). Land use near the site is zoned M-1 which is classified as light industrial (City of Buffalo Zoning Department, Personal Communication).

3.3 Soils

Soils in the vicinity of the site have been mapped as urban lands which are characterized as miscellaneous areas greater than 80 percent covered by asphalt, concrete, buildings, or impervious structures (USDA-SCS, 1986).

3.4 Surface Water Hydrology

The Chem-Core site lies within the Lake Erie/Niagara River drainage basin. The Black Rock Canal is separated from the Niagara River by a break wall but it is hydraulically connected to

the Niagara River. The Niagara River drainage area covers approximately 263,700 square miles. In 2000, the monthly average discharge ranged from 173,800 cubic feet per second (February) to 202,000 cubic feet per second (July). The annual mean stream flow in 1999 was 193,600 cubic feet per second (USGS Water Resources of New York, 2001). The Black Rock Canal is designated as a Class C waterway (6 NYCRR). The Niagara River (American side) is designated as a Class A special waterway (6 NYCRR).

3.4.1 Site Drainage/Utilities

Surface drainage in the vicinity of the site is dominated by the impermeable surfaces covering most of the area (buildings, concrete, and asphalt). Any surface water runoff from the site discharges into the municipal storm sewer system which eventually discharges into the Black Rock Canal. Along the northern portion of the site, a thirty to forty-foot wide section of gravel exists between the site buildings. Surface water from the driveway and any runoff from the site buildings may infiltrate along this area of gravel.

Utilities in the vicinity of the site include water, natural gas, overhead electric and communications, and sewer. Subsurface natural gas and water are located along Niagara Street, and are typically found at three to five-feet below ground surface. Electric and communications are typically overhead and hence, do not affect the subsurface. The municipal storm and sanitary sewer system is situated beneath Niagara Street. A large storm sewer is located along West Delevan Avenue. Overflow from the sanitary system occurs rarely, during intense precipitation events. The overflow discharges eventually into the Black Rock Canal. Based upon the construction record drawings, this storm water sewer was constructed in 1936 to 1938 and is excavated 6 to 12 feet into bedrock along the foot of West Delevan Avenue, and up to approximately 15 to 20 feet into bedrock along Niagara Street. The system was constructed as a concrete conduit approximately 12 feet high and 15 feet wide. It appears that the bottom of the sewer lies near and perhaps below the unconfined shallow bedrock groundwater.

There are a number of sumps located inside the Chem-Core building. During an inspection of the sumps as part of the Phase I RI, the sumps appeared to be plugged with sediments. Presumably, during the operational history of the Chem-Core site, the sumps were connected to the sewer system.

3.5 Geology and Hydrogeology

The geology and hydrogeology in the site vicinity were studied as part of the RI. Information obtained from other studies conducted at the site and from various literature sources were used to help characterize the site hydrogeology. The following subsections summarize the regional and site-specific geology and hydrogeology.

3.5.1 Geology

3.5.1.1 Regional Geology

The site is situated in the Erie-Ontario Lowlands physiographic province of New York State (Broughton, et al. 1966). The province is characterized by low plains with little relief. The topography has been modified by glacial deposition and shoreline deposits. Erie County was buried by glacial ice during the Wisconsin glaciation which ended approximately 10,000 years ago. During the glaciations and subsequent retreats, glacial ice eroded soil material and bedrock material which were ultimately redeposited as a mixture of unconsolidated sediments. In the northern part of the County, glacial lake waters were much broader than present day Lake Erie. The sediments deposited in the proglacial Lake Erie basin are lacustrine silts and clays (USDA-SCS, 1986). The overburden deposits in the region have been mapped as lake silts and clays (Muller, 1977). The thickness of the overburden at the site varies in thickness from approximately 11.5 feet to 20 feet. Beneath the overburden deposits, the bedrock consist of the Silurian age Akron Dolostone. The rocks strike east-west and dip gently to the south at approximately 1 degree or 40 to 50 feet per mile.

3.5.1.2 Site Geology

The stratigraphic sequence in the vicinity of the site includes from the surface down: fill; stratified clayey silt/silty clay; and bedrock. The overburden was determined to be approximately 12.8 to 30 feet thick based upon drilling information. The surficial deposits have been mapped as lacustrine silts and clays. Figures 3-1 and 3-2 depict geologic cross-sections A-A' and B-B' in the vicinity of the site. Cross-section locations are shown in Figure 1-4. A thin veneer of fill was encountered at most drilling locations which was described as heterogeneous mixture of sand, gravel,

concrete, bricks, cinders and slag. At the site, fill thickness ranged from 1 to 8 feet and fill was thickest beneath the building. Off site, fill was thickest near the Erie Canal at MW-10 (i.e., 17 feet). Silty clay and clayey silt was encountered beneath the fill. The thickness ranged from approximately 9 feet in MW-03 to 17.5 feet in MW-01. The clayey silt and silty clay unit was stratified and/or laminated and contained siltier and fine sand partings where distinct wet seams occurred. In a few instances, seams containing saturated mixtures of sand and gravel were encountered, typically immediately above the bedrock. Bedrock was encountered beneath the silts and clays.

Bedrock was encountered at depths ranging from 12.8 feet in MW-03 to 30 feet in MW-10. Bedrock was identified as dolostone with argillaceous partings. It was characterized as light gray, thin to medium bedded, fine to medium grained dolomite. It also contained thin beds of dark gray, medium hard, thinly bedded shale. The upper several feet of bedrock has been mapped as the Akron Dolostone (Buehler and Tesmer 1963). Although difficult to discern, the contact with the underlying Bertie Formation appears to be 15 to 20 feet below ground surface. The upper portions of the Bertie Formation consist of dark gray shale and dolostone beds of variable thickness. Figure 3-3 depicts the bedrock surface in the vicinity of the site. Bedrock surface elevation ranges from a high at MW-03 of 585.83 feet amsl to a low of 552.87 feet amsl at MW-10. Bedrock surface slopes steeply toward the Black Rock Canal from MW-03.

3.5.2 Site Hydrogeology

3.5.2.1 Phase I RI

The primary hydrogeologic unit identified beneath the site is the unconfined water-table aquifer present in the Akron Dolostone and Bertie Formation. However, groundwater is present in the overburden and is found in the coarser sand and sandy silt partings and seams within the silty clay/clayey silt deposits. The extent and quantity of the overburden water is limited, but the overburden immediately above bedrock was wet at several boring locations. The water in the overburden is perched above the water levels measured in the bedrock. Groundwater in the bedrock flows through primarily secondary porosity features in the rock including faults, joints, solution cavities and bedding planes. Both the Akron Dolostone and Bertie Formation have little primary porosity so groundwater flow is controlled by the distribution of fractures within the rock.

Figure 3-4 depicts the potentiometric surface of the shallow bedrock aquifer on March 22, 1999. Groundwater level measurements recorded during the IIWA are listed in Table 2-4. The water elevation in the Black Rock Canal approximately 200 feet west of the site was approximately 571.5 feet above mean sea level (amsl) on February 14, 1999. The bedrock wells at the site monitor the lower Akron Dolostone and upper Bertie Formation rock units. The potentiometric surface at the site is nearly flat at approximately 571.5 feet amsl. A definitive direction of flow could not be ascertained.

Figure 3-5 depicts the potentiometric surface of the shallow bedrock aquifer on November 2, 2001. Groundwater level measurements gathered during the RI are summarized in Table 2-4. The water elevation in the Black Rock Canal was 571.44 feet amsl. Groundwater flows generally westerly towards the Black Rock Canal. The horizontal hydraulic gradient between MW-4S and MW-10 is approximately 0.004 foot per foot. Based upon the water elevation gathered to date (Table 2-4), the shallow bedrock wells monitor the unconfined water table surface within the underlying bedrock. Monitoring well MW-10 is constructed just below the overburden/bedrock interface but at a somewhat deeper bedrock zone (Figure 3-1). The water level measured in MW-10 indicates MW-10 monitors a different potentiometric zone which appears to be confined. The confining sediments appear to be the wedge of lacustrine silts and clays that drape over the sloping bedrock surface. Because the Black Rock Canal bottoms into bedrock, there is a hydraulic connection between groundwater and the canal. Monitoring well MW-09 is constructed as a water table monitor in soft sediments adjacent to the Black Rock Canal. Based upon the water level data, the water level surface in MW-09 is not substantially different than MW-10. Although MW-10 monitors a different potentiometric zone than the shallow bedrock wells in the vicinity of the site, it still monitors first bedrock groundwater and, therefore, was used to interpret groundwater flow and gradient. The lacustrine silt and clay wedge draped over the bedrock along the I-190 corridor likely impedes groundwater flow toward the Black Rock Canal, however, it is clear that a gentle horizontal hydraulic gradient exists towards the Black Rock Canal. Figure 3-6 depicts the potentiometric surface of the shallow bedrock aquifer on November 15, 2001. The data is very similar to the November 2, 2001 data.

Vertical hydraulic gradients in well pairs MW-04S/04D and MW-01S/01D are slightly downward based upon the water level information gathered to date (Table 2-4) as shown in Figure 3-1. The vertical gradient between the Black Rock Canal and MW-09 suggests the canal is losing water into the adjacent sediments. Based upon the vertical hydraulic gradients, it appears that they are flat somewhere between MW-09 and MW-01S/MW-1D, perhaps along the I-190 corridor.

Hydraulic conductivities of the bedrock monitoring wells and the overburden monitoring well (i.e., MW-09) were estimated by conducting slug tests. Tests were performed by inserting (falling head test) or removing (rising head test) a stainless steel slug of known volume and recording the rate of recovery of the water level in the well. Recovery data was gathered with an In-Situ down-hole data logger. The slug test data was analyzed using the methods of Bouwer and Rice (1976) and/or Bouwer (1989). Because the method of analyses assumes that the aquifer is a porous media, the values obtained by the methods should be considered as relative order of magnitude estimates. Table D-1 in Appendix D summarizes the hydraulic conductivity results. Appendix D presents all of the raw data.

A wide range of hydraulic conductivities were estimated from the slug tests. This is indicative of the aquifer's heterogeneity and the anisotropic nature of the fractured bedrock. The hydraulic conductivities ranged from negligible (i.e., estimated to be less than 10^{-6} cm/second in several wells) to 5.7×10^{-3} cm/second in MW-4S.

3.5.2.2 Phase II RI

Figure 3-7 depicts the potentiometric surface of the shallow bedrock aquifer on March 15, 2002. Groundwater level measurements are summarized in Table 2-4. Groundwater flows generally westerly towards the Black Rock Canal. The horizontal hydraulic gradient between MW-4S and MW-10 is approximately 0.004 foot per foot. The pattern of groundwater flow is very similar to the November 2, 2001 and November 15, 2001 data.

Vertical hydraulic gradients in well pairs MW-04S/04D and MW-01S/01D are slightly downward based upon the March 15, 2002 groundwater data (Table 2-4). The vertical hydraulic gradient in well pair MW-13S/13D was slightly upward. The vertical gradient between the Black Rock Canal and MW-09 suggests the canal is losing water into the adjacent sediments.

Hydraulic conductivities of the Phase II bedrock wells ranged from 6.8×10^{-3} cm/second in MW-8D to 1.5×10^{-4} cm/second in MW-13S. Table D-1 in Appendix D summarizes the hydraulic conductivity results.

4.0 DISCUSSION OF NATURE AND EXTENT OF CONTAMINATION

This section characterizes the nature and extent of contamination detected in soil and groundwater in the vicinity of the Chem-Core site. Soil contamination beneath the building likely occurred as a result of former spills. Although most of the soils are covered by a concrete slab, groundwater has been adversely impacted by the soil contamination. The contaminated soils beneath the building represent a continuing source of contamination. The following discussion presents the results of the field activities and environmental sampling data for soil vapor, soil, surface water, sediments, and groundwater.

4.1 Soil Gas Screening Results

Volatile organic gases were screened using a combination HNu PID/FID at each of the twenty-four Geoprobe soil boring locations inside and adjacent to the building. Measurements inside the building were taken immediately below the concrete slab and at two foot intervals up to the bedrock surface, approximately twelve (12) to eighteen (18) feet below ground surface (bgs). HNu concentrations ranged from 0 to as high as 791 ppm. Soil gas readings increased at the fill/clayey silt boundary and at the bedrock interface. The highest soil gas readings occurred at GB-13 near the former PCE storage tank. No HNu readings significantly above background were detected in the four Geoprobe soil borings outside the building along Niagara Street (Figures 4-1 through 4-8). Figure 4-1 through 4-8 depict HNu readings from Geoprobe Macrocore samples. The figures represent the recorded readings at two- (2) foot intervals up to the bedrock surface. Soil gas contamination occurred primarily in two areas: 1) centered around the area beneath the former PCE storage tank; and 2) immediately above bedrock (Figure 4-8) along the western edge of the building.

4.2 Soil Sampling Results

4.2.1 Previous Investigations

As part of the Phase II investigation in 1997, Maxim Technologies, Inc. collected ten (10) subsurface soil samples. Samples were analyzed for VOCs, metals, and TCLP parameters. Not all samples were analyzed for all parameters. Table 4-1 summarizes the analytical results. Table 4-1

includes NYSDEC criteria provided in Technical Administrative Guidance Memorandum 4046 for each of the detected compounds. These criteria provide a basis for determining soil cleanup levels at State Superfund Sites and are considered to be the applicable standards, criteria, and guidance (SCGs) values for this site. In addition, the TCLP action levels are provided. Detected compounds included: chlorinated hydrocarbons; benzene, toluene; and, acetone and 2-butanone. Compounds detected above NYSDEC SCGs included 1,1,1-trichloroethane, 2-butanone, acetone, tetrachloroethene, and trichloroethene. Reported concentrations of carbon tetrachloride, tetrachloroethene, and trichloroethene exceeded TCLP criteria at four of the six locations analyzed as depicted in Figure 4-9. Total VOC concentrations were highest in boring B-14 at 70,750 Fg/kg.

Only the sample collected from B-15 was analyzed for Target Analyte List (TAL) metals. Reported concentrations of beryllium, cadmium, chromium, cobalt, iron, mercury, nickel, and zinc exceeded the applicable NYSDEC SCGs (Table 4-1).

As part of the IIWA, ten soil samples and one sump sediment sample was collected from four (4) Geoprobe soil borings, three (3) well borings and the sump pit located in the northwest corner of the loading dock at the site (Figure 4-10). Samples were analyzed for TCL VOCs, pesticides, and TAL metals. Not all samples were analyzed for all parameters. Table 4-2 summarizes the analytical results. Compounds detected above NYSDEC SCGs included 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethene (total), acetone, methylene chloride, tetrachloroethene, trichloroethene (Figure 4-11). Total VOC concentrations ranged from 266 Fg/kg in SB-3 to 38,160,000 Fg/kg in SB-2. The reported concentrations of copper, iron, and zinc exceeded SCGs in MW-3 (2-4 feet) the only soil sample analyzed for metals (Table 4-2). The sump sample contained several VOCs and metals that exceeded SCGs (Figure 4-11 and Table 4-2).

4.2.2 Phase I RI

Forty-four (44) soil samples were collected as part of the Phase I RI. All samples were analyzed for Target Compound List (TCL) volatiles (VOCs). Four samples were analyzed also for TCL SVOCs, TCL Pesticides/PCBs, TAL metals, and cyanide. The rationale for sample selections is presented in Table 2-1. Table 4-3 summarizes the analytical results and Appendix H presents the data validation tables. For characterization purposes, Table 4-3 includes NYSDEC criteria provided in Technical Administrative Guidance Memorandum 4046 for each of the detected compounds.

These criteria provide a basis for determining soil cleanup levels at State Superfund Sites and are considered to be the applicable standards, criteria, and guidance (SCGs) values for this site.

Detected compounds included chlorinated hydrocarbons, miscible hydrocarbons (including acetone and 2-hexanone, and 4-methyl-2-pentanone), and benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. Total detected VOCs ranged from 340,000 Fg/kg in GB-13 to 7 Fg/kg in GB-08. Figure 4-12 depicts the maximum detected total VOCs detected in the soil samples at each boring location. The highest detected total VOCs occurred beneath the former PCE tank near boring GB-13. Figure 4-13 depicts the VOCs and SVOCs reported at concentrations above NYSDEC SCGs. These compounds included PCE, TCE, acetone, and methylene chloride. Figure 4-14 through 4-16 depict the maximum total concentrations of chlorinated hydrocarbons, BTEX hydrocarbons, and SVOCs at each boring location. The distribution of chlorinated hydrocarbons is very similar to the distribution of total VOCs (Figure 4-12). The distribution of BTEX compounds is more concentrated beneath the northwest corner of the building and in the courtyard north of the building where chemical transfers between vessels reportedly occurred. Detected SVOCs included primarily polycyclic aromatic hydrocarbons (PAHs). SVOCs were detected most frequently and the highest concentrations in boring GB-02 at 39,952 Fg/kg. SVOCs detected above SCGs included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and dibenz(a,h)anthracene. 4,4-DDT was reported at 4.6 Fg/kg in GB-22. Twenty-two metals were detected. Reported concentrations of arsenic, beryllium, chromium, copper, nickel and zinc exceeded SCGs in one or more samples (Table 4-4). Table 4-4 provides a statistical summary of the detected contaminants in soil samples. PCE and TCE were detected most frequently and at highest concentrations.

4.3 Surface Water/Sediment Results

Surface Water

Six paired surface water/sediment samples were collected in the Black Rock Canal at the locations shown in Figure 1-4. All samples were analyzed for TCL VOCs. SW-3/SED-3 was also analyzed for TCL SVOCs, TCL pesticides and PCBs, TAL metals, and cyanide. Table 4-5 summarizes the surface water analytical results. For characterization purposes, Table 4-5 includes

the Class C surface water criteria from NYSDEC Technical and Operational Guidance Series 1.1.1, April 2000, considered to be SCGs. There were no VOCs, SVOCs, pesticides, or PCBs detected in surface water. Sixteen metals and cyanide detected but at concentrations below NYSDEC SCGs (Figure 4-17).

Sediment

Table 4-6 summarizes the sediment analytical results.

Sediment criteria have been developed by the NYSDEC in accordance with the *Technical Guidance for Screening Contaminated Sediments* document (NYSDEC, 1998), which details the methodology for determining acceptable levels of non-polar organic contaminants and metals.

Within the framework of the NYSDEC water quality regulations, four categories of protection are identified from which sediment criteria can be derived. The criteria for non-polar organic compounds for human health and environmental risk are:

- ! Human health bioaccumulation
- ! Benthic aquatic life acute toxicity
- ! Benthic aquatic life chronic toxicity
- ! Wildlife bioaccumulation

Sediment criteria have been derived by the NYSDEC for 52 non-polar organic compounds or classes of compounds using the equilibrium partitioning methodology. A sediment is considered to be contaminated if the contaminant concentration exceeds *any* of the categories of health and environmental risk. For non-polar organic contaminants, sediment to be considered (TBC) criteria can be calculated on a sample-specific basis using the applicable surface water quality standards and the chemical properties of the compound. TBCs can be calculated for parameters with known surface water SCGs and octanol-water partition coefficients (K_{ow}). K_{ow} is defined as a measure of the degree to which an organic chemical will preferentially dissolve in water or an organic solvent.

For metals contaminants, sediment screening criteria are based upon chemical effects data. New York State-established screening criteria for sediments follow the Ministry of Ontario guidelines (Persaud, et al., 1992) and chemical effects data developed by Long and Morgan (1990).

The Ministry of Ontario guidelines span background, lowest effect level (concentration in sediment that can be tolerated by the majority of benthic organisms, but still causes toxicity to a few species), and severe effect level (concentration at which pronounced disturbance of the sediment-dwelling community can be expected). Long and Morgan categorized chemical effects data in sediments according to low and median toxic effects (i.e., effects range-low [ER-L] and effects range-median [ER-M]). The lowest concentration in each of the two effects was selected as the NYSDEC sediment screening criterion (NYSDEC, 1998). Using this methodology, the NYSDEC has established criteria for twelve metals: antimony, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, silver, and zinc. The criteria will be used as a baseline for evaluating metals concentrations in sediment samples at the Chem-Core site. These values are listed in Table 4-6.

Detected VOCs in sediment samples included 1,4-dichlorobenzene, 2-butanone, acetone, chlorobenzene, ethylbenzene, methylene chloride, toluene, and xylene (total). However, none of the detected VOCs were reported at concentrations above any of the four criteria for screening sediments. Only SED-3 was analyzed for TCL SVOCs, pesticides, PCBs, and TAL metals. A wide range of SVOCs, were detected including PAHs, phthalates, and phenolic compounds. Reported concentrations of benz(a)pyrene and Aroclor 1260 exceeded human health protection standards (Figure 4-18). Reported concentrations of Aroclor 1260 exceeded wildlife bioaccumulation protection standards (Figure 4-19). Reported concentrations of bis(2-ethylhexyl)phthalate, fluoranthene, phenanthrene, chlorobenzene, and Aroclor 1260 exceeded benthic chronic protection standards (Figure 4-20). No reported compounds exceeded benthic acute protection standards (Figure 4-21). Metals reported at concentrations above the lowest effect level and severe effect level include antimony, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

4.4 Groundwater Results

4.4.1 Previous Investigations

As part of the IIWA, three (3) monitoring wells (i.e., MW-01S, MW-02, and MW-03) were sampled in February 1999. Samples were analyzed for TCL VOCs, TCL SVOCs, TCL pesticides and PCBs and TAL metals. In addition, the overburden Piezometer PZ-1, was analyzed for TCL VOCs. Analytical results are summarized in Table 4-7. Many VOCs were reported at concentrations above NYSDEC Class GA groundwater criteria. Figure 4-22 depicts the VOCs, SVOCs, and metals reported at concentrations above SCGs. The VOCs reported at concentrations

above SCGs included chlorinated hydrocarbons, acetone, benzene, xylene, and toluene. The highest concentrations of chlorinated VOCs were reported in the perched groundwater immediately above the bedrock in PZ-1. Three SVOCs, 2-methylphenol, 4-methylphenol, and bis(2-ethylhexyl)phthalate (BEHP) were reported at concentrations above SCGs. Pesticides and PCBs were not detected. Reported concentrations of iron, magnesium, sodium, and thallium also were reported above SCGs.

4.4.2 Phase I RI

Groundwater was sampled between October 8 and October 10, 2001 from the three existing wells (i.e., MW-01S, MW-02, and MW-03) and nine (9) newly installed wells (i.e., MW-01D, MW-04S, MW-04D, MW-05, MW-06, MW-07, MW-08, MW-09, and MW-10). MW-09 is the only overburden monitoring well, whereas the others are bedrock wells. The overburden piezometer, PZ-1 was not sampled. Samples were analyzed for TCL VOCs. Two samples were also analyzed for TCL SVOCs, TCL pesticides and PCBs, TAL metals, and cyanide. Table 4-8 summarizes the analytical results. Complete data validation tables can be found in Appendix H. For characterization purposes, Table 4-8 includes NYSDEC Class GA groundwater criteria.

The primary contaminants detected in bedrock groundwater were VOCs which can be grouped by compounds of similar properties: chlorinated VOCs; and BTEX compounds. Two SVOCs were also detected, including bis(2-ethylhexyl)phthalate and caprolactam but they were detected at low concentrations and below NYSDEC Class GA groundwater criteria. Seventeen metals were reported in the samples. However, metal concentrations of only iron, magnesium, and sodium exceeded NYSDEC Class GA SCGs at either of the 2 sample locations analyzed. Table 4-9 summarizes the groundwater analytical data.

Figure 4-23 depicts the total VOCs detected in groundwater at each monitoring well location. Total VOC concentrations ranged from 2 Fg/L in MW-04D to 44,650 Fg/L in MW-01S. The highest total VOC detections occurred in the shallow bedrock groundwater zone immediately west and north of the Chem-Core building. Figure 4-24 depicts the VOCs reported at concentrations above NYSDEC Class GA groundwater criteria. These compounds included vinyl chloride, 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, benzene, cis-1,2-dichloroethene, PCE, TCE, toluene, and chloroethane. MW-02 reported the most compounds above SCGs followed by MW-

01S, MW-07, MW-06, and MW-03. The greatest contamination appears to be located near the Chem-Core building near monitoring well pair MW-01S/MW-01D. However, it appears that the plume is migrating southward. Figures 4-25 and 4-26 depict the total chlorinated hydrocarbons and BTEX compounds in monitoring wells. The distribution of total chlorinated hydrocarbons is more widespread than the distribution of BTEX compounds, although the core of the plume appears to be located at and very near the Chem-Core building. Trace concentrations of BTEX compounds occurred in upgradient wells MW-04S and MW-04D, however, the reported concentrations were below NYSDEC Class GA groundwater standards. Reported BTEX compounds were highest in MW-02 (752 Fg/L) and in MW-06 (610 Fg/L).

There were no SVOCs, pesticides, or PCBs detected in any of the monitoring wells at concentrations above NYSDEC Class GA standards.

Seventeen metals were detected in the groundwater samples. Only three metals were reported at concentrations above NSYDEC Class GA groundwater standards including iron, magnesium, and sodium (Figure 4-27).

Reported concentrations of chlorinated VOCs were higher in MW-1 during the 2001 sampling event compared to the 1999 sampling event. Reported concentrations of chlorinated VOCs were lower in MW-2 and MW-3 during the 2001 sampling event compared to the 1999 sampling event.

4.4.3 Phase II RI

Round 2 groundwater samples were collected from the three existing wells (i.e., MW-01S, MW-02 and MW-03), nine Phase I RI Wells (i.e., MW-01D, MW-04S, MW-05, MW-06, MW-07, MW-08, MW-09, and MW-10), and the three Phase II RI wells (i.e., MW-11, MW-12, and MW-8D) between January 8 and January 10, 2002. In addition, piezometer PZ-1 was sampled. Samples were analyzed for TCL VOCs, hardness, and dissolved iron. The three additional Phase II RI monitoring wells (i.e., MW-13S, MW-13D, and MW-14) were sampled on March 25, 2002. These wells were analyzed for TCL VOCs. Table 4-10 summarizes the analytical results. Complete data validation

tables can be found in Appendix H. For characterization purposes, Table 4-10 includes NYSDEC Class GA groundwater criteria.

Round 2 analytical results are similar to the Round 1 analytical results. The primary contaminants detected in bedrock groundwater were chlorinated VOCs and BTEX compounds. Figure 4-28 depicts the total VOCs detected in groundwater at each monitoring well location. Total VOC concentrations ranged from 3 µg/L in MW-04D to 77,000 µg/L in MW-14. The highest total VOC detections occurred in the overburden and shallow bedrock zone beneath the former Chem-Core building. Figure 4-29 depicts the VOCs reported at concentrations above NYSDEC Class GA groundwater criteria. These compounds included: benzene; cis-1,2-dichloroethene; vinyl chloride; 1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; PCE; TCE; toluene; trans-1,2-dichloroethene; methylene chloride; chloroform; chloroethane; and 1,1,2-trichloro-1,2,2-trifluoroethane. In general, most of these contaminants were detected in Round 1 samples with a few exceptions. The most contaminated area is located beneath and around the Chem-Core building. Figures 4-30 and 4-31 depict the chlorinated hydrocarbons and BTEX compounds detected in samples from monitoring wells. As observed in Round 1, the distribution of total chlorinated hydrocarbons is more widespread than the distribution of BTEX compounds. The core of the chlorinated hydrocarbon plume is located directly beneath and in the vicinity of the Chem-Core building. Total BTEX concentrations were generally sporadic and occurred only in MW-02 and MW-06, and at trace concentrations in upgradient well MW-04D. The extent of the plume appears to have been delineated. The occurrence of 1,1,2-trichloro-1,2,2-trifluoroethane in the southernmost well from the site (MW-13S) does not appear to be site-related. This chemical was commonly used as a refrigerant.

Figure 4-32 depicts the hardness and dissolved iron concentrations. Hardness concentrations ranged from 290 mg/L in MW-08S to 1900 mg/L in MW-04D. In the bedrock wells, dissolved iron concentrations ranged from non-detect in MW-09, MW-05, and MW-04D to 916 mg/L in MW-06.

5.0 CONTAMINANT FATE AND TRANSPORT

5.1 Background

Contaminants identified at the site in exceedance of SCGs are: volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs); and metals. Exceedances occurred in subsurface soils, groundwater, and sediments. Results of soil sampling are summarized in Table 4-1 (March 1997), Table 4-2 (February 1999) and Table 4-3 (July 2001). Results of surface water sampling and sediment sampling, both conducted in September 2001, are summarized in Tables 4-5 and 4-6. Tables 4-7 and 4-8 present the summary of February 1999 and October 2001 sampling rounds for groundwater, and Table 4-10 presents the summary of the January 2002/March 2002 sampling round for groundwater.

This section focuses on the fate and transport processes acting on contaminants reported at concentrations above SCGs. The discussion emphasizes processes that are essential in evaluating potential exposure of human and environmental receptors to the site contaminants.

5.2 General Description of Fate and Transport Mechanisms

5.2.1 Transport Processes - Subsurface Environment

Contaminant transport in the subsurface can occur as movement of discrete phase LNAPLs, or DNAPLs in the vadose zone, migration of dissolved contaminants in groundwater, or as migration of volatilized contaminants in the soil gas. Primary transport mechanisms are: advection; dispersion; and partitioning of mass.

Advection occurs when the contaminant is carried by groundwater flow or soil gas. Dispersion refers to the spreading of the migrating contaminants due to process of diffusion and mechanical mixing created by nonuniformities in the flow field. Dispersion results in the widening of the affected area, as well as in the smearing of the phase boundaries.

Mass partitioning is the process in which contaminants move between different environmental media in response to concentration gradients. Thus, for example, contaminants dissolved in groundwater may absorb onto soil particles, or volatilize into the soil gas. The process may involve mass transfer in any direction between any of the environmental media. The net result of mass partitioning is the distribution of the contaminant between all phases that remain in contact. Typically, mass partitioning acts to inhibit the migration of contaminants in groundwater or soil gas by immobilizing a part of the mass in the soil matrix (retardation). However, the process may be reversed, resulting in the slow release of the absorbed contamination into the groundwater or soil gas.

5.2.2 Mass Destruction Processes – Subsurface Environment

This discussion pertains to the subsurface environment. Therefore, mass destruction processes that rely on the presence of air or exposure to sunlight, such as photolysis, are of little importance and will not be discussed.

The most significant mass destruction process that takes place in groundwater is microbial degradation. During degradation, organic compounds may be transformed into daughter forms. Daughter compounds may be recalcitrant or degradable and either more or less toxic than the parent compounds. If a contaminant degrades into a sequence of degradable daughter compounds, it is ultimately fully metabolized into carbon dioxide, methane, water, and chloride.

The most significant microbial degradation processes operating in groundwater systems are: aerobic respiration; denitrification; iron reduction; sulfate reduction; and methanogenesis.

There are also abiotic mechanisms that result in the destruction or transformation of the mass of organic contaminants. Examples of such reactions are hydrolysis and dehalogenation. However, under normal temperature conditions prevailing in the subsurface environment, rates of these reactions are relatively low. Typically, the importance of the abiotic processes in the overall rate of mass destruction is low.

5.2.3 Transport Processes – Surface Water and Sediments

Contaminant transport processes in the surface water / sediment are essentially the same as those described in Section 5.2.1 for the subsurface environment: advection; dispersion; and mass partitioning. However, there is a substantial difference in the relative rates of the transport mechanisms. In surface water, flow velocities are typically much higher than in the subsurface, both for the aqueous phase and the gas phase. Therefore, advection plays a much more significant role. Also, the process of volatilization (mass transfer of contaminants into the gas phase) occurs much more readily as a result of direct contact of surface water with the atmosphere.

5.2.4 Mass Destruction Processes – Surface Water and Sediments

Mass destruction mechanisms described in Section 5.2.2 for the subsurface environment also act in the surface water / sediment system. However, unlike in the subsurface, photolysis may occur in the surface environment at significant rates. Photolysis depends on the supply of energy from the sun. Under the influence of that energy, certain contaminants may undergo a chemical reaction that transforms the parent compounds into byproducts.

5.3 Fate and Transport of Site Contaminants

5.3.1 Properties

Groups of compounds found above SCGs at the Chem-Core site are listed below, based on the environmental media.

Subsurface soils	VOCs (chlorinated hydrocarbons, BTEX, and ketones)
	SVOCs (polycyclic aromatic hydrocarbons - PAHs)
	Metals
Surface water	None

Sediments	VOCs (chlorinated hydrocarbons)
	SVOCs (polycyclic aromatic hydrocarbons – PAHs – and phthalates)
	PCBs
	Metals
Groundwater	VOCs (chlorinated hydrocarbons, BTEX and ketones)
	Metals

General properties of groups of contaminants of concern are discussed below. Physical properties of each of the VOC compounds are summarized in Table 5-1.

Chlorinated hydrocarbons

Chlorinated hydrocarbons detected at the site above SCGs are: carbon tetrachloride, tetrachloroethene, trichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethene, methylene chloride, chloroethane, chloroform, cis-1,2-dichloroethene, trans-1,2-dichloroethene, chlorobenzene and vinyl chloride. These compounds are volatile and moderately to highly soluble in groundwater. Their ability to adsorb onto the soil matrix is low to moderate. The properties of chlorinated hydrocarbons make them highly mobile in both the subsurface and surface environments. They are typically recalcitrant, except under anaerobic conditions.

Ketones

Ketones found at the site above SCGs are: 2-butanone and acetone. These compounds are volatile and highly soluble in water. They are characterized by very low organic carbon to water partitioning coefficients. The degree to which they adsorb into the soil matrix is insignificant and their mobility in the environment is very high. The biodegradability of ketones is generally relatively high.

BTEX compounds

BTEX compounds found at concentrations above SCGs are: benzene; toluene; and xylene. These compounds are volatile and highly to moderately soluble in water. They are readily biodegraded under aerobic conditions. They also degrade under anaerobic conditions, albeit at much slower rates. They have low to moderate organic carbon to water partitioning coefficients, making them relatively mobile in the environment.

PAHs

PAHs detected at levels above SCGs are: benzo(a)anthracene; benzo(a)pyrene; benzo(a)fluoranthene; benzo(k)fluoranthene; chrysene; dibenzo(a,h)anthracene; fluoranthene; fluorene; phenanthrene; anthracene; and pyrene. Generally, PAHs are characterized by low volatility, low solubility in water and high organic carbon to water partitioning coefficient. As a result, they are relatively immobile, and typically associate with the soil matrix. Their biodegradation rates are relatively low.

Phenols

Two phenols were found above SCGs: 2-methylphenol; and 4-methylphenol. Phenols are relatively nonvolatile, and their solubility in water is high. They do not readily adsorb into the soil matrix, being characterized by low organic carbon to water partitioning coefficients. As a result they are highly mobile in the environment. They are relatively biodegradable.

Phthalates

Bis(2-ethylhexyl)phthalate is the only phthalate detected at concentrations exceeding SCGs. Its volatility and solubility in water are low. The organic carbon to water partitioning coefficient of bis(2-ethylhexyl)phthalate is relatively high, and the compound readily adsorbs into the soil matrix. This results in a relatively low mobility in the environment. Biodegradation rate under aerobic condition is high, the anaerobic degradation is relatively slow.

PCBs

The only PCB found above SCGs was Aroclor 1260. Like most PCBs, Aroclor 1260 is a relatively inert compound, characterized by low solubility, low volatility and high resistance to degradation. It readily adsorbs into soil or sediments due to its high organic carbon to water partitioning coefficient. As a result, it is quite immobile in the environment, and is typically confined to the soil matrix.

Metals

Metals detected in site samples at concentrations exceeding SCGs are: antimony; arsenic; beryllium; cadmium; chromium; cobalt; copper; iron; lead; magnesium; mercury; nickel; silver; sodium; thallium; and zinc. Metals are generally persistent, although they may complex with other elements. They do not volatilize; however, in their soluble form, metals are mobile in the aquatic environment. The ultimate preference of metals towards soil adsorption or dissolution in water depends mostly on the acidity/alkalinity of the system.

5.3.2 Source of Contamination

The site has been used in the past as a facility for storage and packaging of chemicals. Most likely, chemicals entered the environment as a result of liquid spills into floor drains or onto the ground surface. Typically, after the spill, the liquid percolates downward through the unsaturated zone. The downward migration continues until the liquid reaches the saturated zone.

Liquids lighter than water, such as BTEX, float on the water table moving vertically with fluctuations of the groundwater level (light nonaqueous-phase liquids - LNAPLs). The vertical movement creates a smear zone, which is a mixture of residual soil contamination and pure liquid phase. The smear zone serves as a source of both groundwater and soil gas contamination through mechanisms of volatilization and dissolution. The smear zone may increase in size through horizontal migration of the LNAPL in the direction of the decreasing hydraulic gradient.

Liquids heavier than water (dense nonaqueous-phase liquids – DNAPLs), such as chlorinated hydrocarbons, continue their downward movement in the saturated zone. Throughout the downward migration, the liquid is continually absorbed by the soil matrix. If the liquid encounters a low permeability layer, its downward movement may be inhibited, in which case it forms pools at the upper surface of the low permeability layer. The final pattern of contamination depends on the overall mass of the spill. For small spills, the liquid is totally absorbed into the soil, forming residual, immobile soil contamination. In case of large spills, the residual soil contamination may be accompanied by distinctive pools of nonaqueous-phase liquids (NAPLs) forming at the interface with low permeability layers. The pools can migrate laterally following the slope of the upper surface of low permeability zones. Both pools and residual soil contamination act as source for groundwater and soil gas contamination.

Pure NAPLs were not visually identified in the subsurface at the Chem-Core site. However, visibly stained soils were observed in SB-2 during the IIWA and at several other locations during the Phase I RI. The source is most likely the mass of chemicals absorbed into the soil matrix in the form of the residual soil contamination.

The source of high concentration of metals in the subsurface soil may be related to both the onsite chemical storage and packaging activities, as well as to natural metals content of the geologic strata.

5.3.3 Subsurface Soil Contamination

Subsurface soil contamination by SVOCs, VOCs and metals has been identified throughout the site (Figures 4-11 through 4-16).

Concentrations of organic contaminants are moderate to high, typically on the order of 10,000 µg/kg or less. However, during the IIWA, reported concentrations of PCE in soils beneath the former PCE tank were on the order of 2,000,000 Fg/kg to 38,000,000 Fg/kg (2- to 4-percent). This indicates the possibility of the presence of pure NAPLs in the subsurface, although none was

visibly identified. Contaminated subsurface soils are likely to act as a continued source of groundwater and soil gas contamination.

The maximum concentration of some metals found in the subsurface soils was on the same order as typical background concentrations in the eastern United States (New York State Department of Environmental Conservation, 1994 - Determination of soil Cleanup Objectives and Cleanup Levels. Technical and Administrative Guidance Memorandum HWR-94-4046.) However, concentrations of cadmium, cobalt, copper and zinc was significantly higher than the background levels.

5.3.4 Dissolved Phase Contamination

Groundwater becomes contaminated by coming into contact with contaminants absorbed into the soil at, or below, the water table. The dissolved phase contamination undergoes advection, dispersion and mass partitioning. At the Chem-Core site, groundwater was found to be contaminated by primarily VOCs, and to a lesser extent, metals.

The groundwater flow pattern at the site appears to be relatively uniform, directed to the west towards the Black Rock Canal at very low horizontal hydraulic gradient (Figures 3-4, 3-5, 3-6, and 3-7). Dissolved phase contamination has been detected primarily in wells near the Chem-Core site. Migration of the shallow bedrock groundwater towards the Black Rock Canal appears to be impeded by a thick wedge of lacustrine silts and clays beneath the I-190. This subsurface condition has also likely impeded the westerly migration of the dissolved contaminant plume. As a result, the plume has migrated southward, although clearly there is some hydraulic connection along the Black Rock Canal beneath the lacustrine silts and clays. The plume is likely to continue to migrate along the wedge of lacustrine silts and clays and toward the Black Rock Canal.

Onsite wells indicate relatively high levels of organic contamination, with maximum total concentrations on the order of 10,000 to 100,000 µg/L. Only trace organic contamination on the order of 10 µg/L has been detected near the Black Rock Canal (wells MW-09 and MW-10). Mass destruction processes, mainly biodegradation, are also likely acting on the plume, as several

relatively degradable compounds are present. However, data on degradation parameters is absent and the extent of degradation processes can not be affirmed.

Metals most likely entered the groundwater system from primarily the natural metals content of the aquifer.

5.3.5 Surface Water / Sediment Contamination

No contamination above SCGs was found in surface water. Sediments in the Black Rock Canal downgradient of the site were found to contain VOCs, SVOCs, PCBs and metals in exceedance of the SCGs. Results are shown on Figures 4-17 through 4-21.

The site is separated from the Canal by the railroad track and the I-190. It is difficult to ascertain if site contaminants migrated into the canal via groundwater migration. Contaminated sediments contained compounds that normally do not travel via that pathway, such as Aroclor 1260. Therefore, it is more likely that contaminants detected in the Canal sediments are attributable to storm water runoff from an urbanized industrial setting.

5.3.6 Soil Gas Contamination

Soil gas is present in the pore space of the soil matrix in the unsaturated zone. It can become contaminated through contact with the residual soil contamination, or by volatilization of dissolved phase contaminants.

Results of the soil gas screening during soil sampling at the site are shown in Figures 4-1 through 4-8. Hydrocarbons were detected throughout the site at relatively low levels, with concentrations mostly on the order of 1 to 10 ppm, across the entire unsaturated zone. Maximum concentrations were on the order of 1,000 ppm and were found in the southeastern portion of the main building near the former PCE storage tank (location GB-13). Offsite samples showed mostly no detections, indicating that the migration of the soil gas is limited in extent.

6.0 QUALITATIVE RISK ASSESSMENT

The qualitative risk assessment consists of two parts, a human health risk component and an ecological risk component (i.e., FWIA). The human risk assessment is provided below and the FWIA is presented in Appendix G and is summarized below.

6.1 Human Health Assessment

The qualitative health risk assessment (HRA) presented in this section provides an evaluation of potential adverse health effects that may result from exposure to contaminants attributable to historic activities at the Chem-Core site, under current and potential future site conditions. This qualitative HRA was performed to meet the objectives of NYSDEC Work Assignment D003825-29 and approved work plans (URS 2001). It uses data and information collected during the field investigation to assess human health risk in the immediate and surrounding areas.

This qualitative HRA for the Chem-Core site follows the general format and procedures set forth in USEPA's Risk Assessment Guidance for Superfund (RAGS) (USEPA 1989). As such, it includes three of the four required components (i.e., risk characterization is not included because this assessment is qualitative):

- Identification of Chemicals of Potential Concern
- Exposure Assessment
- Toxicity Assessment

These components are presented in the following subsections.

6.1.1 Identification of Chemicals of Potential Concern

Based upon the analytical data obtained as part of this RI, the chemicals of potential concern (CPCs) were selected based on the frequency of detection, range of concentrations, and potential for migration, as well as whether the detected analytes exceeded criteria. Several VOCs, SVOCs, PCBs,

and metals were detected in groundwater, surface water, subsurface soil, and sediment samples. All chemicals detected in groundwater, subsurface soil, surface water, or sediments that exceeded their respective regulatory criteria are considered CPCs. However, the inorganic metals sodium, magnesium, and iron were not included in this qualitative HRA because, in accordance with RAGS (USEPA 1989), “chemicals that are (1) essential human nutrients, (2) present at low concentrations (i.e., only slightly elevated above naturally occurring levels, and (3) toxic at very high doses (i.e., much higher than those that could be associated with contact at the site) need not be considered further in the quantitative risk assessment. Tables 4-1 through 4-10 identify detected compounds, identify criteria exceedances, and provide statistical summaries of detected compounds. Table 6-1 presents a summary of CPCs for all matrices. There are no CPCs in surface water because detections did not exceed the applicable criteria.

6.1.1.1 Exposure Assessment

The purpose of this exposure assessment is to evaluate potential pathways of exposure at the Chem-Core site. An exposure pathway is the manner by which an individual may come in contact with a contaminant. The elements of a completed exposure pathway include: the contaminated environmental media (i.e., soil, water, or air); the routes of exposure, that is how the contaminant enters the body (i.e., inhalation, ingestion, and/or absorption through the skin); and the receptor (e.g., resident, trespasser, industrial worker) exposed to the contamination. Tables 6-2 and 6-3 present the exposure pathways assessed for the Chem-Core site under current and future land use scenarios, respectively. The following subsections discuss the rationale for identifying completed exposure pathways.

6.1.1.2 Identification of Potentially Exposed Receptors

The Chem-Core site is currently zoned for light industrial/commercial use. The previous use of the site building was commercial (i.e., chemical distribution and storage), but presently the building is abandoned. All utilities (e.g., electric, and water) are disconnected. The building is locked, with most ground level windows boarded with plywood or steel netting. The property is partially fenced. During the Phase I RI field work, no evidence of trespassing or forced entry into the building was observed. Currently, there are no potable wells within one mile of the site and there

is not any other groundwater use. The City of Buffalo Water Department supplies potable water. Therefore, under the current use scenario, the site has been identified as an abandoned commercial property. The zoning is not expected to change in the immediate future.

Under the current use scenario, potentially exposed receptors would be either neighboring residents, workers, trespassers to the site, or recreational users, if a complete exposure pathway were identified.

The potential future use (Table 6-3) includes commercial use of the property, because of the possibility that the building may be sold to a neighboring business. Because of the current state of disrepair of the Chem-Core building, rehabilitation and/or reconstruction may be required. Industrial/commercial workers are identified as potentially exposed receptors in the future. Construction workers have also been identified as potential receptors if the property is rehabilitated. In addition recreational users may use the nearby Black Rock Canal.

6.1.1.3 Identification of Media of Concern

Section 4 (Discussion of Nature and Extent of Contamination) presented the analytical results from samples collected in different site media. In each medium, observed concentrations of detected chemicals were compared to applicable regulatory criteria and criteria exceedances were noted. Within this report, a "medium of concern" is identified as a physical medium (e.g., soil, groundwater, surface water, and sediment), in which one or more contaminants were detected at concentrations exceeding their applicable regulatory standards.

Under the current use scenario, groundwater is not used as a potable water supply (drinking water is supplied to local residents by the City of Buffalo Water Department) or for any other industrial purposes, as discussed previously. Therefore, it is not a medium of concern, as shown in Table 6-2. Under the future use scenario (i.e., potential rehabilitation/reconstruction) as shown in Table 6-3, groundwater is a medium of concern because it can be used for either non-potable or potable purposes, assuming there are no restrictions on the installation of private wells.

Currently, subsurface soil is not accessible because it is covered with concrete inside the building and is not accessible in the courtyard north of the building. Since the site is abandoned, direct contact with contaminated subsurface soils is unlikely, and therefore subsurface soils are not a medium of concern. However, under the future use scenario, intrusive activities from rehabilitation/reconstruction may result in direct exposure of a receptor to the subsurface soil. Therefore, subsurface soil is considered a medium of concern under the future use scenario.

Surface water and sediments in the nearby Black Rock Canal were not identified as media of concern in both the current use and future use scenarios. In surface water, no CPCs were identified. Several CPCs were identified in sediments, however, the pathway of exposure for recreational uses is not considered complete because it is unlikely that recreational users would come into contact with sediments in the Black Rock Canal. Therefore, sediments were not considered a medium of concern.

6.1.1.4 Identification of Potential Routes of Exposure

Under the current land use scenario (Tables 6-2), exposure to site-related contaminants through drinking water is not expected since homes and businesses in the area are connected to a public water supply. There are no wells in the vicinity of the site. Therefore, completed exposure pathways do not exist for groundwater. Under the future land use scenario, completed exposure pathways exist for groundwater because groundwater may be used for various purposes. The installation of new wells for non-potable/industrial use is possible. As presented in Table 6-3, potential completed exposure pathways from groundwater include inhalation, ingestion, and dermal absorption.

Under the current land use scenario (Tables 6-2), completed exposure pathways do not exist for subsurface soil, surface water and sediments because contact is unlikely, as explained in Section 6.2.2. Under the future land use scenario (Table 6-3), potential completed exposure pathways exist only for subsurface soil because contact is likely during construction and site occupation activities. There are no completed exposure pathways for surface water and sediments. Potential routes of exposure from contaminated subsurface soil include inhalation of vapors, ingestion, and dermal absorption.

6.1.2 Toxicity Assessment

Their toxicity and its relative effects on human health categorize CPCs identified in Section 6.1.1. Toxicological effects are divided into carcinogenic (i.e., cancer causing) and noncarcinogenic effects, with noncarcinogenic data further subdivided into chronic and subchronic (i.e., less than seven years) critical effects. From the forty-seven (47) CPCs identified in Table 6-1, ten were CPCs for sediments only. Since sediments are not a medium of concern, these chemicals will not be included in the following discussions.

6.1.2.1 Carcinogenic Effects

From the thirty-seven (37) CPCs identified in groundwater and soils (Table 6-1), nineteen (19) are classified as carcinogenic in the SmartTOX database. The SmartTOX 3rd Quarter 2001 Toxicity Value Lookup Table incorporates the current information on USEPA's Integrated Risk Information System (IRIS) (2001) and the Health Effects Assessment Summary Tables (HEAST) FY-1997 Annual Update. The USEPA classifies chemicals for carcinogenicity based on the "weight-of-evidence", which expresses the degree of confidence relating to the likelihood that exposure to a given chemical could cause cancer in humans (USEPA 1989). Carcinogenic CPCs detected at the site include seven (7) VOCs, nine (9) SVOCs, (mainly polycyclic aromatic hydrocarbons (PAHs)), and three (3) metals. Per medium, 7 VOCs and 3 SVOCs were detected in groundwater, and 3 VOCs, 6 SVOCs, and 3 metals were detected in soil. Table 6-4 identifies the toxicity values and potential carcinogenic effects for these nineteen CPCs.

6.1.2.2 Noncarcinogenic Effects

Critical effects express the toxic endpoint(s) of an adverse response (e.g., liver damage) associated with the exposure to noncarcinogenic chemicals. All thirty-seven (37) CPCs identified in site soils and groundwater (Table 6-1) are classified by the USEPA as noncarcinogenic compounds. Noncarcinogenic CPCs detected at the site include eighteen (18) VOCs, nine (9) SVOCs (mainly PAHs), and ten (10) metals. Per medium, 16 VOCs, 3 SVOCs and 1 metal were detected in groundwater, and 9 VOCs, 6 SVOCs, and 9 metals were detected in soil. Table 6-5 identifies the toxicity values and potential noncarcinogenic effects for the site CPCs.

6.1.3 Qualitative Health Risk Summary

A qualitative HRA, in the absence of remediation, was performed for the Chem-Core site. Thirty-seven CPCs were detected in groundwater and subsurface soils. Nineteen of these CPCs are classified by USEPA as carcinogens.

Under the current land use scenario, no media are identified as media of concern because, the pathways of exposure are not complete or the possibilities of contact are minimal and unlikely.

Under the future use scenario, contaminated groundwater and soils are media of concern for site residents, industrial/commercial workers or construction workers. Groundwater may potentially be used for potable or non-potable purposes, and the site may be re-occupied after possible construction to rehabilitate/upgrade the buildings. Surface water was not a medium of concern because detected chemicals did not exceed their respective regulatory criteria. Sediments are not a medium of concern because the possibilities of contact are minimal and unlikely for recreational users, which would be the likely potential receptors. Ingestion, dermal absorption, and inhalation of VOCs detected in groundwater and soils are the potential exposure pathways in the future, if groundwater is used at the site, or soils are exposed.

6.2 Fish and Wildlife Impact Analysis Summary

The results of the FWIA indicate that fishes in the Black Rock Canal are the only ecological resources near the Chem-Core site. The FWIA analysis did not show that surface water or contaminated groundwater are discharging directly into the Black Rock Canal. As part of Step II of the FWIA, it was determined that some chemicals, primarily PAHs and Aroclor 1260, were reported above sediment quality standards. However, it does not appear that the chemicals known to have been handled at the Chem-Core site, have migrated to the Black Rock Canal. It is likely that the chemicals reported above sediment SCGs are attributable to other unknown industrial sources. Based upon the findings of this stepwise assessment, additional ecological analyses are not required at this time.

7.0 SUMMARY AND CONCLUSIONS

The purpose of the RI is to investigate contaminated media associated with past activities at the Chem-Core site. The Chem-Core site is located at 1382 Niagara Street, City of Buffalo, Erie County, New York. It was used as a distribution and storage facility for chemical solvents, and was closed in 1997. Prior to this RI, four previous investigations were conducted at the site. A summary of these investigations and the data collected during them may be found in Sections 1.4 and 4.0. Based on the results of the previous investigations, it was determined that contamination existed in site soils and groundwater.

The field activities associated with the RI were conducted in two phases. Phase I field activities included a soil gas screening survey, subsurface soil sampling, installation of nine (9) monitoring wells, monitoring well development, groundwater level measurements, surface water/sediment sampling, groundwater sampling and a site survey. The Phase II field activities included installation of six (6) monitoring wells, monitoring well development, groundwater level measurements and groundwater sampling.

The specific objectives of the RI were:

- Collect necessary data to determine the vertical and horizontal extent of contamination in soil, groundwater, and surface water/sediment.
- Install groundwater monitoring wells to evaluate groundwater quality and determine the extent of any contaminant plume migrating from the site.
- Complete through Step IIA of a FWIA.
- Complete a qualitative human exposure assessment.
- Determine the need for remedial action.

7.1 Hydrogeology

The stratigraphic sequence near the site included the following units from the surface down: fill; stratified silts and clay; and bedrock. Bedrock was encountered at depths ranging from 12.8 feet in MW-03 to 30 feet in MW-10 and slopes from the site toward the Black Rock Canal.

The primary hydrogeologic unit near the site is the unconfined water table aquifer present in the shallow bedrock aquifer. Groundwater was encountered at depths approximately 15 to 20 feet bgs. Groundwater generally flows west toward the Black Rock Canal at a gentle horizontal hydraulic gradient, approximately 0.004 foot per foot. Vertical hydraulic gradients in the existing Phase I RI monitoring well pairs, MW-04S/MW-04D and MW-01S/MW-01D, were slightly downward based upon water level information gathered to date. In the Phase II RI well pairs, MW-08S/MW-08D and MW-13S/MW-13D, the vertical hydraulic gradients were slightly downward and slightly upward, respectively (Table 2-4). Hydraulic conductivities of the bedrock monitoring wells ranged from negligible (i.e., estimated to be less than 10^{-6} cm/second) to 6.8×10^{-3} cm/second in MW-8D.

7.2 Contamination Assessment

7.2.1 Soil Gas

Volatile organic gases were screened using a combination HNu PID/FID at each of the boring locations and soil samples. Results of the screening indicated a range of concentrations between 0 to 791 ppm. The highest soil gas readings occurred at GB-13 near the former PCE storage tank. Offsite and most perimeter locations provided little evidence of contamination indicating that migration of the soil gas is limited in extent. Soil gas contamination occurred primarily around the area beneath the former PCE storage tanks and immediately above the bedrock.

7.2.2 Subsurface Soil

Detected compounds included VOCs, SVOCs, and metals. The primary contaminants are VOCs and includes chlorinated hydrocarbons, BTEX compounds, and ketones. Secondary contaminants include PAHs and to a lesser extent metals. Contamination concentrations ranged from low parts per billion to as high as 38,160,000 ppm (Fg/kg). The highest total VOCs detections occurred beneath the former PCE tank near boring GB-13. Reported concentrations of carbon tetrachloride, tetrachloroethene, and trichloroethene exceeded TCLP criteria at four boring locations. These locations occurred beneath the northwest corner of the building, and beneath the courtyard north of the building. The distribution of chlorinated hydrocarbons is concentrated beneath the

former PCE tank and extends to the western edge of the building. The distribution of BTEX compounds is more concentrated beneath the northwest corner of the building and in the courtyard north of the building. SVOCs were detected most frequently and at the highest concentrations in boring GB-2, located beneath the courtyard north of the building.

7.2.3 Surface Water/Sediments

Six paired surface water/sediment samples were collected in the Black Rock Canal. No contaminants were detected above surface water SCGs. Compounds detected above sediment SCGs include benzo(a)pyrene, Aroclor 1260, bis(2-ethylhexyl)phthalate, fluoranthene, and phenanthrene. Metals reported above the lowest effect level and severe effect level included antimony, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc.

7.2.4 Groundwater

Three groundwater sampling events were conducted at the site to date. The first event occurred in February 1999 as part of the IIWA when three wells at the site were sampled. The second event took place in October 2001 as part of the Phase I RI when twelve wells were sampled. The third event took place in January/March 2002 as part of the Phase II RI when eighteen bedrock wells and one overburden piezometer were sampled. A wide range of VOCs were detected in the groundwater. Several SVOCs, including phenols and phthalates, and metals were also detected in groundwater. Compounds detected in groundwater at concentrations above SCGs included: carbon tetrachloride; PCE; TCE; 1,1,1-TCA; 1,1-DCA; 1,1-DCE; 1,2-DCE; methylene chloride; chloroethane; chloroform; cis-1,2-DCE; trans-1,2-DCE; chlorobenzene; vinyl chloride; 2-butanone; acetone; benzene; 1,1,2-trichloro-1,2,2-trifluoroethane; toluene; 2-methylphenol; 4-methylphenol; BEHP; iron; magnesium; sodium; and thallium.

The vertical and horizontal extent of contamination was determined as part of the Phase I and II RI. The southern fringe of the dissolved phase plume was delineated during the Phase II RI. The most concentrated portion of the groundwater contaminant plume was determined to exist directly beneath and immediately around the perimeter of the Chem-Core building. Contaminant concentrations decrease in all directions away from the site. The shallow bedrock groundwater zone

was determined to be most contaminated. Near the Chem-Core building, the deeper bedrock groundwater zone investigated, approximately 15 feet deeper than the shallow bedrock groundwater zone, was determined to be much less contaminated, although the zone was clearly impacted by site contaminants. South of the site (i.e., near MW-08D) the deeper bedrock zone is more contaminated than the shallow well at this location. However, at the southernmost well pair (MW-13S/MW-13D), no organic contaminants were detected in the deeper bedrock zone and only trace organic constituents were reported in the shallow bedrock zone. The nature of bedrock beneath the deeper zone investigated is characterized as a fairly impermeable shale. This characterization coupled with the weak downward vertical hydraulic gradient and nearby discharge zone (i.e., Black Rock Canal) suggests that contaminant migration to deeper bedrock zones is unlikely. DNAPLs were not observed during drilling or sampling activities at the site. However, a slight oily sheen was observed on the groundwater surface in monitoring well MW-02. No other monitoring wells were observed to exhibit a sheen on the groundwater surface.

7.3 Contaminant Fate and Transport

Several types of contaminants were detected in site soil, sediment, and groundwater. These chemical compounds are subject to various fate mechanisms that dictate the method in which they will migrate off site and possibly to human/ecological receptors. Contaminants detected in site soils above regulatory criteria include VOCs, PAHs, and metals. The VOCs may volatilize and migrate through the soil pore spaces in the unsaturated zone. They also may be dissolved by infiltrating precipitation and be transported to groundwater. In the saturated zone, VOCs in non-aqueous phase may dissolve and migrate with groundwater and they also may degrade biologically. The presence of parent-daughter chlorinated hydrocarbons is indicative that degradation is occurring at the site. PAHs tend to adsorb onto soils and are relatively resistant to degradation. As a result, they are typically immobile in subsurface soil. Metals are generally persistent and may complex with other elements.

Contaminants detected in sediments above SCGs include VOCs, PAHs, phthalates, PCBs, and several metals. VOCs may dissolve in surface water and then partition into suspended or bottom sediments. PAHs are characterized by low volatility and low solubility and as a result, are immobile and adsorb to sediments. They biodegrade slowly. Phthalates readily adsorb into sediments and are relatively immobile in the environment. Aroclor-1260 is characterized by low solubility and

volatility, and high resistance to degradation. As a result, it is quite immobile in the sediments, except if eroded and transported with currents.

Contaminants detected in site groundwater above SCGs include VOCs, phenols, phthalates, and several metals. VOCs, specifically chlorinated hydrocarbons, BTEX compounds, ketones, are soluble and transported in the dissolved phase. At the Chem-Core site, dissolved-phase VOCs in groundwater originated from the subsurface soil contamination. Degradation will occur most rapidly for BTEX compounds and ketones. The chlorinated hydrocarbons tend to persist in the groundwater system. SVOCs detected in groundwater may be transported by hydrodynamic dispersion and advection or adsorb into the solid rock matrix and may degrade over a long period of time. Metals may be transported in the dissolved phase or adsorbed in the solid rock matrix.

7.4 Qualitative Health Risk Summary

7.4.1 Human Health Risk Assessment

The qualitative HRA, in the absence of remediation, was performed for the Chem-Core site. Thirty-seven CPCs were identified in subsurface soils and groundwater. Under the current land use scenario, there are no media of concern because the pathways of exposure are not complete or the potential of contact is unlikely.

Under the future use scenario, soils and groundwater are media of concern for site residents, industrial/commercial workers, or construction workers. The site may be re-occupied after the building is rehabilitated and groundwater may potentially be used. Although groundwater is not likely to be used, the most conservative approach to human health and the environment is to consider it to be potentially used in the future. The potential exposure pathways are ingestion, dermal absorption and inhalation of VOCs from soils and groundwater. Surface water and sediments are not media of concern because no CPCs were identified in surface water and the sediment pathway is incomplete.

7.4.2 FWIA Summary

The results of the FWIA indicate that fishes in the Black Rock Canal are the only ecological resources near the Chem-Core site. The FWIA analysis did not show that surface water or contaminated groundwater are discharging directly into the Black Rock Canal. As part of Step II of the FWIA, it was determined that some chemicals, primarily PAHs and Aroclor 1260, were reported above sediment quality standards. However, Aroclor 1260 was not handled at the Chem-Core site. It does not appear that the chemicals known to have been handled at the Chem-Core site, have migrated to the Black Rock Canal. It is likely that Aroclor 1260 and the PAHs reported above sediment SCGs are attributable to other unknown industrial sources. Based upon the findings of this stepwise assessment, additional ecological analyses are not required at this time.

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TABLES

TABLE 2-1

SOIL VAPOR SCREENING RESULTS

BORING	DEPTH (feet)	SAMPLE		HEADSPACE	
		PID	FID	PID	FID
GB-1	0-2	1	ND	5.4	13.2
	2-4	1.1	1.8	5.5	114
	4-6	5.7	15.6	107	330
	6-8	7.9	11.3	25	190
	8-10	1.1	2.3	23	391
	10-12	ND	ND	17	290
	12-14	0.75	0.5	14	22
	14-16	ND	ND	18	20
	Refusal at 16.0'				
	*SAMPLE	4-5' 15-16'	TCL VOC TCL VOC		
GB-2	0-2	ND	ND	3.1	12.4
	2-4	ND	ND	2.7	37.6
	4-6	0.3	0.4	5.3	25.4
	6-8	7.1	7.3	22	46.1
	8-10	6.3	6.1	38	81
	10-12	2.1	1.3	20	43
	12-14	3.4	2.1	43	66
	14-16	5.3	4.3	109	202
	16-18	121	149	121	241
	Refusal at 18.0'				
	*SAMPLE	7-8' 17-18'	TCL VOC,SVOC,PEST/PCB,TAL METALS/CN TCL VOC		
GB-3	0-2	2.5	0.7	11.6	15.9
	2-4	0.5	ND	4.2	104
	4-6	19	44	20	91
	6-8	5	14	24	101
	8-10	0.7	3.2	21	151
	10-12	0.3	ND	5	42
	12-14	ND	ND	4.5	34
	14-16.3	1.3	3.4	3.2	31
	Refusal at 16.3'				
	*SAMPLE	4-5' 15-16'	TCL VOC TCL VOC		

TABLE (cont)

BORING	DEPTH (feet)	SAMPLE		HEADSPACE	
		PID	FID	PID	FID
GB-4	0-2	ND	ND	ND	3.7
	2-4	ND	ND	1.1	2.1
	4-6	ND	ND	ND	0.3
	6-8	ND	ND	1.7	11.3
	8-10	ND	ND	ND	ND
	10-12	ND	ND	ND	ND
	12-14	0.4	0.1	5	34
	14-15	0.4	0.1	5	34
	Refusal at 15.0'				
GB-5	*SAMPLE	14-15'	TCL VOC		
	0-2	ND	ND	6	9.3
	2-4	ND	ND	40	34
	4-6	1.1	0.4	40	140
	6-8	1.3	1	20	67
	8-10	ND	ND	10	71
	10-12	ND	ND	12	43
	12-13	ND	ND	10	57
	Refusal at 13.0'				
GB-6	*SAMPLE	4-6'	TCL VOC		
		12-13'	TCL VOC		
	0-2	ND	ND	0.7	ND
	2-4	ND	ND	1	ND
	4-6	ND	ND	1.1	3.2
	6-8	ND	ND	1.9	2.3
	8-10	ND	ND	13	26.1
	10-12	ND	ND	13.1	6.9
	12-13	ND	ND	3.5	12.2
GB-7	Refusal at 13.0'				
	*SAMPLE	8-10'	TCL VOC		
	0-2	ND	ND	ND	ND
	2-4	ND	ND	1	0.7
	4-6	ND	ND	5.3	14.1
	6-8	ND	ND	7	17.9
	8-10	ND	ND	6	14.1
	10-12	ND	ND	9	23
	Refusal at 12.0'				
GB-7	*SAMPLE	11-12'	TCL VOC		

TABLE 2-1 (continued)

BORING	DEPTH (feet)	SAMPLE		HEADSPACE	
		PID	FID	PID	FID
GB-8	0-2	ND	ND	ND	ND
	2-4	ND	ND	ND	ND
	4-6	ND	ND	ND	1.3
	6-8	ND	ND	ND	3.2
	8-10	ND	ND	ND	2.7
	10-11.5	ND	ND	ND	0.7
	Refusal at 11.5'				
GB-9	*SAMPLE	10-11'	TCL VOC		
	0-2	ND	ND	ND	ND
	2-4	ND	ND	ND	ND
	4-6	ND	ND	ND	ND
	6-8	ND	ND	ND	ND
	8-10	ND	ND	ND	ND
	10-12.3	ND	ND	1	0.7
GB-10	Refusal at 12.3'				
	*SAMPLE	9-10'	TCL VOC		
		11-12'	TCL VOC		
	0-2	ND	ND	2.1	6.3
	2-4	ND	ND	1.5	5
	4-6	0.7	1	1.2	4.1
	6-8	0.7	1	1.2	4.3
GB-11	8-10	ND	ND	1.3	12
	10-11.5	ND	ND	1	3.5
	Refusal at 11.5'				
	*SAMPLE	4-5'	TCL VOC		
		10-11'	TCL VOC		
	0-2	ND	ND	0.6	2.3
	2-4	ND	ND	1.4	4.3
GB-11	4-6	ND	ND	1.1	6.4
	6-8	ND	ND	1.5	5.1
	8-10	ND	ND	1.1	4.3
	10-12	ND	ND	0.4	1.2
	12-13.5	ND	ND	2	8.9
	Refusal at 13.5'				
	*SAMPLE	2-3'	TCL VOC		
		12.5-13.5'	TCL VOC		

TABLE 2-1 (continued)

BORING	DEPTH (feet)	SAMPLE		HEADSPACE	
		PID	FID	PID	FID
GB-12	0-2	ND	ND	ND	ND
	2-4	ND	ND	6.3	1.2
	4-6	ND	ND	1.1	3.7
	6-8	ND	ND	1.7	2.9
	8-10	ND	ND	ND	ND
	10-12	ND	ND	ND	ND
	12-14	ND	ND	ND	ND
	14-16	ND	ND	ND	ND
	16-17	ND	ND	ND	ND
	Refusal at 17.0'				
GB-13	*SAMPLE	8-10' 16-17'	TCL VOC TCL VOC		
	0-2	26	8	24	0.8
	2-4	25	19	45	40
	4-6	542	997	490	264
	6-8	375	391	610	1421
	8-10	471	840	691	1299
	10-12	791	2172	341	697
	12-12.5	791	2172	1213	2067
	Refusal at 12.5'				
	*SAMPLE	4-5' 11.5-12.5'	TCL VOC TCL VOC, SVOC, PEST/PCB, TAL METALS/CN		
GB-14	0-2	1.3	ND	2.7	0.9
	2-4	1.1	ND	2.5	1.5
	4-6	0.7	ND	4.4	4.9
	6-8	0.6	ND	17	22
	8-10	6.8	3.4	21	25
	10-12	7.7	2.3	22	29
	12-12.5	5	5.9	29	46
	Refusal at 12.5'				
	*SAMPLE	8-9' 11.5-12.5'	TCL VOC TCL VOC		
GB-15	0-2	ND	ND	1.1	ND
	2-4	ND	ND	2.3	ND
	4-6	1.9	ND	7.1	6.5
	6-8	1.7	3.4	8.3	5.2
	8-10	14	8.9	18	11
	10-12	1.4	3.2	6	5
	12-14	2.4	6.1	11	10
	Refusal at 14.0'				
	*SAMPLE	9-10' 13-14'	TCL VOC TCL VOC		

TABLE 2-1 (continued)

BORING	DEPTH (feet)	SAMPLE		HEADSPACE	
		PID	FID	PID	FID
GB-16	0-2	ND	ND	ND	ND
	2-4	ND	ND	2.1	1.4
	4-6	ND	ND	ND	ND
	6-8	ND	ND	ND	ND
	8-10	ND	ND	19	24
	10-12	ND	ND	12	13
	12-14	ND	ND	9	7
	14-16	ND	ND	6	14
	16-18	ND	ND	20	18
	18-19	1.6	ND	20	18
	Refusal at 19.0'				
GB-17	*SAMPLE	17-18'	TCL VOC		
		18-19'	TCL VOC		
	0-2	ND	ND	ND	ND
	2-4	ND	ND	ND	ND
	4-6	ND	ND	1.9	4.5
	6-8	ND	ND	21	67
	8-10	2.3	6.3	12	38
	10-12	11.2	19.3	64	130
	12-14	10.3	17.2	26	58
	Refusal at 14.0'				
	*SAMPLE	11-12'	TCL VOC		
GB-18		13-14'	TCL VOC		
	0-2	ND	ND	ND	ND
	2-4	ND	ND	ND	ND
	4-6	ND	ND	1	ND
	6-8	ND	ND	1.5	ND
	8-10	ND	ND	7	9
	10-12	ND	ND	19	22
	12-13.5	1.3	4.2	40	51
	Refusal at 13.5'				
	*SAMPLE	10-12'	TCL VOC,SVOC,PEST/PCB,TAL METALS/CN		
		12.5-13.5'	TCL VOC		

TABLE 2-1 (continued)

BORING	DEPTH (feet)	SAMPLE		HEADSPACE	
		PID	FID	PID	FID
GB-19	0-2	5.3	1.7	8	4.5
	2-4	7	ND	11	8
	4-6	10	3.2	213	21
	6-8	13	17	57	53
	8-10	30	17	39	36
	10-12	32	25	109	115
	12-14	20	11	108	116
	14-15.3	11	6	90	77
	Refusal at 15.3'				
GB-20	*SAMPLE	11-12'	TCL VOC		
		14-15'	TCL VOC		
	0-2	1.4	ND	6	0.5
	2-4	3.1	1.2	15	8
	4-6	4.1	2.1	20	17
	6-8	10	6	8	6
	8-10	20	14.7	6.2	57
	10-12	45	21	14	121
	12-14	41	22	147	123
GB-21	14-16	32	19	121	114
	16-18	60	51	127	119
	18-18.5	41	19	127	119
	Refusal at 18.5'				
	*SAMPLE	12-13'	TCL VOC		
		17.5-18.5'	TCL VOC		
	0-2	0.7	ND	1.1	ND
	2-4	1.3	ND	5	3
	4-6	3.7	1.1	8	4
GB-21	6-8	4.1	0.9	24	18
	8-10	4.1	1.2	96	74
	10-12	5.6	3	128	112
	12-14	20	33	105	91
	14-16	21	11	123	101
	16-17.5	30	17	126	102
	Refusal at 17.5'				
	*SAMPLE	10-11'	TCL VOC		
		16.5-17.5'	TCL VOC		

TABLE 2-1 (continued)

BORING	DEPTH (feet)	SAMPLE		HEADSPACE	
		PID	FID	PID	FID
GB-22	0-2	ND	ND	3	1.2
	2-4	ND	ND	9	6
	4-6	11.3	10.7	26	32
	6-8	10.1	6.3	90	106
	8-10	10.7	8.2	114	110
	10-12	76	21	130	121
	12-14	51	65	94	86
	14-15	21	23	110	102
	Refusal at 15.0'				
GB-23	*SAMPLE	10-11'	TCL VOC,SVOC,PEST/PCB,TAL METALS/CN		
		14-15'	TCL VOC		
	0-2	ND	ND	ND	ND
	2-4	ND	ND	1.5	ND
	4-6	ND	ND	1.2	5.8
	6-8	ND	ND	3.6	49.7
	8-10	3.4	1.4	1.2	39
	10-12	3.4	1.4	2.3	61
	12-12.5	3.4	1.4	2.3	61
GB-24	Refusal at 12.5'				
	*SAMPLE	7-8'	TCL VOC		
		11.5-12.5'	TCL VOC		
	0-2	ND	ND	ND	ND
	2-4	ND	ND	2	ND
	4-6	ND	ND	15	ND
	6-8	ND	ND	12	28
	8-10	1.3	4.2	9	27
	10-12	4.3	8.9	6.3	63
	12-14	3.1	9.1	15	55.6
	14-14.5	6.4	12.7	15	55.6
	Refusal at 14.5'				
	*SAMPLE	12-13'	TCL VOC		
		13.5-14.5'	TCL VOC		

TABLE 2-2

SOIL SAMPLING RATIONALE

Sample Location	Sample Interval (feet)	Soil Vapor		Sample Rationale
		PID	FID	
GB-1	4-5	5.7	15.6	Sample taken due to elevated soil vapor readings and black product and petroleum odor.
GB-1	15-16	ND	ND	Sample taken above the approximate top of bedrock.
GB-2	7-8	7.1	7.3	Sample taken due to elevated soil vapor readings and black product and petroleum odor.
GB-2	17-18	121	149	Sample taken due to elevated soil vapor readings and at the approximate top of bedrock.
GB-3	4-5	19	44	Sample taken due to elevated soil vapor readings and black product and petroleum odor.
GB-3	15-16	1.3	3.4	Sample taken above the approximate top of bedrock.
GB-4	14-15	0.4	0.1	Sample taken above the approximate top of bedrock.
GB-5	4-6	1.1	0.4	Sample taken due to elevated soil vapor readings.
GB-5	12-13	ND	ND	Sample taken above the approximate top of bedrock.
GB-6	8-10	ND	ND	Sample taken above the top of dense Clayey Silt.
GB-7	11-12	ND	ND	Sample taken above the approximate top of bedrock.
GB-8	10-11	ND	ND	Sample taken above the approximate top of bedrock.
GB-9	9-10	ND	ND	Sample taken above the top of dense Clayey Silt.
GB-9	11-12	ND	ND	Sample taken above the approximate top of bedrock.
GB-10	4-5	0.7	1	Sample taken due to elevated soil vapor readings.
GB-10	10-11	ND	ND	Sample taken above the approximate top of bedrock.
GB-11	2-3	ND	ND	Sample taken below concrete slab.
GB-11	12.5-13.5	ND	ND	Sample taken above the approximate top of bedrock.
GB-12	8-10	ND	ND	Sample taken at midpoint of boring.
GB-12	16-17	ND	ND	Sample taken above the approximate top of bedrock.
GB-13	4-5	542	997	Sample taken due to elevated soil vapor readings.
GB-13	11.5-12.5	791	2172	Sample taken due to elevated soil vapor readings in sand lense above the approximate top of bedrock.
GB-14	8-9	6.8	3.4	Sample taken due to elevated soil vapor readings.
GB-14	11.5-12.5	5	5.9	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-15	9-10	14	8.9	Sample taken due to elevated soil vapor readings.
GB-15	13-14	2.4	6.1	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.

TABLE 2-2(continued)

Sample Location	Sample Interval (feet)	Soil Vapor		Sample Rationale
		PID	FID	
GB-16	17-18	ND	ND	Sample taken near bottom of boring.
GB-16	18-19	1.6	ND	Sample taken above the approximate top of bedrock.
GB-17	11-12	11.2	19.3	Sample taken due to elevated soil vapor readings.
GB-17	13-14	10.3	17.2	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-18	10-12	ND	ND	Sample taken near bottom of boring.
GB-18	12.5-13.5	1.3	4.2	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-19	11-12	32	25	Sample taken due to elevated soil vapor readings.
GB-19	14-15	11	6	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-20	12-13	41	22	Sample taken due to elevated soil vapor readings.
GB-20	17.5-18.5	60	51	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-21	10-11	5.6	3	Sample taken due to elevated soil vapor readings.
GB-21	16.5-17.5	30	17	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-22	10-11	76	21	Sample taken due to elevated soil vapor readings.
GB-22	14-15	21	23	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-23	7-8	ND	ND	Sample taken at bottom of wet fill layer.
GB-23	11.5-12.5	3.4	1.4	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.
GB-24	12-13	3.1	9.1	Sample taken due to elevated soil vapor readings.
GB-24	13.5-14.5	6.4	12.7	Sample taken due to elevated soil vapor readings above the approximate top of bedrock.

TABLE 2-3

**SUMMARY OF MONITORING WELL AND
PIEZOMETER CONSTRUCTION DATA**

MONITORING WELL ID	GROUND ELEVATION (feet amsl)	DEPTH TO BEDROCK (feet)	BEDROCK ELEVATION (feet amsl)	WELL SCREEN / MONITOR DEPTH (feet)	WELL SCREEN / MONITOR ELEVATION	HYDROGEOLOGIC POSITION	WELL TYPE
MW-1S	595.86	19.8	576.06	24.5-35	571.4-560.9	On-site-shallow	Open bedrock
MW-1D	595.67	19	576.67	40-50	555.7-545.7	On-site-deep	Open bedrock
MW-2	597.03	16.5	580.53	21.5-35	575.5-562.0	On-site-shallow	Open bedrock
MW-3	598.63	12.8	585.83	17.5-35	581.1-563.6	On-site-shallow	Open bedrock
MW-4S	598.88	15	583.88	17-34.5	581.9-564.4	Upgradient-shallow	Open bedrock
MW-4D	598.67	15	583.67	40-50	558.7-548.7	Upgradient-deep	Open bedrock
MW-5	594.79	17	577.79	22-35	572.8-559.8	Crossgradient-shallow	Open bedrock
MW-6	592.55	19	573.55	22-32	570.5-560.5	Downgradient-shallow	Open bedrock
MW-7	592.53	17	575.53	20-32	572.5-570.5	Downgradient-shallow	Open bedrock
MW-8S	587.82	7	580.82	12-25	575.8-562.8	Crossgradient-shallow	Open bedrock
MW-8D	587.5	6.5	581	33-45	554.50-542.50	Crossgradient-deep	Open bedrock
MW-9	582.6	NA	NA	10.2-20.2	572.4-562.4	Downgradient-shallow	Shallow overburden
MW-10	582.87	30	552.87	33-42	549.9-540.9	Downgradient-shallow	Open bedrock
MW-11	597.99	14.5	583.49	17.5-35	580.49-562.99	Downgradient-shallow	Open bedrock
MW-12	596.11	20	576.11	23.5-38	572.61-558.11	Crossgradient-shallow	Open bedrock
MW-13S	593.97	24	569.97	27-37	566.97-556.97	Crossgradient-shallow	Open bedrock
MW-13D	593.95	24	569.95	42.5-54	551.45-539.95	Crossgradient-deep	Open bedrock
MW-14	597.17	14.7	582.47	16-36	581.17-561.17	On-site-shallow	Open bedrock
PZ-1	596.78	14	582.78	4-14	592.8-582.8	On-site-shallow	Shallow overburden

TABLE 2-4
WATER LEVEL DATA

Well ID	Ground Elevation (ft)	Riser Elevation (ft)	Casing Elevation (ft)	GROUNDWATER DEPTH(FT.)/ELEVATION (FT.)									
				3/22/99		9/14/01		9/21/01		11/2/01		11/15/01	
				Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
MW-1S	595.86	595.41	595.41	23.85	571.56	26.22	569.19	25.74	569.67	25.68	569.73	25.96	569.45
MW-1D	595.67	594.87	595.67	-	-	-	-	25.21	569.66	26.02	568.85	26.16	568.71
MW-2	597.03	596.66	596.66	25.08	571.58	27.42	569.24	27.00	569.66	26.97	569.69	27.23	569.43
MW-3	598.63	598.29	598.29	26.79	571.50	29.22	569.07	28.83	569.46	28.44	569.85	28.71	569.58
MW-4S	598.88	598.62	598.88	-	-	28.17	570.45	27.84	570.78	27.53	571.09	27.76	570.86
MW-4D	598.67	598.20	598.67	-	-	32.12	566.08	31.32	566.88	31.12	567.08	31.18	567.02
MW-5	594.79	594.58	594.79	-	-	25.48	569.10	24.92	569.66	24.85	569.73	25.09	569.49
MW-6	592.55	592.42	592.77	-	-	-	-	22.96	569.46	22.83	569.59	23.19	569.23
MW-7	592.53	591.86	592.85	-	-	-	-	22.44	569.42	22.36	569.50	22.71	569.15
MW-8S	587.82	587.45	587.82	-	-	20.15	567.30	18.02	569.43	17.10	570.35	17.6	569.85
MW-8D	587.50	587.06	587.50	-	-	-	-	-	-	-	-	-	-
MW-9*	582.60	582.26	582.60	-	-	12.08	570.18	11.51	570.75	11.66	570.60	11.72	570.54
MW-10	582.87	582.51	582.87	-	-	13.54	568.97	13.10	569.41	13.07	569.44	13.34	569.17
MW-11	597.99	597.50	597.99	-	-	-	-	-	-	-	-	-	-
MW-12	596.11	595.71	596.11	-	-	-	-	-	-	-	-	-	-
MW-13S	593.97	593.50	593.97	-	-	-	-	-	-	-	-	-	-
MW-13D	593.95	593.45	593.95	-	-	-	-	-	-	-	-	-	-
MW-14	597.17	596.71	597.17	-	-	-	-	-	-	-	-	-	-
PZ-1*	596.78	596.58	-	-	-	12.96	583.62	4.82	591.76	-	-	-	-
STAFF GUAGE	578.82	-	-	-	-	8.33	570.49	7.90	570.92	7.38	571.44	7.8	571.02

NOTES:

All elevations are above mean sea level (amsl).
Depth to groundwater measured from top of riser/casing.
PZ - Piezometer in building.
*- Overburden monitoring well/piezometer.

TABLE 2-4

WATER LEVEL DATA (cont.)

Well ID	Ground Elevation (ft)	Riser Elevation (ft)	Casing Elevation (ft)	DEPTH(FT.)/ELEVATION (FT.)			
				1/11/02		3/15/02	
				Depth	Elev.	Depth	Elev.
MW-1S	595.86	595.41	595.41	24.35	571.06	25.44	569.97
MW-1D	595.67	594.87	595.67	25.30	569.57	26.07	568.80
MW-2	597.03	596.66	596.66	25.46	571.20	26.73	569.93
MW-3	598.63	598.29	598.29	26.25	572.04	28.15	570.14
MW-4S	598.88	598.62	598.88	26.57	572.05	27.26	571.36
MW-4D	598.67	598.20	598.67	28.52	569.68	30.77	567.43
MW-5	594.79	594.58	594.79	23.62	570.96	24.74	569.84
MW-6	592.55	592.42	592.77	21.75	570.67	22.71	569.71
MW-7	592.53	591.86	592.85	21.63	570.23	22.28	569.58
MW-8S	587.82	587.45	587.82	13.49	573.96	16.73	570.72
MW-8D	587.50	587.06	587.50	17.35	569.71	18.06	569.00
MW-9*	582.60	582.26	582.60	10.94	571.32	10.80	571.46
MW-10	582.87	582.51	582.87	12.39	570.12	12.92	569.59
MW-11	597.99	597.50	597.99	26.46	571.04	27.69	569.81
MW-12	596.11	595.71	596.11	21.08	574.63	24.65	571.06
MW-13S	593.97	593.50	593.97	-	-	26.41	567.09
MW-13D	593.95	593.45	593.95	-	-	25.90	567.55
MW-14	597.17	596.71	597.17	-	-	26.75	569.96
PZ-1*	596.78	596.58	-	4.11	592.47	4.45	592.13
STAFF GUAGE	578.82	-	-	6.88	571.94	7.12	571.70

NOTES:

All elevations are above mean sea level (amsl).

Depth to groundwater measured from top of riser/casing.

PZ - Piezometer in building.

*- Overburden monitoring well/piezometer.

TABLE 2-5

SURFACE WATER SAMPLE SUMMARY

Sample Location	Water Quality Parameters				Sample Rationale
	pH	Spec.Cond. (uS)	Turbidity (NTU)	Temp. (°F)	
SW-1	7.8	2214	36	57	Downstream. Sample taken approximately 300' downstream from northern edge of site.
SW-2	8.0	2134	21	56	Downstream. Sample taken approximately 200' downstream from northern edge of site.
SW-3	7.9	2214	21	56	Downstream. Sample taken approximately 100' downstream from northern edge of site, at storm sewer outfall.
SW-4	7.8	2198	33	56	Midstream. Sample taken midstream at approximate northern edge of site.
SW-5	7.8	2176	25	56	Midstream. Sample taken midstream at approximate southern edge of site.
SW-6	7.9	2113	23	56	Upstream. Sample taken approximately 100' upstream from site to establish background surface water quality.

TABLE 2-6

SEDIMENT SAMPLE SUMMARY

Sample Location	Sample Rationale	Sample Description
SED-1	Downstream. Sample taken approximately 300' downstream from northern edge of site.	Black, wet, fine sand and silt, some organics, slight sheen on sediment
SED-2	Downstream. Sample taken approximately 200' downstream from northern edge of site.	Black, wet, fine sand and silt, some organics, slight sheen on sediment
SED-3	Downstream. Sample taken approximately 100' downstream from northern edge of site, at storm sewer outfall.	Black, wet, fine sand and silt, some organics, trace gravel
SED-4	Midstream. Sample taken midstream at approximate northern edge of site.	Black, wet, fine sand and silt, some organics, trace gravel
SED-5	Midstream. Sample taken midstream at approximate southern edge of site.	Black, wet, fine sand and silt, some organics
SED-6	Upstream. Sample taken approximately 100' upstream from site to establish background sediment quality.	Black, wet, fine sand and silt, some organics

TABLE 2-7**MONITORING WELL AND PIEZOMETER SURVEY INFORMATION**

WELL ID	NORTHING	EASTING	ELEVATION OF		
			GROUND	CASING	RISER
MW-1S	1064882.259	1063786.057	595.86	595.86	595.41
MW-1D	1064872.175	1063785.482	595.67	595.67	595.39
MW-2	1064862.146	1063872.117	597.03	597.03	596.66
MW-3	1064704.414	1063894.050	598.63	598.63	598.29
MW-4S	1064882.016	1064046.794	598.88	598.88	598.62
MW-4D	1064882.864	1064042.039	598.67	598.67	598.20
MW-5	1064926.553	1063864.570	594.79	594.79	594.58
MW-6	1064832.232	1063752.372	592.55	592.77	592.42
MW-7	1064762.937	1063737.645	592.53	592.85	591.86
MW-8S	1064443.284	1063740.854	587.82	587.82	587.45
MW-8D	1064444.677	1063735.802	587.50	587.50	587.06
MW-9	1064781.803	1063597.075	582.60	582.60	582.26
MW-10	1064868.721	1063624.929	582.87	582.87	582.51
MW-11	1064661.210	1063819.423	597.99	597.99	597.50
MW-12	1064350.540	1063660.962	596.11	596.11	595.71
MW-13S	1063778.308	1063516.029	593.97	593.97	593.50
MW-13D	1063773.952	1063514.833	593.95	593.95	593.45
MW-14	1064770.374	1063871.202	597.17	597.17	596.71
PZ-1	1064852.737	1063772.978	596.78	-	596.58
GB-5	1064841.887	1063916.929	596.57	-	-
GB-6	1064808.896	1063913.401	596.19	-	-
GB-7	1064771.020	1063909.986	596.93	-	-
GB-8	1064737.137	1063906.469	596.77	-	-
GB-15	1064766.058	1063812.631	596.82	-	-
GB-16	1064771.548	1063772.603	596.72	-	-
GB-21	1034838.825	1063782.991	596.71	-	-
GB-22	1064837.909	1063819.647	596.75	-	-

NOTES:

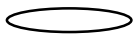
All elevations are above mean sea level (amsl).

TABLE 4-1
PREVIOUS INVESTIGATION - PHASE II INVESTIGATION
SOIL ANALYTICAL RESULTS SUMMARY - MARCH 1997
CHEM-CORE

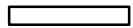
Location ID				B-01	B-02	B-04	B-06	B-09
Sample ID				B-1	B-2	B-4	B-6	B-9
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				4.0-6.0	2.0-10.0	8.0-10.0	1.0-2.0	6.0-8.0
Date Sampled				03/18/97	03/19/97	03/19/97	03/21/97	03/19/97
Parameter	Units	Criteria (1)	Criteria (2)					
Volatiles								
1,1,1-Trichloroethane	UG/KG	800	-	NA	NA	NA	NA	69
1,1,2-Trichloroethane	UG/KG	-	-	NA	NA	NA	NA	5
1,1-Dichloroethene	UG/KG	400	-	NA	NA	NA	NA	11
1,2-Dichloroethane	UG/KG	100	-	NA	NA	NA	NA	11
2-Butanone	UG/KG	300	-	NA	NA	NA	NA	
Acetone	UG/KG	200	-	NA	NA	NA	NA	24
Benzene	UG/KG	60	-	NA	NA	NA	NA	9
Chloroform	UG/KG	300	-	NA	NA	NA	NA	
cis-1,2-Dichloroethene	UG/KG	-	-	NA	NA	NA	NA	6,900
Methylene chloride	UG/KG	100	-	NA	NA	NA	NA	6
Tetrachloroethene	UG/KG	1400	-	NA	NA	NA	NA	28
Toluene	UG/KG	1500	-	NA	NA	NA	NA	1,500
trans-1,2-Dichloroethene	UG/KG	300	-	NA	NA	NA	NA	64
Trichloroethene	UG/KG	700	-	NA	NA	NA	NA	5
Vinyl chloride	UG/KG	200	-	NA	NA	NA	NA	5
TCLP Volatiles								
1,1-Dichloroethene	MG/L	-	0.7	0.09			0.04	NA
2-Butanone	MG/L	-	200					NA
Benzene	MG/L	-	0.5	0.03				NA
Carbon tetrachloride	MG/L	-	0.5		1.7			NA
Tetrachloroethene	MG/L	-	0.7	0.04	4.8			NA

Criteria (1)- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Criteria (2)- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

SB- Site Background

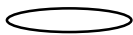
Only Detected Results Reported.

TABLE 4-1
PREVIOUS INVESTIGATION - PHASE II INVESTIGATION
SOIL ANALYTICAL RESULTS SUMMARY - MARCH 1997
CHEM-CORE

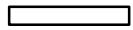
Location ID				B-01	B-02	B-04	B-06	B-09
Sample ID				B-1	B-2	B-4	B-6	B-9
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				4.0-6.0	2.0-10.0	8.0-10.0	1.0-2.0	6.0-8.0
Date Sampled				03/18/97	03/19/97	03/19/97	03/21/97	03/19/97
Parameter	Units	Criteria (1)	Criteria (2)					
TCLP Volatiles								
Trichloroethene	MG/L	-	0.5	0.24	9.7	22		NA
Metals								
Aluminum	MG/KG	SB	-	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	-	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	-	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	-	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	-	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	-	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	-	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	-	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	-	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	-	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	-	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	-	NA	NA	NA	NA	NA
Mercury	MG/KG	0.1	-	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	-	NA	NA	NA	NA	NA
Potassium	MG/KG	SB	-	NA	NA	NA	NA	NA
Sodium	MG/KG	SB	-	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	-	NA	NA	NA	NA	NA
TCLP Metals								
Barium	MG/L	-	100	NA	2.1	NA	NA	NA

Criteria (1)- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Criteria (2)- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

SB- Site Background

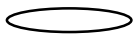
Only Detected Results Reported.

TABLE 4-1
PREVIOUS INVESTIGATION - PHASE II INVESTIGATION
SOIL ANALYTICAL RESULTS SUMMARY - MARCH 1997
CHEM-CORE

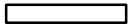
Location ID				B-01	B-02	B-04	B-06	B-09
Sample ID				B-1	B-2	B-4	B-6	B-9
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				4.0-6.0	2.0-10.0	8.0-10.0	1.0-2.0	6.0-8.0
Date Sampled				03/18/97	03/19/97	03/19/97	03/21/97	03/19/97
Parameter	Units	Criteria (1)	Criteria (2)					
TCLP Metals								
Silver	MG/L	-	5	NA		NA	NA	NA

Criteria (1)- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Criteria (2)- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

SB- Site Background

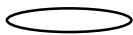
Only Detected Results Reported.

TABLE 4-1
PREVIOUS INVESTIGATION - PHASE II INVESTIGATION
SOIL ANALYTICAL RESULTS SUMMARY - MARCH 1997
CHEM-CORE

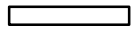
Location ID				B-11	B-14	B-15	B-18	MW-1
Sample ID				B-11	B-14	B-15	B-18	MW-1
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				1.0-5.0	4.0-6.0	1.0-4.0	1.0-4.0	2.0-6.0
Date Sampled				03/21/97	03/20/97	03/20/97	03/21/97	03/18/97
Parameter	Units	Criteria (1)	Criteria (2)					
Volatiles								
1,1,1-Trichloroethane	UG/KG	800	-	NA	850		35	NA
1,1,2-Trichloroethane	UG/KG	-	-	NA				NA
1,1-Dichloroethene	UG/KG	400	-	NA				NA
1,2-Dichloroethane	UG/KG	100	-	NA			24	NA
2-Butanone	UG/KG	300	-	NA		3,800		NA
Acetone	UG/KG	200	-	NA	290	1,000	48	NA
Benzene	UG/KG	60	-	NA				NA
Chloroform	UG/KG	300	-	NA	230		6	NA
cis-1,2-Dichloroethene	UG/KG	-	-	NA	380			NA
Methylene chloride	UG/KG	100	-	NA			6	NA
Tetrachloroethene	UG/KG	1400	-	NA	61,000	2,000	1,100	NA
Toluene	UG/KG	1500	-	NA				NA
trans-1,2-Dichloroethene	UG/KG	300	-	NA				NA
Trichloroethene	UG/KG	700	-	NA	8,000	6,200	160	NA
Vinyl chloride	UG/KG	200	-	NA				NA
TCLP Volatiles								
1,1-Dichloroethene	MG/L	-	0.7		NA	NA	NA	
2-Butanone	MG/L	-	200	1.2	NA	NA	NA	0.04
Benzene	MG/L	-	0.5		NA	NA	NA	
Carbon tetrachloride	MG/L	-	0.5		NA	NA	NA	0.15
Tetrachloroethene	MG/L	-	0.7	5.8	NA	NA	NA	0.05

Criteria (1)- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Criteria (2)- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-1
PREVIOUS INVESTIGATION - PHASE II INVESTIGATION
SOIL ANALYTICAL RESULTS SUMMARY - MARCH 1997
CHEM-CORE

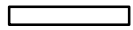
Location ID				B-11	B-14	B-15	B-18	MW-1
Sample ID				B-11	B-14	B-15	B-18	MW-1
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				1.0-5.0	4.0-6.0	1.0-4.0	1.0-4.0	2.0-6.0
Date Sampled				03/21/97	03/20/97	03/20/97	03/21/97	03/18/97
Parameter	Units	Criteria (1)	Criteria (2)					
TCLP Volatiles								
Trichloroethene	MG/L	-	0.5	3.0	NA	NA	NA	3.9
Metals								
Aluminum	MG/KG	SB	-	NA	NA	13,000	NA	NA
Arsenic	MG/KG	7.5 or SB	-	NA	NA	4.9	NA	NA
Barium	MG/KG	300 or SB	-	NA	NA	83.0	NA	NA
Beryllium	MG/KG	0.16 or SB	-	NA	NA	0.71	NA	NA
Cadmium	MG/KG	1 or SB	-	NA	NA	2.3	NA	NA
Calcium	MG/KG	SB	-	NA	NA	44,000	NA	NA
Chromium	MG/KG	10 or SB	-	NA	NA	19.0	NA	NA
Cobalt	MG/KG	30 or SB	-	NA	NA	790	NA	NA
Copper	MG/KG	25 or SB	-	NA	NA	24.0	NA	NA
Iron	MG/KG	2000 or SB	-	NA	NA	26,000	NA	NA
Magnesium	MG/KG	SB	-	NA	NA	13,000	NA	NA
Manganese	MG/KG	SB	-	NA	NA	580	NA	NA
Mercury	MG/KG	0.1	-	NA	NA	0.25	NA	NA
Nickel	MG/KG	13 or SB	-	NA	NA	30.0	NA	NA
Potassium	MG/KG	SB	-	NA	NA	1,300	NA	NA
Sodium	MG/KG	SB	-	NA	NA	320	NA	NA
Zinc	MG/KG	20 or SB	-	NA	NA	65.0	NA	NA
TCLP Metals								
Barium	MG/L	-	100	1.1	NA	NA	NA	NA

Criteria (1)- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Criteria (2)- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

SB- Site Background

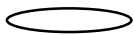
Only Detected Results Reported.

TABLE 4-1
PREVIOUS INVESTIGATION - PHASE II INVESTIGATION
SOIL ANALYTICAL RESULTS SUMMARY - MARCH 1997
CHEM-CORE

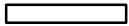
Location ID				B-11	B-14	B-15	B-18	MW-1
Sample ID				B-11	B-14	B-15	B-18	MW-1
Matrix				Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)				1.0-5.0	4.0-6.0	1.0-4.0	1.0-4.0	2.0-6.0
Date Sampled				03/21/97	03/20/97	03/20/97	03/21/97	03/18/97
Parameter	Units	Criteria (1)	Criteria (2)					
TCLP Metals								
Silver	MG/L	-	5	0.14	NA	NA	NA	NA

Criteria (1)- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Criteria (2)- TCLP Action Levels: Federal Register, Vol. 55, No. 61 No. 126.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-2
PREVIOUS INVESTIGATION - IIWA
SOIL ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999
CHEM-CORE

Location ID			MW-01S	MW-02	MW-03	MW-03	MW-03
Sample ID			N0531S	N0532S	N0534S	N0535S	N0533S
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			18.5-19.0	18.0-18.0	10.0-12.0	14.0-14.0	2.0-4.0
Date Sampled			02/09/99	02/09/99	02/11/99	02/11/99	02/11/99
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	3,100				
1,1-Dichloroethane	UG/KG	200	1,000				
1,1-Dichloroethene	UG/KG	400	650				
1,2-Dichloroethene (total)	UG/KG	300	7,100	72			
1,2-Dichloroethane	UG/KG	100					
Acetone	UG/KG	200	1,500	100	160	21	69
Benzene	UG/KG	60	3				
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
Ethylbenzene	UG/KG	5500	9				
Methylene chloride	UG/KG	100	150		4	6	5
Tetrachloroethene	UG/KG	1400	6,600				
Toluene	UG/KG	1500	4	200			3
Trichloroethene	UG/KG	700	1,400				
Vinyl chloride	UG/KG	200	52				
Xylene (Total)	UG/KG	1200	110				
Pesticides							
Endrin	UG/KG	100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	2,660
Antimony	MG/KG	SB	NA	NA	NA	NA	
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	5.0
Barium	MG/KG	300 or SB	NA	NA	NA	NA	71.6

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-2
PREVIOUS INVESTIGATION - IIWA
SOIL ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999
CHEM-CORE

Location ID			MW-01S	MW-02	MW-03	MW-03	MW-03
Sample ID			N0531S	N0532S	N0534S	N0535S	N0533S
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			18.5-19.0	18.0-18.0	10.0-12.0	14.0-14.0	2.0-4.0
Date Sampled			02/09/99	02/09/99	02/11/99	02/11/99	02/11/99
Parameter	Units	Criteria*					
Metals							
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	
Calcium	MG/KG	SB	NA	NA	NA	NA	4,490
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	6.1
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	2.6
Copper	MG/KG	25 or SB	NA	NA	NA	NA	71.9
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	7,930
Lead	MG/KG	SB	NA	NA	NA	NA	82.8
Magnesium	MG/KG	SB	NA	NA	NA	NA	712
Manganese	MG/KG	SB	NA	NA	NA	NA	56.0
Mercury	MG/KG	0.1	NA	NA	NA	NA	
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	6.5
Potassium	MG/KG	SB	NA	NA	NA	NA	158
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	
Sodium	MG/KG	SB	NA	NA	NA	NA	1,300
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	7.6
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	45.5

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-2
PREVIOUS INVESTIGATION - IIWA
SOIL ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999
CHEM-CORE

Location ID			SB-1	SB-2	SB-2	SB-3	SB-6
Sample ID			N053B3	N053B6	N053B68	N053B9	N053BE
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			19.3-19.3	12.0-12.0	14.0-14.0	17.8-17.8	16.5-16.5
Date Sampled			02/22/99	02/22/99	02/22/99	02/23/99	02/23/99
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	670			6	700
1,1-Dichloroethane	UG/KG	200					140
1,1-Dichloroethene	UG/KG	400					52
1,2-Dichloroethene (total)	UG/KG	300					6,000
1,2-Dichloroethane	UG/KG	100					24
Acetone	UG/KG	200					
Benzene	UG/KG	60					4
Carbon tetrachloride	UG/KG	600					13
Chloroform	UG/KG	300					90
Ethylbenzene	UG/KG	5500					30
Methylene chloride	UG/KG	100		160,000			15
Tetrachloroethene	UG/KG	1400	17,000	38,000,000	2,300,000	190	4,000
Toluene	UG/KG	1500					25
Trichloroethene	UG/KG	700	3,600			70	1,400
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					32
Pesticides							
Endrin	UG/KG	100	1.2	NA	NA	0.74	1.7
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-2
PREVIOUS INVESTIGATION - IIWA
SOIL ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999
CHEM-CORE

Location ID			SB-1	SB-2	SB-2	SB-3	SB-6
Sample ID			N053B3	N053B6	N053B68	N053B9	N053BE
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			19.3-19.3	12.0-12.0	14.0-14.0	17.8-17.8	16.5-16.5
Date Sampled			02/22/99	02/22/99	02/22/99	02/23/99	02/23/99
Parameter	Units	Criteria*					
Metals							
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Mercury	MG/KG	0.1	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-2
PREVIOUS INVESTIGATION - IIWA
SOIL ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999
CHEM-CORE

Location ID			SUMP-1
Sample ID			N0536D
Matrix			Soil
Depth Interval (ft)			-
Date Sampled			02/11/99
Parameter	Units	Criteria*	
Volatiles			
1,1,1-Trichloroethane	UG/KG	800	86,000
1,1-Dichloroethane	UG/KG	200	60,000
1,1-Dichloroethene	UG/KG	400	
1,2-Dichloroethene (total)	UG/KG	300	9,200
1,2-Dichloroethane	UG/KG	100	
Acetone	UG/KG	200	
Benzene	UG/KG	60	
Carbon tetrachloride	UG/KG	600	
Chloroform	UG/KG	300	
Ethylbenzene	UG/KG	5500	
Methylene chloride	UG/KG	100	540
Tetrachloroethene	UG/KG	1400	7,500
Toluene	UG/KG	1500	
Trichloroethene	UG/KG	700	510
Vinyl chloride	UG/KG	200	
Xylene (Total)	UG/KG	1200	
Pesticides			
Endrin	UG/KG	100	NA
Metals			
Aluminum	MG/KG	SB	4,500
Antimony	MG/KG	SB	9.9
Arsenic	MG/KG	7.5 or SB	12.1
Barium	MG/KG	300 or SB	114

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-2
PREVIOUS INVESTIGATION - IIWA
SOIL ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999
CHEM-CORE

Location ID			SUMP-1
Sample ID			N0536D
Matrix			Soil
Depth Interval (ft)			-
Date Sampled			02/11/99
Parameter	Units	Criteria*	
Metals			
Beryllium	MG/KG	0.16 or SB	0.47
Cadmium	MG/KG	1 or SB	10.6
Calcium	MG/KG	SB	94,500
Chromium	MG/KG	10 or SB	133
Cobalt	MG/KG	30 or SB	5.9
Copper	MG/KG	25 or SB	3,030
Iron	MG/KG	2000 or SB	68,000
Lead	MG/KG	SB	295
Magnesium	MG/KG	SB	11,100
Manganese	MG/KG	SB	959
Mercury	MG/KG	0.1	0.18
Nickel	MG/KG	13 or SB	67.1
Potassium	MG/KG	SB	105
Selenium	MG/KG	2 or SB	9.2
Sodium	MG/KG	SB	1,750
Vanadium	MG/KG	150 or SB	19.4
Zinc	MG/KG	20 or SB	1,870

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800		230		200	9
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200		52			24
1,1-Dichloroethene	UG/KG	400		12			2
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-	24				
4-Methyl-2-pentanone	UG/KG	1000	42				
Acetone	UG/KG	200	600	24		2,400	140
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					12
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	-	89	740	3,200	1,400	520
Cyclohexane	UG/KG	-					2
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500		3			55
Isopropylbenzene	UG/KG	-					19
Methyl acetate	UG/KG	-		5			6
Methylcyclohexane	UG/KG	-					17
Methylene chloride	UG/KG	100					21
Tetrachloroethene	UG/KG	1400	38	480	6,600		46

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500		2		750	42
trans-1,2-Dichloroethene	UG/KG	300		3			26
Trichloroethene	UG/KG	700	15	110	2,300		4
Vinyl chloride	UG/KG	200					100
Xylene (Total)	UG/KG	1200		35			400
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	110	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	950	NA	NA
Anthracene	UG/KG	50000	NA	NA	1,800	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	2,900	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	2,800	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	3,900	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	870	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	1,300	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	1,500	NA	NA
Carbazole	UG/KG	-	NA	NA	850	NA	NA
Chrysene	UG/KG	400	NA	NA	2,700	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	300	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	540	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	5,700	NA	NA
Fluorene	UG/KG	50000	NA	NA	940	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	1,200	NA	NA
Naphthalene	UG/KG	13000	NA	NA	92	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000	NA	NA	6,400	NA	NA
Pyrene	UG/KG	50000	NA	NA	5,100	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA		NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	15,200	NA	NA
Antimony	MG/KG	SB	NA	NA		NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	4.5	NA	NA
Barium	MG/KG	300 or SB	NA	NA	169	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	0.79	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	0.63	NA	NA
Calcium	MG/KG	SB	NA	NA	69,800	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	22.5	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	13.9	NA	NA
Copper	MG/KG	25 or SB	NA	NA	29.3	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	27,500	NA	NA
Lead	MG/KG	SB	NA	NA	55.1	NA	NA
Magnesium	MG/KG	SB	NA	NA	14,100	NA	NA
Manganese	MG/KG	SB	NA	NA	532	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	30.3	NA	NA
Potassium	MG/KG	SB	NA	NA	2,030	NA	NA
Selenium	MG/KG	2 or SB	NA	NA		NA	NA
Silver	MG/KG	SB	NA	NA	0.80	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID			CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled			07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	NA	NA	108	NA	NA
Thallium	MG/KG	SB	NA	NA		NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	26.8	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	91.9	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	0.51	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800					45
1,1,2-Trichloroethane	UG/KG	-					2
1,1-Dichloroethane	UG/KG	200	8		32	1	24
1,1-Dichloroethene	UG/KG	400					11
1,2-Dibromoethane	UG/KG	-					11
1,2-Dichloroethane	UG/KG	100					6
1,2-Dichloropropane	UG/KG	-					23
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200		4	22	7	16
Benzene	UG/KG	60			18	5	2
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					4
cis-1,2-Dichloroethene	UG/KG	-	6	55	310	7	16
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500			2		
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-			2		
Methylene chloride	UG/KG	100					
Tetrachloroethene	UG/KG	1400		1	27	1	37

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500	19		4		
trans-1,2-Dichloroethene	UG/KG	300			1		
Trichloroethene	UG/KG	700			9		400
Vinyl chloride	UG/KG	200	2		3		
Xylene (Total)	UG/KG	1200			9		
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID			CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled			07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800					
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200					
1,1-Dichloroethene	UG/KG	400					
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200	18	5	11	7	
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700	2				
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	-	3				
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					
Tetrachloroethene	UG/KG	1400	440	2	32	65	3

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500	3				
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	23		21	70	
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200	5				
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID			CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled			07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	2		5	2	
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200					
1,1-Dichloroethene	UG/KG	400				2	
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200				4	5
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	-	2			1	
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					
Tetrachloroethene	UG/KG	1400	27	2	25	41	9

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500					
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	52		8	4	8
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID			CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

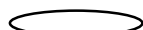
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800			25	25	340
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200			5	6	
1,1-Dichloroethene	UG/KG	400			2	2	
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100			5	3	
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200					
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300			3	3	
cis-1,2-Dichloroethene	UG/KG	-			16	24	
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					
Tetrachloroethene	UG/KG	1400	340,000	150,000	750	660	9,900

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500					
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700			1,700	1,100	2,400
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA		NA	NA	NA
Acenaphthene	UG/KG	50000	NA		NA	NA	NA
Anthracene	UG/KG	50000	NA		NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA		NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA		NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA		NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA		NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA		NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA		NA	NA	NA
Carbazole	UG/KG	-	NA		NA	NA	NA
Chrysene	UG/KG	400	NA		NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA		NA	NA	NA
Dibenzofuran	UG/KG	6200	NA		NA	NA	NA
Fluoranthene	UG/KG	50000	NA		NA	NA	NA
Fluorene	UG/KG	50000	NA		NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA		NA	NA	NA
Naphthalene	UG/KG	13000	NA		NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000	NA		NA	NA	NA
Pyrene	UG/KG	50000	NA		NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA		NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	7,140	NA	NA	NA
Antimony	MG/KG	SB	NA		NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	1.1	NA	NA	NA
Barium	MG/KG	300 or SB	NA	58.2	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	0.33	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	0.40	NA	NA	NA
Calcium	MG/KG	SB	NA	66,400	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	11.3	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	5.0	NA	NA	NA
Copper	MG/KG	25 or SB	NA	11.5	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	13,000	NA	NA	NA
Lead	MG/KG	SB	NA	9.6	NA	NA	NA
Magnesium	MG/KG	SB	NA	26,600	NA	NA	NA
Manganese	MG/KG	SB	NA	360	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	11.9	NA	NA	NA
Potassium	MG/KG	SB	NA	1,480	NA	NA	NA
Selenium	MG/KG	2 or SB	NA		NA	NA	NA
Silver	MG/KG	SB	NA		NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID			CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	NA	67.1	NA	NA	NA
Thallium	MG/KG	SB	NA		NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	15.5	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	62.0	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA		NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	12	14		91	61
1,1,2-Trichloroethane	UG/KG	-				1	1
1,1-Dichloroethane	UG/KG	200				5	10
1,1-Dichloroethene	UG/KG	400		1		13	10
1,2-Dibromoethane	UG/KG	-				37	28
1,2-Dichloroethane	UG/KG	100					5
1,2-Dichloropropane	UG/KG	-				10	15
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200				9	6
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600		2			
Chloroform	UG/KG	300	12	3		2	4
cis-1,2-Dichloroethene	UG/KG	-				37	52
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-	8			1	
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					
Tetrachloroethene	UG/KG	1400	480	390	6,100	85	44

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500		2		1	
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	220	140	670	84	77
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

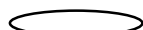
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000	NA	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA	NA
Potassium	MG/KG	SB	NA	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID			CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled			07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	NA	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800	10	4	72	28	
1,1,2-Trichloroethane	UG/KG	-			3		
1,1-Dichloroethane	UG/KG	200	2	2	4		
1,1-Dichloroethene	UG/KG	400		1	6		
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100		2	52	14	
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200	4				
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600			8		
Chloroform	UG/KG	300		2	29		
cis-1,2-Dichloroethene	UG/KG	-	70	85	42		
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-				10	
Ethylbenzene	UG/KG	5500					
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100					
Tetrachloroethene	UG/KG	1400	270	190	1,100	780	6,000

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500	3				
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	200	72	890	240	1,300
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400		NA	NA	NA	NA
Acenaphthene	UG/KG	50000		NA	NA	NA	NA
Anthracene	UG/KG	50000		NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224		NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61		NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100		NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000		NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100		NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	180	NA	NA	NA	NA
Carbazole	UG/KG	-		NA	NA	NA	NA
Chrysene	UG/KG	400		NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14		NA	NA	NA	NA
Dibenzofuran	UG/KG	6200		NA	NA	NA	NA
Fluoranthene	UG/KG	50000		NA	NA	NA	NA
Fluorene	UG/KG	50000		NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200		NA	NA	NA	NA
Naphthalene	UG/KG	13000		NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000		NA	NA	NA	NA
Pyrene	UG/KG	50000		NA	NA	NA	NA
Pesticides							
4,4-DDT	UG/KG	2100		NA	NA	NA	NA
Metals							
Aluminum	MG/KG	SB	16,200	NA	NA	NA	NA
Antimony	MG/KG	SB	0.66	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	7.8	NA	NA	NA	NA
Barium	MG/KG	300 or SB	117	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	0.86	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	1.1	NA	NA	NA	NA
Calcium	MG/KG	SB	32,600	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	24.1	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	16.2	NA	NA	NA	NA
Copper	MG/KG	25 or SB	24.3	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	30,200	NA	NA	NA	NA
Lead	MG/KG	SB	12.3	NA	NA	NA	NA
Magnesium	MG/KG	SB	11,900	NA	NA	NA	NA
Manganese	MG/KG	SB	524	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	34.5	NA	NA	NA	NA
Potassium	MG/KG	SB	2,530	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	1.4	NA	NA	NA	NA
Silver	MG/KG	SB	R	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID			CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	235	NA	NA	NA	NA
Thallium	MG/KG	SB	1.4	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	29.7	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	104	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-		NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/KG	800		330	300		
1,1,2-Trichloroethane	UG/KG	-					
1,1-Dichloroethane	UG/KG	200				3	
1,1-Dichloroethene	UG/KG	400					
1,2-Dibromoethane	UG/KG	-					
1,2-Dichloroethane	UG/KG	100					
1,2-Dichloropropane	UG/KG	-					
2-Hexanone	UG/KG	-					
4-Methyl-2-pentanone	UG/KG	1000					
Acetone	UG/KG	200				14	7
Benzene	UG/KG	60					
Carbon disulfide	UG/KG	2700					
Carbon tetrachloride	UG/KG	600					
Chloroform	UG/KG	300					
cis-1,2-Dichloroethene	UG/KG	-				55	22
Cyclohexane	UG/KG	-					
Dichlorodifluoromethane	UG/KG	-					
Ethylbenzene	UG/KG	5500				5	
Isopropylbenzene	UG/KG	-					
Methyl acetate	UG/KG	-					
Methylcyclohexane	UG/KG	-					
Methylene chloride	UG/KG	100			180		
Tetrachloroethene	UG/KG	1400	5,600	8,000	8,800	100	3

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Volatiles							
Toluene	UG/KG	1500		210	330		
trans-1,2-Dichloroethene	UG/KG	300					
Trichloroethene	UG/KG	700	1,200	4,000	3,800	42	
Vinyl chloride	UG/KG	200					
Xylene (Total)	UG/KG	1200					
Semivolatiles							
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA		NA
Acenaphthene	UG/KG	50000	NA	NA	NA		NA
Anthracene	UG/KG	50000	NA	NA	NA	220	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	440	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	280	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	380	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	120	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	160	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	1,300	NA
Carbazole	UG/KG	-	NA	NA	NA	68	NA
Chrysene	UG/KG	400	NA	NA	NA	410	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA		NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	46	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	970	NA
Fluorene	UG/KG	50000	NA	NA	NA	84	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	150	NA
Naphthalene	UG/KG	13000	NA	NA	NA		NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Semivolatiles							
Phenanthrene	UG/KG	50000	NA	NA	NA	870	NA
Pyrene	UG/KG	50000	NA	NA	NA	720	NA
Pesticides							
4,4-DDT	UG/KG	2100	NA	NA	NA	4.6	NA
Metals							
Aluminum	MG/KG	SB	NA	NA	NA	13,500	NA
Antimony	MG/KG	SB	NA	NA	NA		NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	5.5	NA
Barium	MG/KG	300 or SB	NA	NA	NA	118	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	0.64	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	1.0	NA
Calcium	MG/KG	SB	NA	NA	NA	59,000	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	20.4	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	11.8	NA
Copper	MG/KG	25 or SB	NA	NA	NA	17.9	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	26,200	NA
Lead	MG/KG	SB	NA	NA	NA	10.6	NA
Magnesium	MG/KG	SB	NA	NA	NA	20,200	NA
Manganese	MG/KG	SB	NA	NA	NA	524	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	28.8	NA
Potassium	MG/KG	SB	NA	NA	NA	2,280	NA
Selenium	MG/KG	2 or SB	NA	NA	NA		NA
Silver	MG/KG	SB	NA	NA	NA	R	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID			CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*					
Metals							
Sodium	MG/KG	SB	NA	NA	NA	269	NA
Thallium	MG/KG	SB	NA	NA	NA		NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	26.9	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	83.0	NA
Miscellaneous Parameters							
Cyanide	MG/KG	-	NA	NA	NA		NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Volatiles						
1,1,1-Trichloroethane	UG/KG	800				
1,1,2-Trichloroethane	UG/KG	-				
1,1-Dichloroethane	UG/KG	200			3	
1,1-Dichloroethene	UG/KG	400			4	
1,2-Dibromoethane	UG/KG	-				
1,2-Dichloroethane	UG/KG	100				
1,2-Dichloropropane	UG/KG	-				
2-Hexanone	UG/KG	-				
4-Methyl-2-pentanone	UG/KG	1000				
Acetone	UG/KG	200	5	6	8	6
Benzene	UG/KG	60				
Carbon disulfide	UG/KG	2700				
Carbon tetrachloride	UG/KG	600				
Chloroform	UG/KG	300				
cis-1,2-Dichloroethene	UG/KG	-	2		92	4
Cyclohexane	UG/KG	-				
Dichlorodifluoromethane	UG/KG	-		2		
Ethylbenzene	UG/KG	5500				
Isopropylbenzene	UG/KG	-				
Methyl acetate	UG/KG	-				
Methylcyclohexane	UG/KG	-				
Methylene chloride	UG/KG	100				
Tetrachloroethene	UG/KG	1400	29			

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

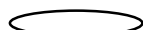
SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Volatiles						
Toluene	UG/KG	1500	1		2	
trans-1,2-Dichloroethene	UG/KG	300				
Trichloroethene	UG/KG	700	10	2	230	49
Vinyl chloride	UG/KG	200			5	
Xylene (Total)	UG/KG	1200				
Semivolatiles						
2-Methylnaphthalene	UG/KG	36400	NA	NA	NA	NA
Acenaphthene	UG/KG	50000	NA	NA	NA	NA
Anthracene	UG/KG	50000	NA	NA	NA	NA
Benzo(a)anthracene	UG/KG	224	NA	NA	NA	NA
Benzo(a)pyrene	UG/KG	61	NA	NA	NA	NA
Benzo(b)fluoranthene	UG/KG	1100	NA	NA	NA	NA
Benzo(g,h,i)perylene	UG/KG	50000	NA	NA	NA	NA
Benzo(k)fluoranthene	UG/KG	1100	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	50000	NA	NA	NA	NA
Carbazole	UG/KG	-	NA	NA	NA	NA
Chrysene	UG/KG	400	NA	NA	NA	NA
Dibenz(a,h)anthracene	UG/KG	14	NA	NA	NA	NA
Dibenzofuran	UG/KG	6200	NA	NA	NA	NA
Fluoranthene	UG/KG	50000	NA	NA	NA	NA
Fluorene	UG/KG	50000	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	3200	NA	NA	NA	NA
Naphthalene	UG/KG	13000	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Semivolatiles						
Phenanthrene	UG/KG	50000	NA	NA	NA	NA
Pyrene	UG/KG	50000	NA	NA	NA	NA
Pesticides						
4,4-DDT	UG/KG	2100	NA	NA	NA	NA
Metals						
Aluminum	MG/KG	SB	NA	NA	NA	NA
Antimony	MG/KG	SB	NA	NA	NA	NA
Arsenic	MG/KG	7.5 or SB	NA	NA	NA	NA
Barium	MG/KG	300 or SB	NA	NA	NA	NA
Beryllium	MG/KG	0.16 or SB	NA	NA	NA	NA
Cadmium	MG/KG	1 or SB	NA	NA	NA	NA
Calcium	MG/KG	SB	NA	NA	NA	NA
Chromium	MG/KG	10 or SB	NA	NA	NA	NA
Cobalt	MG/KG	30 or SB	NA	NA	NA	NA
Copper	MG/KG	25 or SB	NA	NA	NA	NA
Iron	MG/KG	2000 or SB	NA	NA	NA	NA
Lead	MG/KG	SB	NA	NA	NA	NA
Magnesium	MG/KG	SB	NA	NA	NA	NA
Manganese	MG/KG	SB	NA	NA	NA	NA
Nickel	MG/KG	13 or SB	NA	NA	NA	NA
Potassium	MG/KG	SB	NA	NA	NA	NA
Selenium	MG/KG	2 or SB	NA	NA	NA	NA
Silver	MG/KG	SB	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-3
PREVIOUS INVESTIGATION - PHASE I RI JULY 2001
CHEM-CORE

Location ID			GB-23	GB-23	GB-24	GB-24
Sample ID			CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5
Matrix			Soil	Soil	Soil	Soil
Depth Interval (ft)			7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5
Date Sampled			07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units	Criteria*				
Metals						
Sodium	MG/KG	SB	NA	NA	NA	NA
Thallium	MG/KG	SB	NA	NA	NA	NA
Vanadium	MG/KG	150 or SB	NA	NA	NA	NA
Zinc	MG/KG	20 or SB	NA	NA	NA	NA
Miscellaneous Parameters						
Cyanide	MG/KG	-	NA	NA	NA	NA

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria.

NA - Not Analyzed

SB- Site Background

Only Detected Results Reported.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEMCORE

Parameter	Units	Criteria*	Num. of Samples	Num. of Detections	Range of Detections			Num. Exceed	LOCID of Max Value
					Min	Max	Avg		
Volatiles									
1,1,1-Trichloroethane	UG/KG	800	44	20	2.0	340.0	90.25	-	GB-15
1,1,2-Trichloroethane	UG/KG	-	44	4	1.0	3.0	1.75	-	GB-19
1,1-Dichloroethane	UG/KG	200	44	15	1.0	52.0	12.067	-	GB-01
1,1-Dichloroethene	UG/KG	400	44	12	1.0	13.0	5.5	-	GB-17
1,2-Dibromoethane	UG/KG	-	44	3	11.0	37.0	25.333	-	GB-17
1,2-Dichloroethane	UG/KG	100	44	7	2.0	52.0	12.429	-	GB-19
1,2-Dichloropropane	UG/KG	-	44	3	10.0	23.0	16.0	-	GB-06
2-Hexanone	UG/KG	-	44	1	24.0	24.0	24.0	-	GB-01
4-Methyl-2-pentanone	UG/KG	1000	44	1	42.0	42.0	42.0	-	GB-01
Acetone	UG/KG	200	44	23	4.0	2,400.0	144.696	2	GB-02
Benzene	UG/KG	60	44	3	2.0	18.0	8.333	-	GB-05
Carbon disulfide	UG/KG	2700	44	2	2.0	12.0	7.0	-	GB-03
Carbon tetrachloride	UG/KG	600	44	2	2.0	8.0	5.0	-	GB-19
Chloroform	UG/KG	300	44	9	2.0	29.0	6.889	-	GB-19
cis-1,2-Dichloroethene	UG/KG	-	44	25	1.0	3,200.0	274.0	-	GB-02
Cyclohexane	UG/KG	-	44	1	2.0	2.0	2.0	-	GB-03
Dichlorodifluoromethane	UG/KG	-	44	4	1.0	10.0	5.25	-	GB-19
Ethylbenzene	UG/KG	5500	44	4	2.0	55.0	16.25	-	GB-03
Isopropylbenzene	UG/KG	-	44	1	19.0	19.0	19.0	-	GB-03
Methyl acetate	UG/KG	-	44	2	5.0	6.0	5.5	-	GB-03
Methylcyclohexane	UG/KG	-	44	2	2.0	17.0	9.5	-	GB-03
Methylene chloride	UG/KG	100	44	2	21.0	180.0	100.5	1	GB-21
Tetrachloroethene	UG/KG	1400	44	39	1.0	3.40E+05	14,029.667	9	GB-13
Toluene	UG/KG	1500	44	13	1.0	750.0	105.308	-	GB-02
trans-1,2-Dichloroethene	UG/KG	300	44	3	1.0	26.0	10.0	-	GB-03
Trichloroethene	UG/KG	700	44	34	2.0	4,000.0	630.882	9	GB-21

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEMCORE

Parameter	Units	Criteria*	Num. of Samples	Num. of Detections	Range of Detections			Num. Exceed	LOCID of Max Value
					Min	Max	Avg		
Volatiles									
Vinyl chloride	UG/KG	200	44	4	2.0	100.0	27.5	-	GB-03
Xylene (Total)	UG/KG	1200	44	5	5.0	400.0	94.8	-	GB-03
Semivolatiles									
2-Methylnaphthalene	UG/KG	36400	4	1	110.0	110.0	110.0	-	GB-02
Acenaphthene	UG/KG	50000	4	1	950.0	950.0	950.0	-	GB-02
Anthracene	UG/KG	50000	4	2	220.0	1,800.0	1,010.0	-	GB-02
Benzo(a)anthracene	UG/KG	224	4	2	440.0	2,900.0	1,670.0	2	GB-02
Benzo(a)pyrene	UG/KG	61	4	2	280.0	2,800.0	1,540.0	2	GB-02
Benzo(b)fluoranthene	UG/KG	1100	4	2	380.0	3,900.0	2,140.0	1	GB-02
Benzo(g,h,i)perylene	UG/KG	50000	4	2	120.0	870.0	495.0	-	GB-02
Benzo(k)fluoranthene	UG/KG	1100	4	2	160.0	1,300.0	730.0	1	GB-02
bis(2-Ethylhexyl)phthalate	UG/KG	50000	4	3	180.0	1,500.0	993.333	-	GB-02
Carbazole	UG/KG	-	4	2	68.0	850.0	459.0	-	GB-02
Chrysene	UG/KG	400	4	2	410.0	2,700.0	1,555.0	2	GB-02
Dibenz(a,h)anthracene	UG/KG	14	4	1	300.0	300.0	300.0	1	GB-02
Dibenzofuran	UG/KG	6200	4	2	46.0	540.0	293.0	-	GB-02
Fluoranthene	UG/KG	50000	4	2	970.0	5,700.0	3,335.0	-	GB-02
Fluorene	UG/KG	50000	4	2	84.0	940.0	512.0	-	GB-02
Indeno(1,2,3-cd)pyrene	UG/KG	3200	4	2	150.0	1,200.0	675.0	-	GB-02
Naphthalene	UG/KG	13000	4	1	92.0	92.0	92.0	-	GB-02
Phenanthrene	UG/KG	50000	4	2	870.0	6,400.0	3,635.0	-	GB-02
Pyrene	UG/KG	50000	4	2	720.0	5,100.0	2,910.0	-	GB-02
Pesticides									
4,4-DDT	UG/KG	2100	4	1	4.637	4.637	4.637	-	GB-22
Metals									
Aluminum	MG/KG	-	4	4	7,140.0	16,200.0	13,010.0	-	GB-18

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



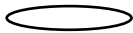
Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 4-4
STATISTICAL SUMMARY SOIL - PHASE I RI JULY 2001
CHEMCORE

Parameter	Units	Criteria*	Num. of Samples	Num. of Detections	Range of Detections			Num. Exceed	LOCID of Max Value
					Min	Max	Avg		
Metals									
Antimony	MG/KG	-	4	1	0.66	0.66	0.66	-	GB-18
Arsenic	MG/KG	7.5 or SB	4	4	1.1	7.8	4.725	1	GB-18
Barium	MG/KG	300 or SB	4	4	58.2	169.0	115.55	-	GB-02
Beryllium	MG/KG	0.16 or SB	4	4	0.33	0.86	0.655	4	GB-18
Cadmium	MG/KG	1 or SB	3	3	0.4	1.0	0.677	-	GB-22
Calcium	MG/KG	-	4	4	32,600.0	69,800.0	56,950.0	-	GB-02
Chromium	MG/KG	10 or SB	4	4	11.3	24.1	19.575	4	GB-18
Cobalt	MG/KG	30 or SB	4	4	5.0	16.2	11.725	-	GB-18
Copper	MG/KG	25 or SB	4	4	11.5	29.3	20.75	1	GB-02
Iron	MG/KG	2000 or SB	4	4	13,000.0	30,200.0	24,225.0	4	GB-18
Lead	MG/KG	-	4	4	9.6	55.1	21.9	-	GB-02
Magnesium	MG/KG	-	4	4	11,900.0	26,600.0	18,200.0	-	GB-13
Manganese	MG/KG	-	4	4	360.0	532.0	485.0	-	GB-02
Nickel	MG/KG	13 or SB	4	4	11.9	34.5	26.375	3	GB-18
Potassium	MG/KG	-	4	4	1,480.0	2,530.0	2,080.0	-	GB-18
Selenium	MG/KG	2 or SB	4	1	1.4	1.4	1.4	-	GB-18
Silver	MG/KG	-	2	1	0.8	0.8	0.8	-	GB-02
Sodium	MG/KG	-	4	4	67.1	269.0	169.775	-	GB-22
Thallium	MG/KG	-	4	1	1.4	1.4	1.4	-	GB-18
Vanadium	MG/KG	150 or SB	4	4	15.5	29.7	24.725	-	GB-18
Zinc	MG/KG	20 or SB	4	4	62.0	104.0	85.225	4	GB-18
Miscellaneous Parameters									
Cyanide	MG/KG	-	4	1	0.51	0.51	0.51	-	GB-02

*Criteria- NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).



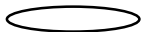
Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 4-5
SURFACE WATER ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

Location ID			WS-1	WS-2	WS-3	WS-4	WS-5
Sample ID			WS-1	WS-2	WS-3	WS-4	WS-5
Matrix			Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Depth Interval (ft)			-	-	-	-	-
Date Sampled			09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units	Criteria*					
Metals							
Aluminum	UG/L	100	NA	NA	88.6	NA	NA
Arsenic	UG/L	150	NA	NA	7.0	NA	NA
Barium	UG/L	NS	NA	NA	30.7	NA	NA
Calcium	UG/L	NS	NA	NA	38,800	NA	NA
Chromium	UG/L	96.36	NA	NA	0.85	NA	NA
Cobalt	UG/L	5	NA	NA	1.1	NA	NA
Copper	UG/L	11.78	NA	NA	2.3	NA	NA
Iron	UG/L	300	NA	NA	152	NA	NA
Lead	UG/L	5.36	NA	NA	1.3	NA	NA
Magnesium	UG/L	NS	NA	NA	9,930	NA	NA
Manganese	UG/L	NS	NA	NA	12.0	NA	NA
Nickel	UG/L	68.2	NA	NA	2.3	NA	NA
Potassium	UG/L	NS	NA	NA	1,910	NA	NA
Sodium	UG/L	NS	NA	NA	9,690	NA	NA
Vanadium	UG/L	14	NA	NA	0.52	NA	NA
Zinc	UG/L	108.5	NA	NA	17.1	NA	NA
Miscellaneous Parameters							
Cyanide	UG/L	5.2	NA	NA	3.4	NA	NA

*Criteria- NYSDEC Technical and Operational Guidance Series (1.1.1), June 1998, Revised April 2000, Class C, Type A(C). Calculated criteria based on derived Hardness from sample WS-3.



Concentration Exceeds Criteria.

NA - Not Analyzed

NS - No Standard

Only Detected Results Reported.

TABLE 4-5
SURFACE WATER ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

Location ID			WS-6
Sample ID			WS-6
Matrix			Surface Water
Depth Interval (ft)			-
Date Sampled			09/20/01
Parameter	Units	Criteria*	
Metals			
Aluminum	UG/L	100	NA
Arsenic	UG/L	150	NA
Barium	UG/L	NS	NA
Calcium	UG/L	NS	NA
Chromium	UG/L	96.36	NA
Cobalt	UG/L	5	NA
Copper	UG/L	11.78	NA
Iron	UG/L	300	NA
Lead	UG/L	5.36	NA
Magnesium	UG/L	NS	NA
Manganese	UG/L	NS	NA
Nickel	UG/L	68.2	NA
Potassium	UG/L	NS	NA
Sodium	UG/L	NS	NA
Vanadium	UG/L	14	NA
Zinc	UG/L	108.5	NA
Miscellaneous Parameters			
Cyanide	UG/L	5.2	NA

*Criteria- NYSDEC Technical and Operational Guidance Series (1.1.1), June 1998, Revised April 2000, Class C, Type A(C). Calculated criteria based on derived Hardness from sample WS-3.



Concentration Exceeds Criteria.

NA - Not Analyzed

NS - No Standard

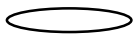
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

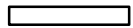
Location ID				SED-1	SED-2	SED-3	SED-4	SED-5
Sample ID				SED-1	SED-2	SED-3	SED-4	SED-5
Matrix				Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)				-	-	-	-	-
Date Sampled				09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units	Criteria (1)	Criteria (2)					
Volatiles								
1,4-Dichlorobenzene	UG/KG	NS	NS			8		30
2-Butanone	UG/KG	NS	NS					25
Acetone	UG/KG	NS	NS				29	
Chlorobenzene	UG/KG	NS	NS			5		53
Ethylbenzene	UG/KG	NS	NS					32
Methylene chloride	UG/KG	NS	NS			4		
Toluene	UG/KG	NS	NS					250
Xylene (Total)	UG/KG	NS	NS					21
Semivolatiles								
2-Methylnaphthalene	UG/KG	NS	NS	NA	NA	170	NA	NA
4-Methylphenol	UG/KG	NS	NS	NA	NA	220	NA	NA
Acenaphthene	UG/KG	NS	NS	NA	NA	640	NA	NA
Acenaphthylene	UG/KG	NS	NS	NA	NA	150	NA	NA
Anthracene	UG/KG	NS	NS	NA	NA	1,700	NA	NA
Benzaldehyde	UG/KG	NS	NS	NA	NA	180	NA	NA
Benzo(a)anthracene	UG/KG	NS	NS	NA	NA	8,000	NA	NA
Benzo(a)pyrene	UG/KG	13	NS	NA	NA	8,500	NA	NA
Benzo(b)fluoranthene	UG/KG	NS	NS	NA	NA	13,000	NA	NA
Benzo(g,h,i)perylene	UG/KG	NS	NS	NA	NA	7,100	NA	NA
Benzo(k)fluoranthene	UG/KG	NS	NS	NA	NA	4,300	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	NS	NS	NA	NA	18,000	NA	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Human Health Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Wildlife Bioaccumulation Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

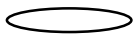
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

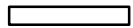
Location ID				SED-1	SED-2	SED-3	SED-4	SED-5
Sample ID				SED-1	SED-2	SED-3	SED-4	SED-5
Matrix				Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)				-	-	-	-	-
Date Sampled				09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units	Criteria (1)	Criteria (2)					
Semivolatiles								
Butylbenzylphthalate	UG/KG	NS	NS	NA	NA	1,500	NA	NA
Carbazole	UG/KG	NS	NS	NA	NA	1,400	NA	NA
Chrysene	UG/KG	NS	NS	NA	NA	11,000	NA	NA
Dibenz(a,h)anthracene	UG/KG	NS	NS	NA	NA	1,300	NA	NA
Dibenzofuran	UG/KG	NS	NS	NA	NA	390	NA	NA
Di-n-butylphthalate	UG/KG	NS	NS	NA	NA	930	NA	NA
Di-n-octylphthalate	UG/KG	NS	NS	NA	NA	3,800	NA	NA
Fluoranthene	UG/KG	NS	NS	NA	NA	17,000	NA	NA
Fluorene	UG/KG	NS	NS	NA	NA	760	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	NS	NS	NA	NA	7,900	NA	NA
Naphthalene	UG/KG	NS	NS	NA	NA	200	NA	NA
Phenanthrene	UG/KG	NS	NS	NA	NA	11,000	NA	NA
Pyrene	UG/KG	NS	NS	NA	NA	16,000	NA	NA
Pesticides								
4,4-DDE	UG/KG	NS	NS	NA	NA	R	NA	NA
4,4-DDT	UG/KG	NS	NS	NA	NA	8.6	NA	NA
alpha-Chlordane	UG/KG	NS	NS	NA	NA	R	NA	NA
Endosulfan II	UG/KG	NS	NS	NA	NA	11	NA	NA
Endosulfan sulfate	UG/KG	NS	NS	NA	NA	23	NA	NA
gamma-Chlordane	UG/KG	NS	NS	NA	NA	43	NA	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Human Health Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Wildlife Bioaccumulation Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

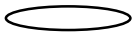
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

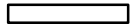
Location ID				SED-1	SED-2	SED-3	SED-4	SED-5
Sample ID				SED-1	SED-2	SED-3	SED-4	SED-5
Matrix				Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)				-	-	-	-	-
Date Sampled				09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units	Criteria (1)	Criteria (2)					
PCBs								
Aroclor 1260	UG/KG	0.08	14	NA	NA	340	NA	NA
Miscellaneous Parameters								
Cyanide	MG/KG	NS	NS	NA	NA	0.74	NA	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Human Health Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Wildlife Bioaccumulation Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

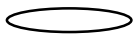
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

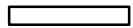
Location ID				SED-6
Sample ID				SED-6
Matrix				Sediment
Depth Interval (ft)				-
Date Sampled				09/20/01
Parameter	Units	Criteria (1)	Criteria (2)	
Volatiles				
1,4-Dichlorobenzene	UG/KG	NS	NS	4
2-Butanone	UG/KG	NS	NS	
Acetone	UG/KG	NS	NS	
Chlorobenzene	UG/KG	NS	NS	
Ethylbenzene	UG/KG	NS	NS	
Methylene chloride	UG/KG	NS	NS	
Toluene	UG/KG	NS	NS	
Xylene (Total)	UG/KG	NS	NS	
Semivolatiles				
2-Methylnaphthalene	UG/KG	NS	NS	NA
4-Methylphenol	UG/KG	NS	NS	NA
Acenaphthene	UG/KG	NS	NS	NA
Acenaphthylene	UG/KG	NS	NS	NA
Anthracene	UG/KG	NS	NS	NA
Benzaldehyde	UG/KG	NS	NS	NA
Benzo(a)anthracene	UG/KG	NS	NS	NA
Benzo(a)pyrene	UG/KG	13	NS	NA
Benzo(b)fluoranthene	UG/KG	NS	NS	NA
Benzo(g,h,i)perylene	UG/KG	NS	NS	NA
Benzo(k)fluoranthene	UG/KG	NS	NS	NA
bis(2-Ethylhexyl)phthalate	UG/KG	NS	NS	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Human Health Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Wildlife Bioaccumulation Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

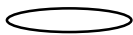
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

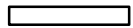
Location ID				SED-6
Sample ID				SED-6
Matrix				Sediment
Depth Interval (ft)				-
Date Sampled				09/20/01
Parameter	Units	Criteria (1)	Criteria (2)	
Semivolatiles				
Butylbenzylphthalate	UG/KG	NS	NS	NA
Carbazole	UG/KG	NS	NS	NA
Chrysene	UG/KG	NS	NS	NA
Dibenz(a,h)anthracene	UG/KG	NS	NS	NA
Dibenzofuran	UG/KG	NS	NS	NA
Di-n-butylphthalate	UG/KG	NS	NS	NA
Di-n-octylphthalate	UG/KG	NS	NS	NA
Fluoranthene	UG/KG	NS	NS	NA
Fluorene	UG/KG	NS	NS	NA
Indeno(1,2,3-cd)pyrene	UG/KG	NS	NS	NA
Naphthalene	UG/KG	NS	NS	NA
Phenanthrene	UG/KG	NS	NS	NA
Pyrene	UG/KG	NS	NS	NA
Pesticides				
4,4-DDE	UG/KG	NS	NS	NA
4,4-DDT	UG/KG	NS	NS	NA
alpha-Chlordane	UG/KG	NS	NS	NA
Endosulfan II	UG/KG	NS	NS	NA
Endosulfan sulfate	UG/KG	NS	NS	NA
gamma-Chlordane	UG/KG	NS	NS	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Human Health Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Wildlife Bioaccumulation Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

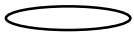
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

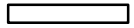
Location ID				SED-6
Sample ID				SED-6
Matrix				Sediment
Depth Interval (ft)				-
Date Sampled				09/20/01
Parameter	Units	Criteria (1)	Criteria (2)	
PCBs				
Aroclor 1260	UG/KG	0.08	14	NA
Miscellaneous Parameters				
Cyanide	MG/KG	NS	NS	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Human Health Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Wildlife Bioaccumulation Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

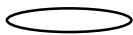
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

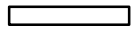
Location ID				SED-1	SED-2	SED-3	SED-4	SED-5
Sample ID				SED-1	SED-2	SED-3	SED-4	SED-5
Matrix				Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)				-	-	-	-	-
Date Sampled				09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units	Criteria (1)	Criteria (2)					
Volatiles								
1,4-Dichlorobenzene	UG/KG	1200	120			8		30
2-Butanone	UG/KG	NS	NS					25
Acetone	UG/KG	NS	NS				29	
Chlorobenzene	UG/KG	346	35			5		53
Ethylbenzene	UG/KG	NS	NS					32
Methylene chloride	UG/KG	NS	NS			4		
Toluene	UG/KG	2350	490					250
Xylene (Total)	UG/KG	8330	920					21
Semivolatiles								
2-Methylnaphthalene	UG/KG	NS	NS	NA	NA	170	NA	NA
4-Methylphenol	UG/KG	NS	NS	NA	NA	220	NA	NA
Acenaphthene	UG/KG	NS	1400	NA	NA	640	NA	NA
Acenaphthylene	UG/KG	NS	NS	NA	NA	150	NA	NA
Anthracene	UG/KG	9860	1070	NA	NA	1,700	NA	NA
Benzaldehyde	UG/KG	NS	NS	NA	NA	180	NA	NA
Benzo(a)anthracene	UG/KG	NS	NS	NA	NA	8,000	NA	NA
Benzo(a)pyrene	UG/KG	NS	NS	NA	NA	8,500	NA	NA
Benzo(b)fluoranthene	UG/KG	NS	NS	NA	NA	13,000	NA	NA
Benzo(g,h,i)perylene	UG/KG	NS	NS	NA	NA	7,100	NA	NA
Benzo(k)fluoranthene	UG/KG	NS	NS	NA	NA	4,300	NA	NA
bis(2-Ethylhexyl)phthalate	UG/KG	NS	1995	NA	NA	18,000	NA	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Acute Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Chronic Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

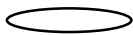
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

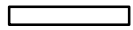
Location ID				SED-1	SED-2	SED-3	SED-4	SED-5
Sample ID				SED-1	SED-2	SED-3	SED-4	SED-5
Matrix				Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)				-	-	-	-	-
Date Sampled				09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units	Criteria (1)	Criteria (2)					
Semivolatiles								
Butylbenzylphthalate	UG/KG	NS	NS	NA	NA	1,500	NA	NA
Carbazole	UG/KG	NS	NS	NA	NA	1,400	NA	NA
Chrysene	UG/KG	NS	NS	NA	NA	11,000	NA	NA
Dibenz(a,h)anthracene	UG/KG	NS	NS	NA	NA	1,300	NA	NA
Dibenzofuran	UG/KG	NS	NS	NA	NA	390	NA	NA
Di-n-butylphthalate	UG/KG	NS	NS	NA	NA	930	NA	NA
Di-n-octylphthalate	UG/KG	NS	NS	NA	NA	3,800	NA	NA
Fluoranthene	UG/KG	NS	10200	NA	NA	17,000	NA	NA
Fluorene	UG/KG	730	80	NA	NA	760	NA	NA
Indeno(1,2,3-cd)pyrene	UG/KG	NS	NS	NA	NA	7,900	NA	NA
Naphthalene	UG/KG	NS	NS	NA	NA	200	NA	NA
Phenanthrene	UG/KG	NS	1200	NA	NA	11,000	NA	NA
Pyrene	UG/KG	87750	9610	NA	NA	16,000	NA	NA
Pesticides								
4,4-DDE	UG/KG	NS	NS	NA	NA	R	NA	NA
4,4-DDT	UG/KG	NS	NS	NA	NA	8.6	NA	NA
alpha-Chlordane	UG/KG	NS	NS	NA	NA	R	NA	NA
Endosulfan II	UG/KG	NS	NS	NA	NA	11	NA	NA
Endosulfan sulfate	UG/KG	NS	NS	NA	NA	23	NA	NA
gamma-Chlordane	UG/KG	NS	NS	NA	NA	43	NA	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Acute Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Chronic Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

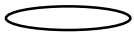
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

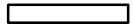
Location ID				SED-1	SED-2	SED-3	SED-4	SED-5
Sample ID				SED-1	SED-2	SED-3	SED-4	SED-5
Matrix				Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)				-	-	-	-	-
Date Sampled				09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units	Criteria (1)	Criteria (2)					
PCBs								
Aroclor 1260	UG/KG	27608	193	NA	NA	340	NA	NA
Miscellaneous Parameters								
Cyanide	MG/KG	NS	NS	NA	NA	0.74	NA	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Acute Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Chronic Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

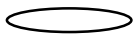
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

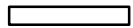
Location ID				SED-6
Sample ID				SED-6
Matrix				Sediment
Depth Interval (ft)				-
Date Sampled				09/20/01
Parameter	Units	Criteria (1)	Criteria (2)	
Volatiles				
1,4-Dichlorobenzene	UG/KG	1200	120	4
2-Butanone	UG/KG	NS	NS	
Acetone	UG/KG	NS	NS	
Chlorobenzene	UG/KG	346	35	
Ethylbenzene	UG/KG	NS	NS	
Methylene chloride	UG/KG	NS	NS	
Toluene	UG/KG	2350	490	
Xylene (Total)	UG/KG	8330	920	
Semivolatiles				
2-Methylnaphthalene	UG/KG	NS	NS	NA
4-Methylphenol	UG/KG	NS	NS	NA
Acenaphthene	UG/KG	NS	1400	NA
Acenaphthylene	UG/KG	NS	NS	NA
Anthracene	UG/KG	9860	1070	NA
Benzaldehyde	UG/KG	NS	NS	NA
Benzo(a)anthracene	UG/KG	NS	NS	NA
Benzo(a)pyrene	UG/KG	NS	NS	NA
Benzo(b)fluoranthene	UG/KG	NS	NS	NA
Benzo(g,h,i)perylene	UG/KG	NS	NS	NA
Benzo(k)fluoranthene	UG/KG	NS	NS	NA
bis(2-Ethylhexyl)phthalate	UG/KG	NS	1995	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Acute Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Chronic Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

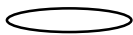
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

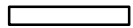
Location ID				SED-6
Sample ID				SED-6
Matrix				Sediment
Depth Interval (ft)				-
Date Sampled				09/20/01
Parameter	Units	Criteria (1)	Criteria (2)	
Semivolatiles				
Butylbenzylphthalate	UG/KG	NS	NS	NA
Carbazole	UG/KG	NS	NS	NA
Chrysene	UG/KG	NS	NS	NA
Dibenz(a,h)anthracene	UG/KG	NS	NS	NA
Dibenzofuran	UG/KG	NS	NS	NA
Di-n-butylphthalate	UG/KG	NS	NS	NA
Di-n-octylphthalate	UG/KG	NS	NS	NA
Fluoranthene	UG/KG	NS	10200	NA
Fluorene	UG/KG	730	80	NA
Indeno(1,2,3-cd)pyrene	UG/KG	NS	NS	NA
Naphthalene	UG/KG	NS	NS	NA
Phenanthrene	UG/KG	NS	1200	NA
Pyrene	UG/KG	87750	9610	NA
Pesticides				
4,4-DDE	UG/KG	NS	NS	NA
4,4-DDT	UG/KG	NS	NS	NA
alpha-Chlordane	UG/KG	NS	NS	NA
Endosulfan II	UG/KG	NS	NS	NA
Endosulfan sulfate	UG/KG	NS	NS	NA
gamma-Chlordane	UG/KG	NS	NS	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Acute Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Chronic Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

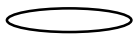
Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

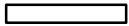
Location ID				SED-6
Sample ID				SED-6
Matrix				Sediment
Depth Interval (ft)				-
Date Sampled				09/20/01
Parameter	Units	Criteria (1)	Criteria (2)	
PCBs				
Aroclor 1260	UG/KG	27608	193	NA
Miscellaneous Parameters				
Cyanide	MG/KG	NS	NS	NA

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Acute Protection (Assumes 1% Organic Carbon content).

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, January 1999, Fresh Water - Benthic Chronic Protection (Assumes 1% Organic Carbon content).



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NA - Not Analyzed

NS - No Standard

Only Detected Results Reported.

TABLE 4-6
SEDIMENT ANALYTICAL RESULTS SUMMARY - PHASE I RI SEPTEMBER 2001
CHEM-CORE

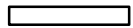
Location ID				SED-3
Sample ID				SED-3
Matrix				Sediment
Depth Interval (ft)				-
Date Sampled				09/20/01
Parameter	Units	Criteria (1)	Criteria (2)	
Metals				
Aluminum	MG/KG	NS	NS	3,330
Antimony	MG/KG	2	25	3.5
Arsenic	MG/KG	6	33	5.0
Barium	MG/KG	NS	NS	76.4
Beryllium	MG/KG	NS	NS	0.23
Cadmium	MG/KG	0.6	9	3.6
Calcium	MG/KG	NS	NS	39,600
Chromium	MG/KG	26	110	70.8
Cobalt	MG/KG	NS	NS	5.0
Copper	MG/KG	16	110	185
Iron	MG/KG	20000	40000	14,600
Lead	MG/KG	31	110	173
Magnesium	MG/KG	NS	NS	10,400
Manganese	MG/KG	460	1100	168
Mercury	MG/KG	0.15	1.3	0.27
Nickel	MG/KG	16	50	35.3
Potassium	MG/KG	NS	NS	462
Silver	MG/KG	1	2.2	2.3
Sodium	MG/KG	NS	NS	1,030
Vanadium	MG/KG	NS	NS	11.9
Zinc	MG/KG	120	270	421

Criteria (1)- NYSDEC Technical Guidance for Screening Contaminated Sediments, Lowest Effect Level, January 1999.

Criteria (2)- NYSDEC Technical Guidance for Screening Contaminated Sediments, Severe Effect Level, January 1999.



Concentration Exceeds Criteria 1



Concentration Exceeds Criteria 2

NS - No Standard

Only Detected Results Reported.

TABLE 4-7
PREVIOUS INVESTIGATION - PHASE IIWA
GROUNDWATER ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999

Location ID			MW-01S	MW-02	MW-03	PZ-1
Sample ID			N053W1	N053W2	N053W3	N053W4
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			02/23/99	02/23/99	02/23/99	02/26/99
Parameter	Units	Criteria*				
Volatiles						
1,1,1-Trichloroethane	UG/L	5	1,800	1,400	2,400	23,000
1,1-Dichloroethane	UG/L	5	790	1,100	420	3,400
1,1-Dichloroethene	UG/L	5	120	160	180	1,600
1,2-Dichloroethane	UG/L	0.6			18	290
Acetone	UG/L	50				25,000
Benzene	UG/L	1			15	
Chloroform	UG/L	7			19	
cis-1,2-Dichloroethene	UG/L	5	9,100	12,000	3,500	36,000
Ethylbenzene	UG/L	5			0.51	
Methylene chloride	UG/L	5	250	270	18	36,000
Tetrachloroethene	UG/L	5	960	1,300	6,900	950
Toluene	UG/L	5	420	2,200	2.3	640
trans-1,2-Dichloroethene	UG/L	5			23	
Trichloroethene	UG/L	5	770	830	3,000	12,000
Vinyl chloride	UG/L	2	1,300	4,300	500	210
Xylene (Total)	UG/L	5			6.3	
Semivolatiles						
2-Methylphenol	UG/L	1		3		NA
4-Methylphenol	UG/L	1		3		NA
bis(2-Ethylhexyl)phthalate	UG/L	5	14	7	10	NA
Metals						
Aluminum	UG/L	-	560	2,180	363	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



Concentration Exceeds Criteria.

NA - Not Analyzed

Only Detected Results Reported.

TABLE 4-7
PREVIOUS INVESTIGATION - PHASE IIWA
GROUNDWATER ANALYTICAL RESULTS SUMMARY - FEBRUARY 1999

Location ID			MW-01S	MW-02	MW-03	PZ-1
Sample ID			N053W1	N053W2	N053W3	N053W4
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			02/23/99	02/23/99	02/23/99	02/26/99
Parameter	Units	Criteria*				
Metals						
Barium	UG/L	1000	93.7	123	97.8	NA
Calcium	UG/L	-	168,000	151,000	140,000	NA
Chromium	UG/L	50		4.7		NA
Cobalt	UG/L	-		3.7		NA
Copper	UG/L	200	3.6	10.9		NA
Iron	UG/L	300	6,480	5,070	448	NA
Magnesium	UG/L	35000	51,700	126,000	75,600	NA
Manganese	UG/L	300	93.8	131	35.3	NA
Nickel	UG/L	100	10.9	61.3	2.8	NA
Potassium	UG/L	-	8,530	12,700	5,660	NA
Sodium	UG/L	20000	177,000	206,000	159,000	NA
Thallium	UG/L	0.5	6.6	11.4		NA
Vanadium	UG/L	-	2.5	5.6		NA
Zinc	UG/L	2000	19.8	49.1	18.3	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



Concentration Exceeds Criteria.

NA - Not Analyzed

Only Detected Results Reported.

TABLE 4-8
GROUNDWATER ANALYTICAL RESULTS SUMMARY - PHASE I RI OCTOBER 2001
CHEMCORE

Location ID			MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID			MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/09/01	10/09/01	10/09/01	10/10/01	10/10/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	19	9,000	330	250	
1,1-Dichloroethane	UG/L	5	14	2,800	1,000		
1,1-Dichloroethene	UG/L	5	1	980	52	65	
Benzene	UG/L	1			42		
Chloroethane	UG/L	5					
Chloroform	UG/L	7					
cis-1,2-Dichloroethene	UG/L	5	110	28,000	4,700	690	
Tetrachloroethene	UG/L	5	2	260	230	5,400	
Toluene	UG/L	5			710		2
Trichloroethene	UG/L	5	6	410	630	880	
Vinyl chloride	UG/L	2	7	3,200	3,700		
Semivolatiles							
bis(2-Ethylhexyl)phthalate	UG/L	5		NA	NA	NA	NA
Caprolactam	UG/L	-		NA	NA	NA	NA
Metals							
Aluminum	UG/L	-	158	NA	NA	NA	NA
Arsenic	UG/L	25	6.8	NA	NA	NA	NA
Barium	UG/L	1000	124	NA	NA	NA	NA
Beryllium	UG/L	3		NA	NA	NA	NA
Calcium	UG/L	-	171,000	NA	NA	NA	NA
Chromium	UG/L	50	16.4	NA	NA	NA	NA
Cobalt	UG/L	-	1.6	NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-8
GROUNDWATER ANALYTICAL RESULTS SUMMARY - PHASE I RI OCTOBER 2001
CHEMCORE

Location ID			MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID			MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/09/01	10/09/01	10/09/01	10/10/01	10/10/01
Parameter	Units	Criteria*					
Metals							
Copper	UG/L	200	1.0	NA	NA	NA	NA
Iron	UG/L	300	336	NA	NA	NA	NA
Magnesium	UG/L	35000	17,200	NA	NA	NA	NA
Manganese	UG/L	300	72.8	NA	NA	NA	NA
Nickel	UG/L	100	18.4	NA	NA	NA	NA
Potassium	UG/L	-	6,220	NA	NA	NA	NA
Silver	UG/L	50	3.0	NA	NA	NA	NA
Sodium	UG/L	20000	228,000	NA	NA	NA	NA
Vanadium	UG/L	-	0.72	NA	NA	NA	NA
Zinc	UG/L	2000	11.4	NA	NA	NA	NA
Miscellaneous Parameters							
Cyanide	UG/L	200		NA	NA	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-8
GROUNDWATER ANALYTICAL RESULTS SUMMARY - PHASE I RI OCTOBER 2001
CHEMCORE

Location ID			MW-04S	MW-05	MW-06	MW-07	MW-08
Sample ID			MW-04S	MW-05	MW-06	MW-07	MW-08
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/10/01	10/10/01	10/10/01	10/10/01	10/10/01
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5			3,400	1,700	
1,1-Dichloroethane	UG/L	5		2	4,800	1,700	
1,1-Dichloroethene	UG/L	5			490	370	
Benzene	UG/L	1					
Chloroethane	UG/L	5					
Chloroform	UG/L	7		2			
cis-1,2-Dichloroethene	UG/L	5		7	23,000	9,400	220
Tetrachloroethene	UG/L	5				870	220
Toluene	UG/L	5	1		610		
Trichloroethene	UG/L	5				1,600	29
Vinyl chloride	UG/L	2	2	5	10,000	3,800	14
Semivolatiles							
bis(2-Ethylhexyl)phthalate	UG/L	5	NA	NA	NA	3	NA
Caprolactam	UG/L	-	NA	NA	NA	3	NA
Metals							
Aluminum	UG/L	-	NA	NA	NA	91.5	NA
Arsenic	UG/L	25	NA	NA	NA	2.1	NA
Barium	UG/L	1000	NA	NA	NA	54.3	NA
Beryllium	UG/L	3	NA	NA	NA	0.30	NA
Calcium	UG/L	-	NA	NA	NA	128,000	NA
Chromium	UG/L	50	NA	NA	NA	1.5	NA
Cobalt	UG/L	-	NA	NA	NA	1.3	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-8
GROUNDWATER ANALYTICAL RESULTS SUMMARY - PHASE I RI OCTOBER 2001
CHEMCORE

Location ID			MW-04S	MW-05	MW-06	MW-07	MW-08
Sample ID			MW-04S	MW-05	MW-06	MW-07	MW-08
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			10/10/01	10/10/01	10/10/01	10/10/01	10/10/01
Parameter	Units	Criteria*					
Metals							
Copper	UG/L	200	NA	NA	NA	2.7	NA
Iron	UG/L	300	NA	NA	NA	657	NA
Magnesium	UG/L	35000	NA	NA	NA	61,400	NA
Manganese	UG/L	300	NA	NA	NA	83.6	NA
Nickel	UG/L	100	NA	NA	NA	6.6	NA
Potassium	UG/L	-	NA	NA	NA	9,170	NA
Silver	UG/L	50	NA	NA	NA	1.6	NA
Sodium	UG/L	20000	NA	NA	NA	169,000	NA
Vanadium	UG/L	-	NA	NA	NA	23.7	NA
Zinc	UG/L	2000	NA	NA	NA	4.7	NA
Miscellaneous Parameters							
Cyanide	UG/L	200	NA	NA	NA	3.2	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-8
GROUNDWATER ANALYTICAL RESULTS SUMMARY - PHASE I RI OCTOBER 2001
CHEMCORE

Location ID			MW-09	MW-10
Sample ID			MW-09	MW-10
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/08/01	10/08/01
Parameter	Units	Criteria*		
Volatiles				
1,1,1-Trichloroethane	UG/L	5	2	
1,1-Dichloroethane	UG/L	5		
1,1-Dichloroethene	UG/L	5		
Benzene	UG/L	1		
Chloroethane	UG/L	5		6
Chloroform	UG/L	7		
cis-1,2-Dichloroethene	UG/L	5		
Tetrachloroethene	UG/L	5		
Toluene	UG/L	5	1	
Trichloroethene	UG/L	5		
Vinyl chloride	UG/L	2		
Semivolatiles				
bis(2-Ethylhexyl)phthalate	UG/L	5	NA	NA
Caprolactam	UG/L	-	NA	NA
Metals				
Aluminum	UG/L	-	NA	NA
Arsenic	UG/L	25	NA	NA
Barium	UG/L	1000	NA	NA
Beryllium	UG/L	3	NA	NA
Calcium	UG/L	-	NA	NA
Chromium	UG/L	50	NA	NA
Cobalt	UG/L	-	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



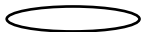
Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-8
GROUNDWATER ANALYTICAL RESULTS SUMMARY - PHASE I RI OCTOBER 2001
CHEMCORE

Location ID			MW-09	MW-10
Sample ID			MW-09	MW-10
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			10/08/01	10/08/01
Parameter	Units	Criteria*		
Metals				
Copper	UG/L	200	NA	NA
Iron	UG/L	300	NA	NA
Magnesium	UG/L	35000	NA	NA
Manganese	UG/L	300	NA	NA
Nickel	UG/L	100	NA	NA
Potassium	UG/L	-	NA	NA
Silver	UG/L	50	NA	NA
Sodium	UG/L	20000	NA	NA
Vanadium	UG/L	-	NA	NA
Zinc	UG/L	2000	NA	NA
Miscellaneous Parameters				
Cyanide	UG/L	200	NA	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998, Revised April 2000, Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-9
STATISTICAL SUMMARY GROUNDWATER - PHASE I RI OCTOBER 2001
CHEM-CORE

Parameter	Units	Criteria*	Num. of Samples	Num. of Detections	Range of Detections			Num. Exceed	LOCID of Max Value
					Min	Max	Avg		
Volatiles									
1,1,1-Trichloroethane	UG/L	5	12	7	2.0	9,000.0	2,100.143	6	MW-01S
1,1-Dichloroethane	UG/L	5	12	6	2.0	4,800.0	1,719.333	5	MW-06
1,1-Dichloroethene	UG/L	5	12	6	1.0	980.0	326.333	5	MW-01S
Benzene	UG/L	1	12	1	42.0	42.0	42.0	1	MW-02
Chloroethane	UG/L	5	12	1	6.0	6.0	6.0	1	MW-10
Chloroform	UG/L	7	12	1	2.0	2.0	2.0	-	MW-05
cis-1,2-Dichloroethene	UG/L	5	12	8	7.0	28,000.0	8,265.875	16	MW-01S
Tetrachloroethene	UG/L	5	12	6	2.0	5,400.0	1,163.667	5	MW-03
Toluene	UG/L	5	12	5	1.0	710.0	264.8	2	MW-02
Trichloroethene	UG/L	5	12	6	6.0	1,600.0	592.5	6	MW-07
Vinyl chloride	UG/L	2	12	8	2.0	10,000.0	2,591.0	7	MW-06
Semivolatiles									
bis(2-Ethylhexyl)phthalate	UG/L	5	2	1	3.0	3.0	3.0	-	MW-07
Caprolactam	UG/L	-	2	1	3.0	3.0	3.0	-	MW-07
Metals									
Aluminum	UG/L	-	2	2	91.5	158.0	124.75	-	MW-01D
Arsenic	UG/L	25	2	2	2.1	6.8	4.45	-	MW-01D
Barium	UG/L	1000	2	2	54.3	124.0	89.15	-	MW-01D
Beryllium	UG/L	3	2	1	0.3	0.3	0.3	-	MW-07
Calcium	UG/L	-	2	2	1.28E+05	1.71E+05	1.50E+05	-	MW-01D
Chromium	UG/L	50	2	2	1.5	16.4	8.95	-	MW-01D
Cobalt	UG/L	-	2	2	1.3	1.6	1.45	-	MW-01D
Copper	UG/L	200	2	2	1.0	2.7	1.85	-	MW-07
Iron	UG/L	300	2	2	336.0	657.0	496.5	2	MW-07
Magnesium	UG/L	35000	2	2	17,200.0	61,400.0	39,300.0	1	MW-07
Manganese	UG/L	300	2	2	72.8	83.6	78.2	-	MW-07

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.



Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 4-9
STATISTICAL SUMMARY GROUNDWATER - PHASE I RI OCTOBER 2001
CHEM-CORE

Parameter	Units	Criteria*	Num. of Samples	Num. of Detections	Range of Detections			Num. Exceed	LOCID of Max Value
					Min	Max	Avg		
Metals									
Nickel	UG/L	100	2	2	6.6	18.4	12.5	-	MW-01D
Potassium	UG/L	-	2	2	6,220.0	9,170.0	7,695.0	-	MW-07
Silver	UG/L	50	2	2	1.6	3.0	2.3	-	MW-01D
Sodium	UG/L	20000	2	2	1.69E+05	2.28E+05	1.99E+05	2	MW-01D
Vanadium	UG/L	-	2	2	0.72	23.7	12.21	-	MW-07
Zinc	UG/L	2000	2	2	4.7	11.4	8.05	-	MW-01D
Miscellaneous Parameters									
Cyanide	UG/L	200	2	1	3.2	3.2	3.2	-	MW-07

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.



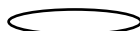
Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 4-10
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHASE II RI JANUARY/MARCH 2002
CHEM-CORE

Location ID			MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID			MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/23/02	01/23/02	01/24/02	01/22/02	01/23/02
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5	59	970	470	640	
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5	45	700	730		
1,1-Dichloroethene	UG/L	5	10	170	130	140	
Acetone	UG/L	50					
Benzene	UG/L	1			52		2
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Chloroform	UG/L	7					
cis-1,2-Dichloroethene	UG/L	5	310	4,800	6,600	990	1
Cyclohexane	UG/L	-					
Methylcyclohexane	UG/L	-					
Methylene chloride	UG/L	5	5	74			
Tetrachloroethene	UG/L	5	8	68	550	5,400	
Toluene	UG/L	5			2,200		
trans-1,2-Dichloroethene	UG/L	5	2	33	51		
Trichloroethene	UG/L	5	18	120	520	1,900	
Vinyl chloride	UG/L	2	12	1,000	2,700		
Filtered Metals							
Iron	UG/L	-	67.5	172	254	82.1	
Miscellaneous Parameters							
Hardness	MG/L	-	620	550	580	650	1,900

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.

 Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-10
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHASE II RI JANUARY/MARCH 2002
CHEM-CORE

Location ID			MW-04S	MW-05	MW-06	MW-07	MW-08D
Sample ID			MW-04S	MW-05	MW-06	MW-07	MW-08D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/22/02	01/24/02	01/24/02	01/24/02	01/22/02
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5			3,000	2,100	38
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5		3	4,500	1,400	210
1,1-Dichloroethene	UG/L	5			530	320	
Acetone	UG/L	50					
Benzene	UG/L	1					
Chlorobenzene	UG/L	5					
Chloroethane	UG/L	5					
Chloroform	UG/L	7				180	
cis-1,2-Dichloroethene	UG/L	5		9	25,000	8,500	340
Cyclohexane	UG/L	-		2			
Methylcyclohexane	UG/L	-		2			
Methylene chloride	UG/L	5					
Tetrachloroethene	UG/L	5		1		880	
Toluene	UG/L	5			480		
trans-1,2-Dichloroethene	UG/L	5				56	6
Trichloroethene	UG/L	5		2		4,400	17
Vinyl chloride	UG/L	2		3	9,300	2,900	540
Filtered Metals							
Iron	UG/L	-	208		916	137	165
Miscellaneous Parameters							
Hardness	MG/L	-	410	340	680	730	570

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-10
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHASE II RI JANUARY/MARCH 2002
CHEM-CORE

Location ID			MW-08S	MW-09	MW-10	MW-11	MW-12
Sample ID			MW-08S	MW-09	MW-10	MW-11	MW-12
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			01/22/02	01/23/02	01/23/02	01/22/02	01/22/02
Parameter	Units	Criteria*					
Volatiles							
1,1,1-Trichloroethane	UG/L	5				87	
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5					
1,1-Dichloroethane	UG/L	5			1	11	
1,1-Dichloroethene	UG/L	5				11	
Acetone	UG/L	50					
Benzene	UG/L	1				2	
Chlorobenzene	UG/L	5			2		
Chloroethane	UG/L	5			8		
Chloroform	UG/L	7					
cis-1,2-Dichloroethene	UG/L	5	93	2	6	110	550
Cyclohexane	UG/L	-		2			
Methylcyclohexane	UG/L	-		3			
Methylene chloride	UG/L	5		1			
Tetrachloroethene	UG/L	5	75			160	2,300
Toluene	UG/L	5					
trans-1,2-Dichloroethene	UG/L	5	2			4	
Trichloroethene	UG/L	5	22			85	310
Vinyl chloride	UG/L	2				14	
Filtered Metals							
Iron	UG/L	-	71.1		429	60.3	77.2
Miscellaneous Parameters							
Hardness	MG/L	-	290	400	630	490	520

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-10
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHASE II RI JANUARY/MARCH 2002
CHEM-CORE

Location ID			MW-13D	MW-13S	MW-14	PZ-1
Sample ID			MW-13D	MW-13S	MW-14	PZ-1
Matrix			Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-
Date Sampled			03/25/02	03/25/02	03/25/02	01/24/02
Parameter	Units	Criteria*				
Volatiles						
1,1,1-Trichloroethane	UG/L	5			7,700	25,000
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5		46		
1,1-Dichloroethane	UG/L	5			1,400	1,500
1,1-Dichloroethene	UG/L	5			1,000	1,400
Acetone	UG/L	50				1,000
Benzene	UG/L	1				
Chlorobenzene	UG/L	5				
Chloroethane	UG/L	5				
Chloroform	UG/L	7				
cis-1,2-Dichloroethene	UG/L	5		9	30,000	23,000
Cyclohexane	UG/L	-				
Methylcyclohexane	UG/L	-				
Methylene chloride	UG/L	5				3,000
Tetrachloroethene	UG/L	5			21,000	1,500
Toluene	UG/L	5				
trans-1,2-Dichloroethene	UG/L	5				
Trichloroethene	UG/L	5			14,000	16,000
Vinyl chloride	UG/L	2			1,900	
Filtered Metals						
Iron	UG/L	-	NA	NA	NA	17,000
Miscellaneous Parameters						
Hardness	MG/L	-	NA	NA	NA	690

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.



Concentration Exceeds Criteria.

Only Detected Results Reported.

TABLE 4-11
STATISTICAL SUMMARY GROUNDWATER
PHASE II RI JANUARY/MARCH 2002
CHEM-CORE

Parameter	Units	Criteria*	Num. of Samples	Num. of Detections	Range of Detections			Num. Exceed	LOCID of Max Value
					Min	Max	Avg		
Volatiles									
1,1,1-Trichloroethane	UG/L	5	19	10	38.0	25,000.0	4,006.4	10	PZ-1
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	5	19	1	46.0	46.0	46.0	1	MW-13S
1,1-Dichloroethane	UG/L	5	19	11	1.0	4,500.0	954.545	9	MW-06
1,1-Dichloroethene	UG/L	5	19	9	10.0	1,400.0	412.333	9	PZ-1
Acetone	UG/L	50	19	1	1,000.0	1,000.0	1,000.0	1	PZ-1
Benzene	UG/L	1	19	3	2.0	52.0	18.667	3	MW-02
Chlorobenzene	UG/L	5	19	1	2.0	2.0	2.0	-	MW-10
Chloroethane	UG/L	5	19	1	8.0	8.0	8.0	1	MW-10
Chloroform	UG/L	7	19	1	180.0	180.0	180.0	1	MW-07
cis-1,2-Dichloroethene	UG/L	5	19	17	1.0	30,000.0	5,901.176	30	MW-14
Cyclohexane	UG/L	-	19	2	2.0	2.0	2.0	-	MW-09
Methylcyclohexane	UG/L	-	19	2	2.0	3.0	2.5	-	MW-09
Methylene chloride	UG/L	5	19	4	1.0	3,000.0	770.0	2	PZ-1
Tetrachloroethene	UG/L	5	19	11	1.0	21,000.0	2,903.818	10	MW-14
Toluene	UG/L	5	19	2	480.0	2,200.0	1,340.0	2	MW-02
trans-1,2-Dichloroethene	UG/L	5	19	7	2.0	56.0	22.0	8	MW-07
Trichloroethene	UG/L	5	19	12	2.0	16,000.0	3,116.167	11	PZ-1
Vinyl chloride	UG/L	2	19	9	3.0	9,300.0	2,041.0	9	MW-06
Filtered Metals									
Iron	UG/L	-	16	13	60.3	17,000.0	1,510.708	-	PZ-1
Miscellaneous Parameters									
Hardness	MG/L	-	16	16	290.0	1,900.0	628.125	-	MW-04D

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 Addendum). Class GA.



Concentration Exceeds Criteria

Only Detected Results Reported.

TABLE 5-1
PHYSICAL PROPERTIES OF VOLATILE ORGANIC COMPOUNDS IN SOIL, GROUNDWATER, SURFACE WATER, AND SEDIMENT

Volatile Organic Compounds	Number of Detections/Number of Samples								Water Solubility (mg/L at 25° C) unless indicated otherwise	Koc	Henry's Law Constant (atm·m³/mole)	Vapor Pressure (mm Hg at 20° C) unless indicated otherwise	log Kow
	Soil			Groundwater			Surface Water	Sediment					
	March '97	Feb. '99	July '01	Feb. '99	Oct. '01	Jan/Mar '02	Sept. '01	Sept. '01					
Halogenated Hydrocarbons													
1,1,1-Trichloroethane	3/4	5/6	20/44	4/4	7/12	10/19	0/6	0/6	1,495	183	8.00E-03	123.7 (25° C)	2.49
1,1,2-Trichloro-1,2,2-trifluorethane	-	-	-	-	-	1/19	-	-					
1,1-Dichloroethane	0/1	3/4	15/44	4/4	6/12	11/19	0/6	0/6	5,060	40	5.87E-03	227 (25° C)	1.79
1,1-Dichloroethene	1/2	2/3	12/44	4/4	6/12	9/19	0/6	0/6	2,250	59	2.61E-02	600 (25° C)	2.13
1,2-Dichloroethane	2/3	1/2	7/44	2/4	0/12	0/19	0/6	0/6	8,524	152	9.77E-04	78.7	1.48
1,2 -Dichloroethene (total)	-	4/5	-	-	-	-	-	-	170	389	3.19E-01	285	2.57
Chlorobenzene	0/1	0/1	0/44	0/4	0/12	1/19	0/6	2/6	471.7	83-389	3.45E-03	11.9 (25° C)	2.84
Chloroethane	0/1	0/1	0/44	0/4	1/12	1/19	0/6	0/6	5,680	26	1.11E-02	1008	1.43
Chloroform	2/3	1/2	9/44	1/4	1/12	1/19	0/6	0/6	7,950	34	4.35E-03	246 (25° C)	1.97
cis-1,2-Dichloroethene	2/3	-	25/44	4/4	8/12	17/19	0/6	0/6	3,500	49	3.37E-03	200 (25° C)	1.86
Methylene chloride	1/2	7/8	2/44	4/4	0/12	4/19	0/6	1/4	13,000	1.68	2.68E-03	434.9 (25° C)	1.25
Tetrachloroethene	4/4	7/8	39/44	4/4	6/12	11/19	0/6	0/6	150.3	209	1.49E-02	18.49	3.40
trans-1,2-Dichloroethene	1/2	-	3/44	1/4	0/12	7/19	0/6	0/6	6,300	36	6.72E-03	340 (25° C)	2.09
Trichloroethene	4/4	4/5	34/44	4/4	6/12	12/19	0/6	0/6	1,100	87-150	1.03E-02	69.0 (25° C)	2.42
Vinyl Chloride	1/2	1/2	4/44	4/4	8/12	9/19	0/6	0/6	2,763	0.40-56	1.07E-02	2660 (25° C)	1.38
Non-Halogenated Hydrocarbons													
Benzene	1/2	2/3	3/44	1/4	1/12	3/19	0/6	0/6	1,791	98	5.43E-03	95.2 (25° C)	2.13
Cyclohexane	-	-	-	-	-	2/19	-	-	57.5	NA	1.94E-01	78	3.44
Methylcyclohexane	-	-	-	-	-	2/19	-	-	16.7	NA	4.35E-01	36.14	
Toluene	1/2	4/5	13/44	4/4	5/12	2/19	0/6	1/6	534.8	37-178	5.94E-03	28.4 (25° C)	2.73
Xylene (Total)	0/1	2/3	5/44	1/4	0/12	0/19	0/6	1/6	159 *	48-68	6.82E-03 *	7.87 (25° C) *	3.16 *
Ketones													
2-Butanone	1/2	0/1	0/44	0/4	0/12	0/19	0/6	1/6	239,000	34	1.05E-05	90.6 (25° C)	0.29
Acetone	4/4	5/6	23/44	1/4	0/12	1/19	0/6	1/6	Miscible	1	3.67E-05	231 (25° C)	-0.24

Source: Howard, P.H., 1993. Handbook of Environmental Fate and Exposure Data for Organic Chemicals.

* Average of values of isomers

NA - Not available

TABLE 6-1
CHEMICALS OF POTENTIAL CONCERN IN SAMPLES COLLECTED

Chemical	Matrix			
	Groundwater	Subsurface Soil	Surface Water	Sediment
Phenanthrene	No	No	No	Yes
Fluoranthrene	No	No	No	Yes
bis(2-ethyl(hexyl)phthalate	No	No	No	Yes
Chlorobenzene	No	No	No	Yes
Chloroethane	Yes	No	No	No
Tetrachloroethene	Yes	Yes	No	No
1,2-Dichloroethene (Total)	Yes	Yes	No	No
Trichloroethene	Yes	Yes	No	No
1,1,1-Trichloroethane	Yes	Yes	No	No
1,1-Dichloroethane	Yes	Yes	No	No
1,1-Dichloroethene	Yes	Yes	No	No
1,2-Dichloroethane	Yes	No	No	No
1,2-Dichloroethene (cis)	Yes	No	No	No
1,2-Dichloroethene (trans)	Yes	No	No	No
Benzene	Yes	No	No	No
Xylene	Yes	No	No	No
Toluene	Yes	No	No	No
2-Butanone	No	Yes	No	No
Acetone	Yes	Yes	No	No
Methylene Chloride	Yes	Yes	No	No
Vinyl Chloride	Yes	No	No	No
Chloroform	Yes	No	No	No
Benzo(a)anthracene	No	Yes	No	No
Benzo(a)pyrene	No	Yes	No	Yes
Benzo(b)fluoranthene	No	Yes	No	No
Benzo(k)fluoranthene	No	Yes	No	No
Chrysene	No	Yes	No	No
Dibenz(a,h)anthracene	No	Yes	No	No
Anthracene	No	No	No	Yes
Fluorene	No	No	No	Yes
Pyrene	No	No	No	Yes
4-Methylphenol	Yes	No	No	No
2-Methylphenol	Yes	No	No	No
Arsenic	No	Yes	No	No
Beryllium	No	Yes	No	No
Chromium	No	Yes	No	Yes
Copper	No	Yes	No	Yes
Cobalt	No	Yes	No	No
Nickel	No	Yes	No	Yes
Zinc	No	Yes	No	Yes
Aroclor 1260	No	No	No	Yes
Cadmium	No	Yes	No	Yes
Mercury	No	Yes	No	Yes
Thallium	Yes	No	No	No
Antimony	No	No	No	Yes
Lead	No	No	No	Yes
Silver	No	No	No	Yes

NOTE:

Only detected chemicals that exceeded regulatory criteria in one of the matrices are listed.

TABLE 6-2

POTENTIAL PATHWAYS OF EXPOSURE - CURRENT USE SCENARIOS

Potentially Contaminated Medium	Potential Routes of Exposure	Potential Receptors	Pathway Complete?
Groundwater	Dermal absorption Ingestion Inhalation	Residents Industrial Workers	No. Potable water provided by City of Buffalo. No wells are in use.
Subsurface Soil	Dermal absorption Ingestion Inhalation	Trespassers	No. The site is restricted and secure.
Surface Water	Dermal absorption Ingestion	Recreational Users	No. No CPCs identified in surface water.
Sediment	Dermal absorption Ingestion	Recreational Users	No. It is unlikely that recreational users would come in contact with sediments.

TABLE 6-3

POTENTIAL PATHWAYS OF EXPOSURE - FUTURE USE SCENARIOS

Potentially Contaminated Medium	Potential Routes of Exposure	Potential Receptors	Pathway Complete?
Groundwater	Dermal absorption Ingestion Inhalation	Residents	Yes. A number of CPCs were identified in groundwater.
Subsurface Soil	Dermal absorption Ingestion Inhalation	Tenants Trespassers Construction Workers	Yes. It is possible that construction workers may come in contact with subsurface soils during construction at the site.
Surface Water	Dermal absorption Ingestion Inhalation	Recreational Users	There were no CPC identified in surface water.
Sediment	Dermal absorption Ingestion	Recreational Users	No. It is unlikely that recreational users would come in contact with sediments.

TABLE 6-4
CHEM CORE
TOXICITY VALUES: POTENTIAL NONCARCINOGENIC EFFECTS

Compound	Reference Dose (mg/kg-day)				Critical Effects			
	Inhalation		Oral		Inhalation		Oral	
	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic
1,1,1-Trichloroethane	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
1,1-Dichloroethane	0.1429 (1)	1.4286 (1)	0.1 (1)	1.0 (1)	Kidney - Damage	Kidney - Damage	None observed	None observed
1,1-Dichloroethene	NV (1)	NV (1)	0.009 (1)	0.009 (1)	—	—	Hepatic lesions	Liver - Lesions
1,2 -Dichloroethene (total)	NV (1)	NV (1)	0.009 (1)	0.009 (1)	—	—	Liver - Lesions	Liver - Lesions
1,2-Dichloroethane	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
2-Butanone	0.2857 (1)	0.2857 (1)	0.6 (1)	2.0 (1)	Decreased fetal birth weight	Fetus - Decreased birth weight	Decreased fetal birth weight	Fetus - Decreased birth weight
Acetone	NV (1)	NV (1)	0.1 (1)	1.0 (1)	—	—	Increased liver and kidney weights and nephrotoxicity	Liver - Increased weight; Kidney - Increased weight; Kidney - Nephrotoxicity
Benzene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Chloroethane	2.8571 (1)	2.8571 (1)	NV (1)	NV (1)	Delayed fetal ossification	Fetus - Developmental toxicity	—	—
Chloroform	NV (1)	NV (1)	0.01 (1)	0.01 (1)	—	—	Fatty cyst formation in liver	Liver - Lesions
cis-1,2-Dichloroethene	NV (1)	NV (1)	0.01 (1)	0.1 (1)	—	—	Bood - Decreased hematocrit; Blood - Decreased hemoglobin	Blood - Decreased hematocrit; Blood - Decreased hemoglobin

Source List:

- 1 SmartTOX Database
- 2 Based on estimated order of potency with respect to Benzo(a)pyrene presented in USEPA.
- 3 Chronic RFD is used for subchronic RFD when no subchronic value is available.

NV - No Values Available
 NOEL - No Observed Effects Level

TABLE 6-4
CHEM CORE
TOXICITY VALUES: POTENTIAL NONCARCINOGENIC EFFECTS

Compound	Reference Dose (mg/kg-day)				Critical Effects			
	Inhalation		Oral		Inhalation		Oral	
	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic
Methylene chloride	0.8571 (1)	0.8571 (1)	0.06 (1)	0.06 (1)	Liver - Toxicity	Liver - Toxicity	Liver toxicity	Liver - Toxicity
Tetrachloroethene	NV (1)	NV (1)	0.01 (1)	0.1 (1)	—	—	Hepatotoxicity in mice, weight gain in rats	Liver - Hepatotoxicity
Toluene	0.1143 (1)	0.1143 (3)	0.2 (1)	2.0 (1)	Neurological effects	—	Changes in liver and kidney weights	Liver - Altered weight; Kidney - Altered weight
trans-1,2-Dichloroethene	NV (1)	NV (1)	0.02 (1)	0.2 (1)	—	—	Increased serum alkaline phosphatase in male mice	Blood - Increased alkaline phosphatase
Trichloroethene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Vinyl chloride	0.0286 (1)	0.0286 (3)	0.003 (1)	0.003 (3)	Liver cell polymorphism	—	Liver cell polymorphism	—
Xylene (Total)	NV (1)	NV (1)	2.0 (1)	2.0 (3)	—	—	Hyperactivity, decreased body weight and increased mortality (males).	—
2-Methylphenol	NV (1)	NV (1)	0.05 (1)	0.5 (1)	—	—	Decreased body weights and neurotoxicity	Whole body - Decreased weight gain; CNS - Neurotoxicity
4-Methylphenol	NV (1)	NV (1)	0.005 (1)	0.005 (1)	—	—	Central nervous system - Hypoactivity; Respiratory system - Distress; Whole body - Maternal death	Central nervous system - Hypoactivity; Respiratory system - Distress; Whole body - Maternal death
Benzo(a)anthracene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Benzo(a)pyrene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—

Source List:

- 1 SmartTOX Database
- 2 Based on estimated order of potency with respect to Benzo(a)pyrene presented in USEPA.
- 3 Chronic RFD is used for subchronic RFD when no subchronic value is available.

NV - No Values Available
 NOEL - No Observed Effects Level

TABLE 6-4
CHEM CORE
TOXICITY VALUES: POTENTIAL NONCARCINOGENIC EFFECTS

Compound	Reference Dose (mg/kg-day)				Critical Effects			
	Inhalation		Oral		Inhalation		Oral	
	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic
Benzo(b)fluoranthene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Benzo(k)fluoranthene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
bis(2-Ethylhexyl)phthalate	NV (1)	NV (1)	0.02 (1)	NV (1)	—	—	Increased relative liver weight	—
Chrysene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Dibenz(a,h)anthracene	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Arsenic	NV (1)	NV (1)	0.0003 (1)	0.0003 (1)	—	—	Hyperpigmentation, keratosisi and possible vascular complications.	Skin - Keratosis; Skin - Hyperpigmen
Beryllium	0.0 (1)	NV (1)	0.002 (1)	0.005 (1)	Beryllium sensitization and pregression to CBD	—	Small intestinal lesions	None observed
Cadmium	NV (1)	NV (1)	0.0005 (1)	NV (1)	—	—	Significant proteinuria	—
Chromium	NV (1)	NV (1)	1.5 (1)	1.0 (1)	—	—	No effects observed	NOEL
Cobalt	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Copper	NV (1)	NV (1)	0.037 (1)	0.037 (1)	—	—	Gastrointestinal system - Irritation	Gastrointestinal system - Irritation

Source List:

- 1 SmartTOX Database
- 2 Based on estimated order of potency with respect to Benzo(a)pyrene presented in USEPA.
- 3 Chronic RFD is used for subchronic RFD when no subchronic value is available.

NV - No Values Available
 NOEL - No Observed Effects Level

TABLE 6-4
CHEM CORE
TOXICITY VALUES: POTENTIAL NONCARCINOGENIC EFFECTS

Compound	Reference Dose (mg/kg-day)				Critical Effects			
	Inhalation		Oral		Inhalation		Oral	
	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic	Chronic	Subchronic
Mercury	0.0001 (1)	0.0001 (1)	NV (1)	NV (1)	Hand tremor; increases in memory disturbances; slight subjective and objective evidence of autonomic dysfunction	Nervous system - Neurotoxicity	—	—
Nickel	NV (1)	NV (1)	0.02 (1)	0.02 (1)	—	—	Decreased body and organ weights	Whole body - Decreased weight; Major organs - Decreased weight
Thallium	NV (1)	NV (1)	NV (1)	NV (1)	—	—	—	—
Zinc	NV (1)	NV (1)	0.3 (1)	0.3 (3)	—	—	47% decrease in erythrocyte superoxide dismutase (ESOD) concentration in adult females after 10 weeks of zinc exposure	Blood - Decreased blood enzyme

Source List:

- 1 SmartTOX Database
- 2 Based on estimated order of potency with respect to Benzo(a)pyrene presented in USEPA.
- 3 Chronic RFD is used for subchronic RFD when no subchronic value is available.

NV - No Values Available
 NOEL - No Observed Effects Level

TABLE 6-5
CHEM CORE
TOXICITY VALUES: CARCINOGENIC EFFECTS

Compound	USEPA Weight-of-Evidence Classification	Slope Factor (mg/kg-day) ⁻¹		Basis for Carcinogenicity Classification
		Inhalation	Oral	
1,1-Dichloroethane	C (1)	NV (1)	NV (1)	No human data and limited evidence of carcinogenicity in two animal species (rats & mice) as shown by an increased incidence of mammary gland adenocarcinomas & hemangiosarcomas in female rats & an increased incidence of hepatocellular carcinomas . .
1,1-Dichloroethene	C (1)	0.175 (1)	0.6 (1)	Tumors observed in one mouse strain after inhalation exposure. Other studies were of inadequate design. Vinylidene chloride is mutagenic, and a metabolite is known to alkylate and to bind covalently to DNA. It is structurally related to the known
1,2-Dichloroethane	B2 (1)	0.091 (1)	0.091 (1)	Induction of several tumor types in rats and mice treated by gavage and lung papillomas in mice after topical application.
Benzene	A (1)	0.0273 (1)	0.055 (1)	Epidemiologic studies and case studies provide clear evidence of a causal association between exposure to benzene and acute nonlymphocytic leukemia (ANLL) and also suggest evidence for chronic nonlymphocytic leukemia (CNLL) and chronic lymphocytic...
Chloroform	B2 (1)	0.0805 (1)	NV (1)	Based on sufficient evidence of carcinogenicity in animals.
Methylene chloride	B2 (1)	0.0016 (1)	0.0075 (1)	Inadequate human data and sufficient evidence of carcinogenicity in animals: increased incidence of hepatocellular neoplasms and alveolar/bronchiolar neoplasms in male and female mice, and increased incidence of benign mammary tumors in both sexes .
Vinyl chloride	A (1)	0.0308 (1)	1.4 (1)	Based on sufficient evidence for carcinogenicity in human epidemiology studies.
2-Methylphenol	C (1)	NV (1)	NV (1)	Increased incidence of skin papillomas in mice in an initiation-promotion study. The three cresol isomers produced positive results in genetic toxicity studies both alone and in combination.
4-Methylphenol	C (1)	NV (1)	NV (1)	Increased incidence of skin papillomas in mice in an initiation-promotion study. The three cresol isomers produced positive results in genetic toxicity studies both alone and in combination.

Source List:

- 1 SmartTOX Database
- 2 Based on estimated order of potency with respect to Benzo(a)pyrene presented in USEPA.
- 3 Chronic RFD is used for subchronic RFD when no subchronic value is available.

NV - No Value Available

USEPA Weight-of-Evidence Classification

A - Human Carcinogen

B1 or B2 - Probable Human Carcinogen

C - Possible Human Carcinogen

TABLE 6-5
CHEM CORE
TOXICITY VALUES: CARCINOGENIC EFFECTS

Compound	USEPA Weight-of-Evidence Classification	Slope Factor (mg/kg-day) ⁻¹		Basis for Carcinogenicity Classification
		Inhalation	Oral	
Benzo(a)anthracene	B2 (1)	NV (1)	NV (1)	No human data from animal bioassays. B(a)A produced tumors in mice exposed by gavage, i.p., subcutaneous, or intramuscular injection & topical application. B(a)A produced mutations in bacteria and mammalian cells, & transformed mammalian cells . .
Benzo(a)pyrene	B2 (1)	NV (1)	7.3 (1)	Human data specifically linking BAP to a carcinogenic effect are lacking. There are, however, multiple animal studies in many species demonstrating BAP to be carcinogenic following administration by numerous routes. BAP has produced positive . . .
Benzo(b)fluoranthene	B2 (1)	NV (1)	NV (1)	No human and sufficient data from animal bioassays. B(b)F produced tumors in mice after lung implantation, i.p. or subcutaneous injection and skin painting.
Benzo(k)fluoranthene	B2 (1)	NV (1)	NV (1)	No human data & sufficient data from animal bioassays. B(k)F produced tumors after lung implantation in mice and when administered with a promoting agent in skin-painting studies. Equivocal results have been found in a lung adenoma assay in mice .
bis(2-Ethylhexyl)phthalate	B2 (1)	NV (1)	0.014 (1)	Orally administered DEHP produced significant dose-related increases in liver tumor responses in rats and mice of both sexes.
Chrysene	B2 (1)	NV (1)	NV (1)	No human data and sufficient data from animal bioassays. Produced carcinomas and malignant lymphoma in mice after intraperitoneal injection and skin carcinomas in mice following dermal exposure. Produced chromosomal abnormalities in hamster
Dibenz(a,h)anthracene	B2 (1)	NV (1)	NV (1)	No human data & sufficient data from animal bioassays. Produced carcinomas in mice following oral or dermal exposure & injection site tumors in several species following subcutaneous or intramuscular administration. Has induced DNA damage . . .
Arsenic	A (1)	15.05 (1)	1.5 (1)	Based on sufficient evidence from human data. An increased lung cancer mortality was observed in multiple human populations exposed primarily through inhalation. Also, increased mortality from multiple internal organ cancers (liver, kidney, ...
Beryllium	B1 (1)	8.4 (1)	NV (1)	Limited evidence of carcinogenicity in humans exposed to airborne beryllium (lung cancer) and sufficient evidence of carcinogenicity in animals.

Source List:

- 1 SmartTOX Database
- 2 Based on estimated order of potency with respect to Benzo(a)pyrene presented in USEPA.
- 3 Chronic RFD is used for subchronic RFD when no subchronic value is available.

NV - No Value Available

USEPA Weight-of-Evidence Classification

A - Human Carcinogen

B1 or B2 - Probable Human Carcinogen

C - Possible Human Carcinogen

TABLE 6-5
CHEM CORE
TOXICITY VALUES: CARCINOGENIC EFFECTS

Compound	USEPA Weight-of-Evidence Classification	Slope Factor (mg/kg-day) ⁻¹		Basis for Carcinogenicity Classification
		Inhalation	Oral	
Cadmium	B1 (1)	6.3 (1)	NV (1)	Limited evidence from occupational epidemiologic studies of cadmium is consistent across investigators and study populations. There is sufficient evidence of carcinogenicity in rats and mice by inhalation and intramuscular and subcutaneous

Source List:

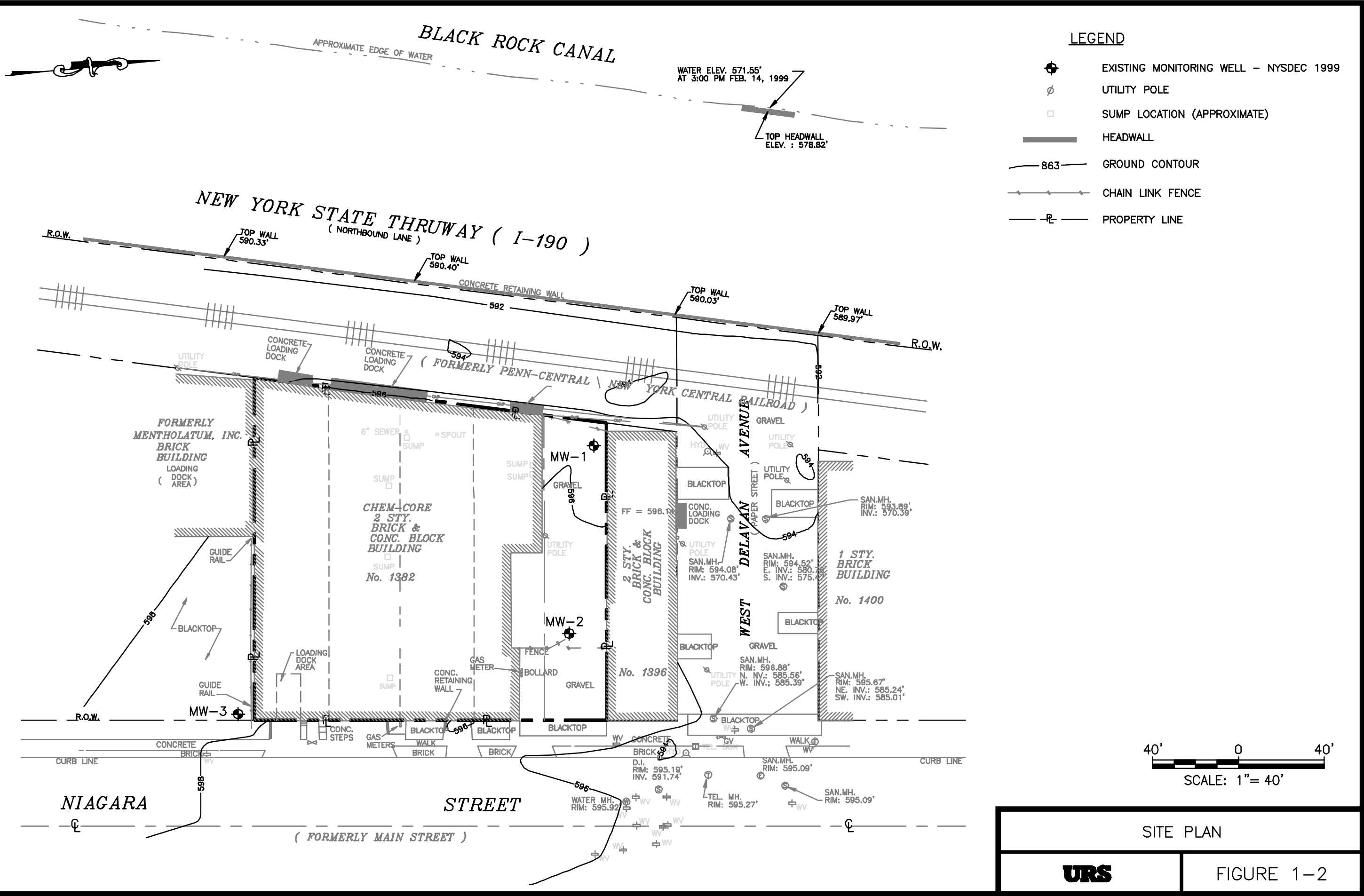
- 1 SmartTOX Database
- 2 Based on estimated order of potency with respect to Benzo(a)pyrene presented in USEPA.
- 3 Chronic RFD is used for subchronic RFD when no subchronic value is available.

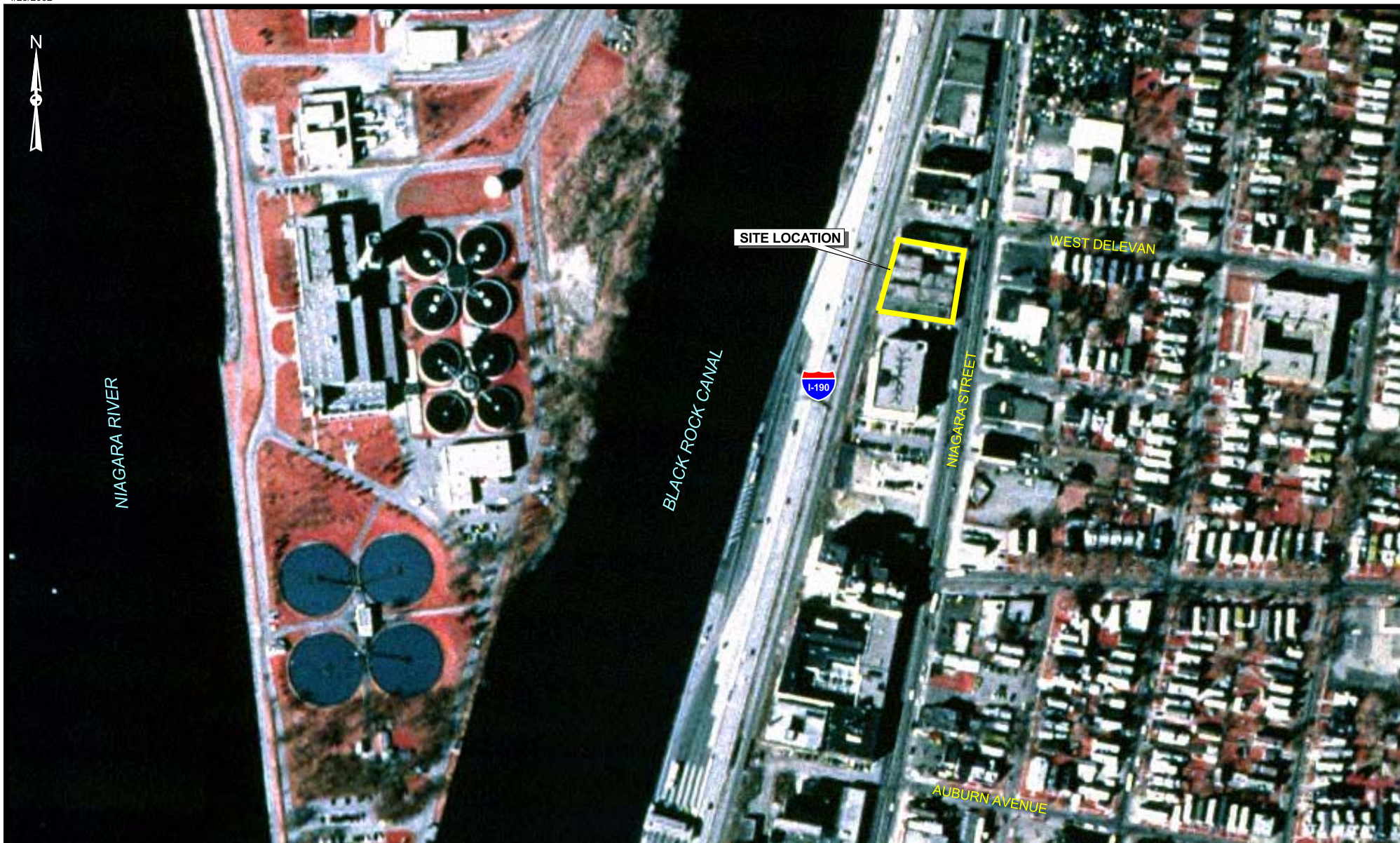
NV - No Value Available

USEPA Weight-of-Evidence Classification

- A - Human Carcinogen
- B1 or B2 - Probable Human Carcinogen
- C - Possible Human Carcinogen

FIGURES





SOURCE: New York State GIS Clearinghouse Digital
Ortho Quarterquadrangle Application; Buffalo,
Northeast-Northwest Quarterquad, 1995.

300 0 300 Feet

URS

CHEM CORE
SITE FEATURES

FIGURE 1-3

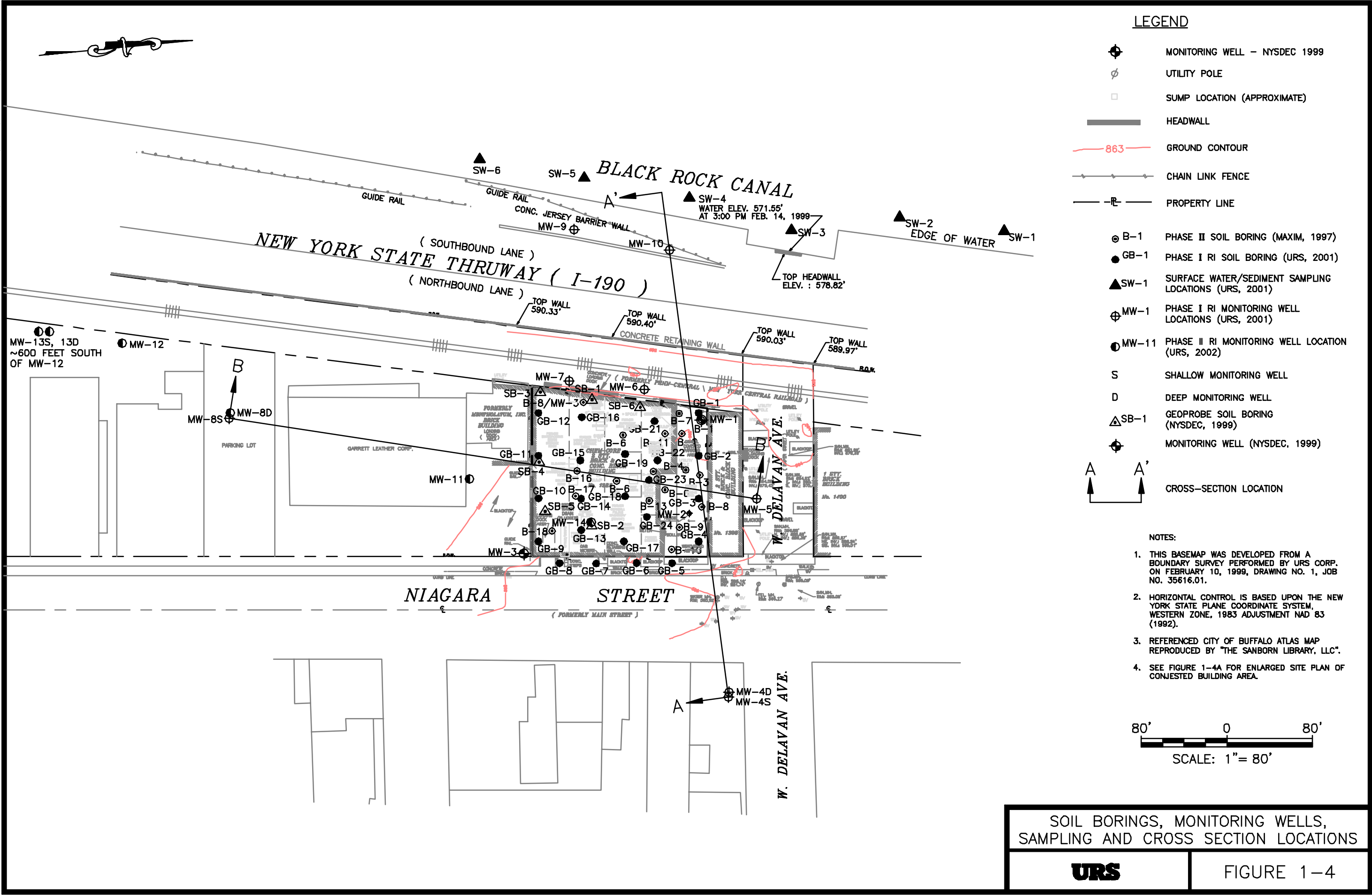
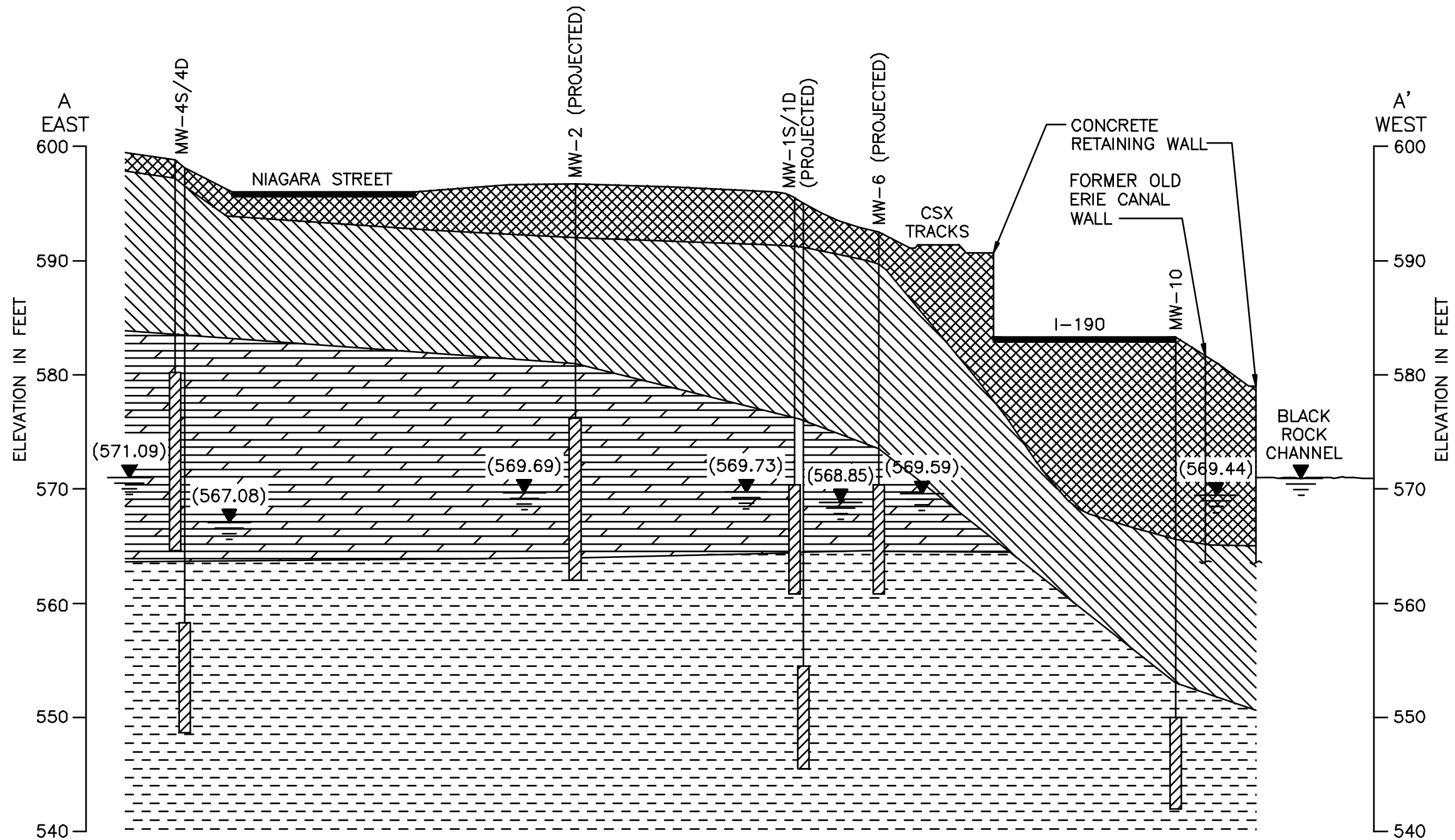




FIGURE 1-4A



LEGEND

MW-6 ← MONITORING WELL NUMBER
↓ (569.59) POTENTIOMETRIC SURFACE (569.59) GROUNDWATER ELEVATION (11/02/01) UNLESS OTHERWISE SPECIFIED
▨ SCREENED INTERVAL OF MONITORING WELL
▬ BOREHOLE TERMINATION

▨ FILL
▨ SILTY CLAY/CLAYEY SILT
▨ DOLOMITE AND SHALE
▨ SHALE AND ARGILLACEOUS DOLOMITE

NOTES:

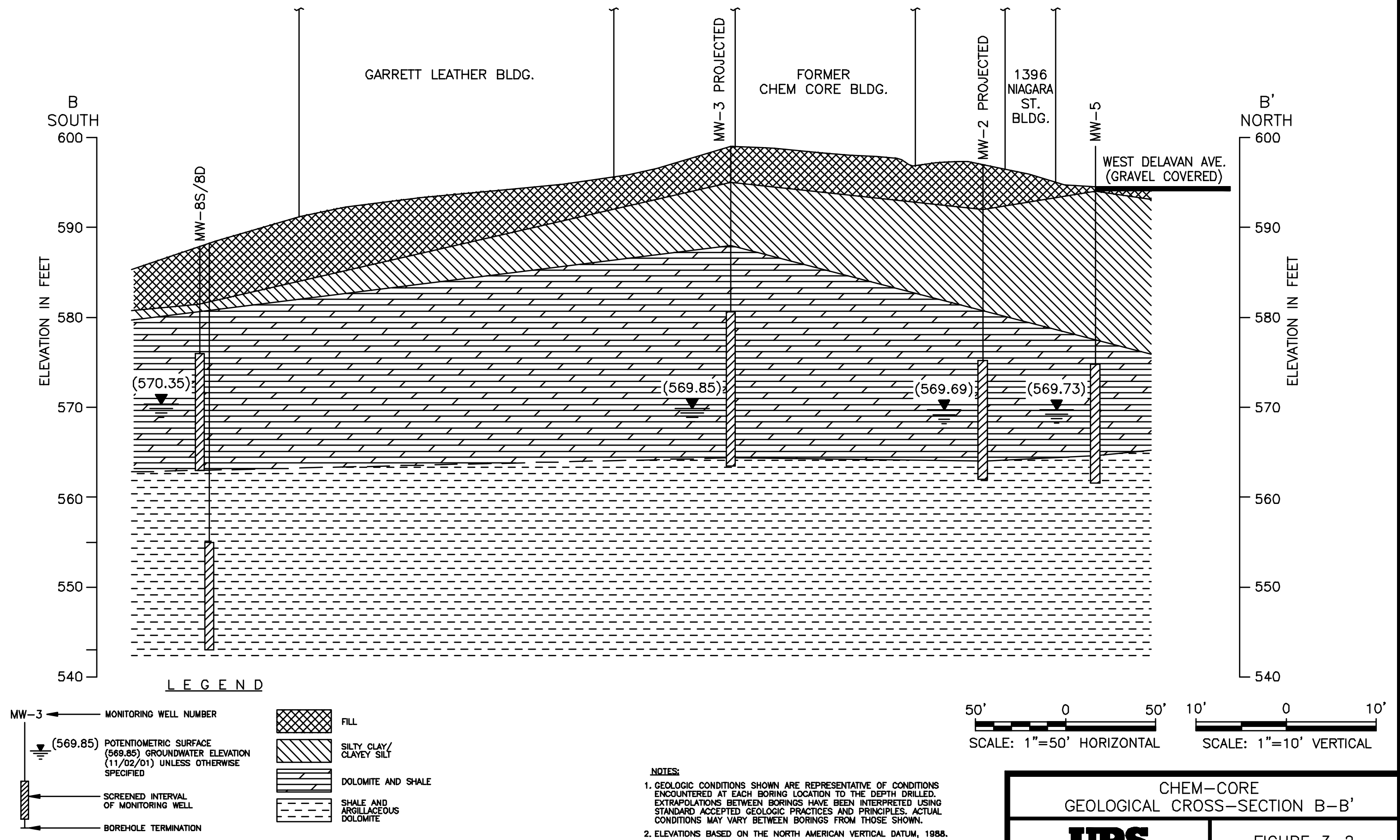
1. GEOLOGIC CONDITIONS SHOWN ARE REPRESENTATIVE OF CONDITIONS ENCOUNTERED AT EACH BORING LOCATION TO THE DEPTH DRILLED. EXTRAPOLATIONS BETWEEN BORINGS HAVE BEEN INTERPRETED USING STANDARD ACCEPTED GEOLOGIC PRACTICES AND PRINCIPLES. ACTUAL CONDITIONS MAY VARY BETWEEN BORINGS FROM THOSE SHOWN.
2. ELEVATIONS BASED ON THE NORTH AMERICAN VERTICAL DATUM, 1988.

50' 0 50' 10' 0 10'
SCALE: 1"=50' HORIZONTAL SCALE: 1"=10' VERTICAL

CHEM-CORE
GEOLOGICAL CROSS-SECTION A-A'

URS

FIGURE 3-1







FORMERLY PENN-CENTRAL/NEW YORK CENTRAL RAILROAD

NIAGARA STREET

2 STY BRICK AND
CONC. BLOCK BUILDING

MW-01S, 571.56

MW-02, 571.58

CHEM-CORE
2 STY. BRICK AND
CONC. BLOCK BUILDING

FORMERLY MENTHOLATUM INC.
(BRICK BUILDING)

MW-03, 571.50

Legend



Monitoring Well

569.30

Groundwater Elevation Contour

Location
ID

MW-03, 571.50

Groundwater
Elevation (ft amsl)

40

0

40 Feet

URS

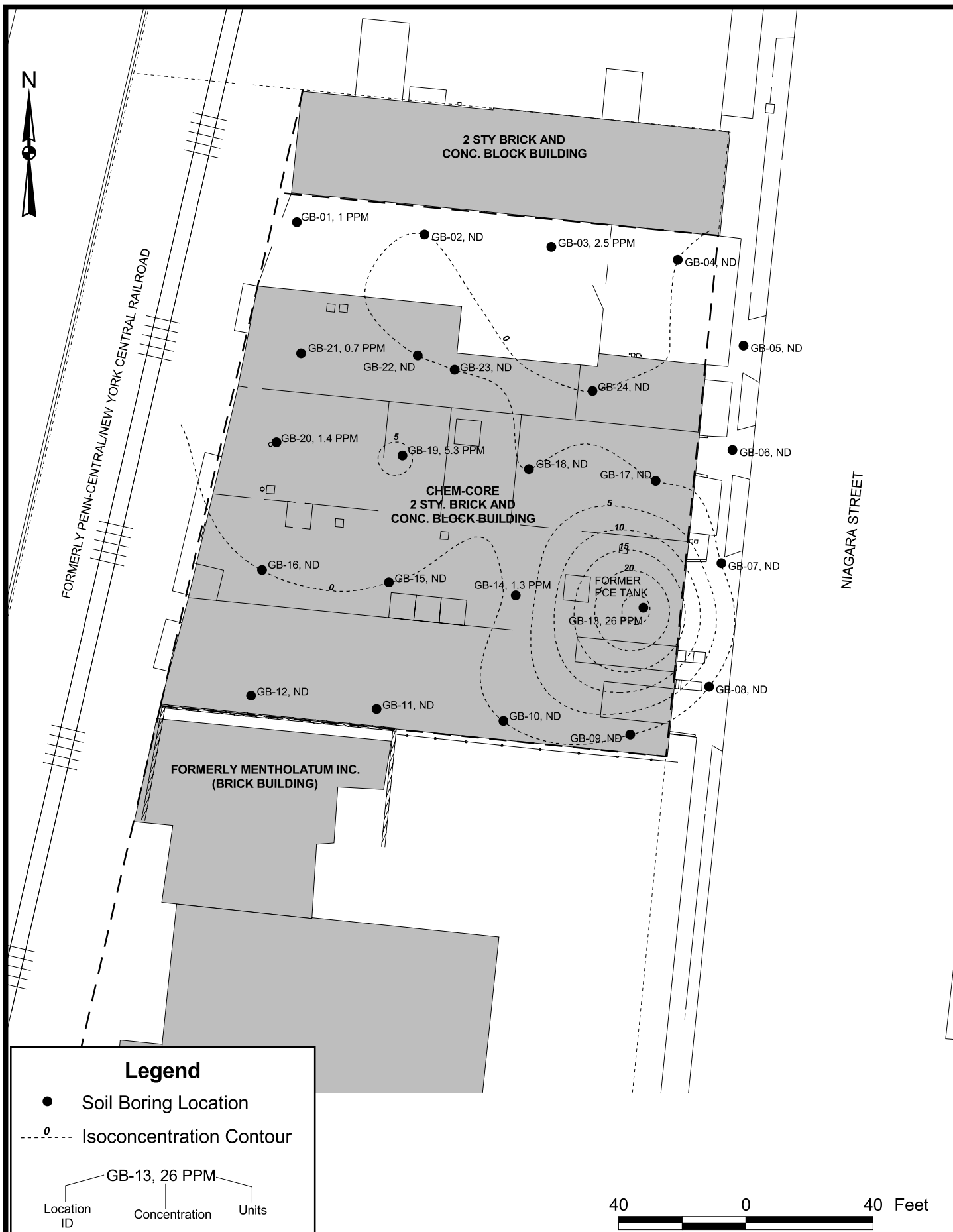
CHEM CORE
GROUNDWATER POTENTIOMETRIC SURFACE
MAP (MARCH 22, 1999)

FIGURE 3-4







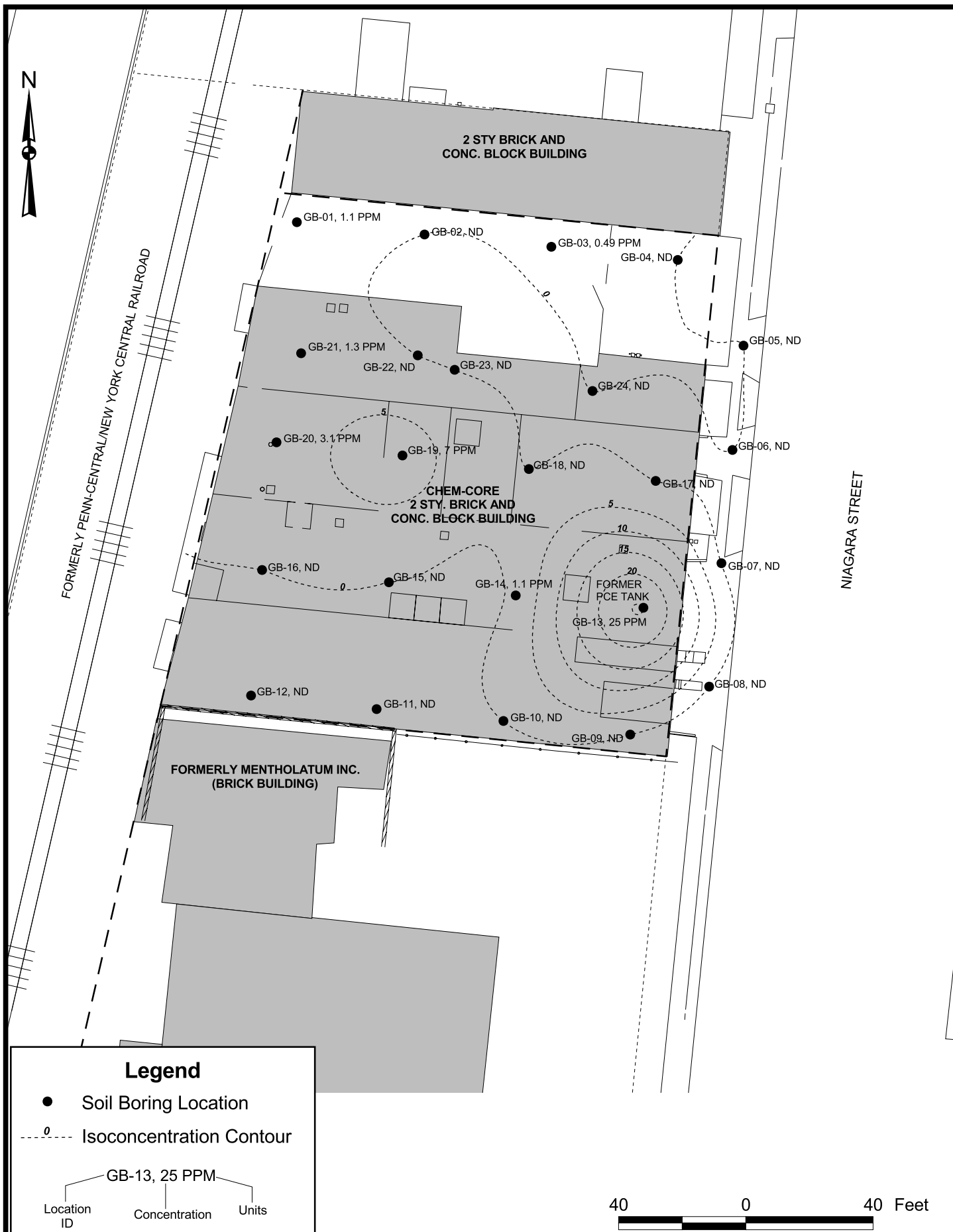


J:\95890_00\GIS\chemical.apr (0 - 2') PID READINGS
11/13/2001



CHEM CORE
HNu PID SOIL GAS RESULTS (0 - 2')

FIGURE 4-1

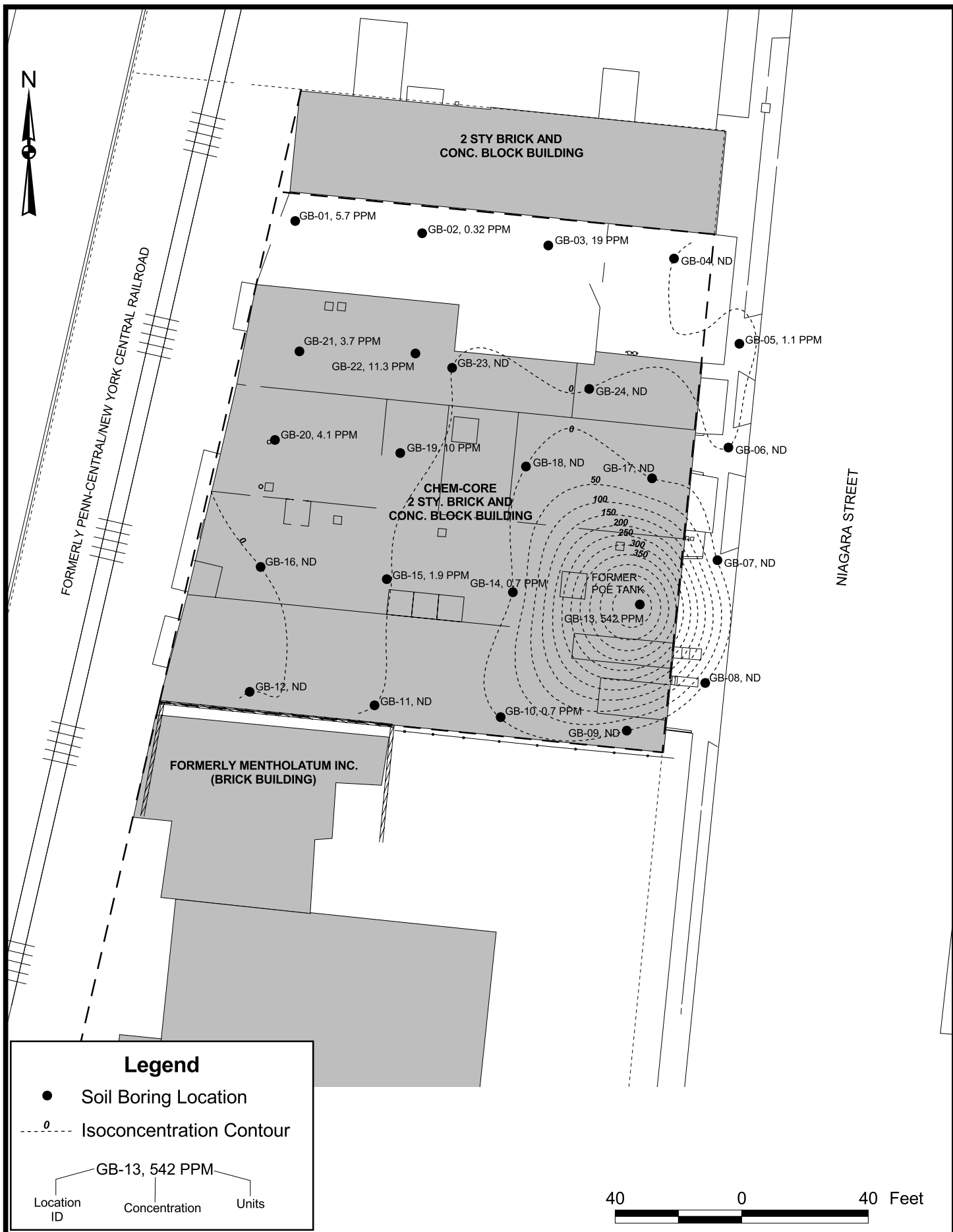


Legend

- Soil Boring Location
- Isoconcentration Contour

GB-13, 25 PPM
 Location ID Concentration Units

40 0 40 Feet

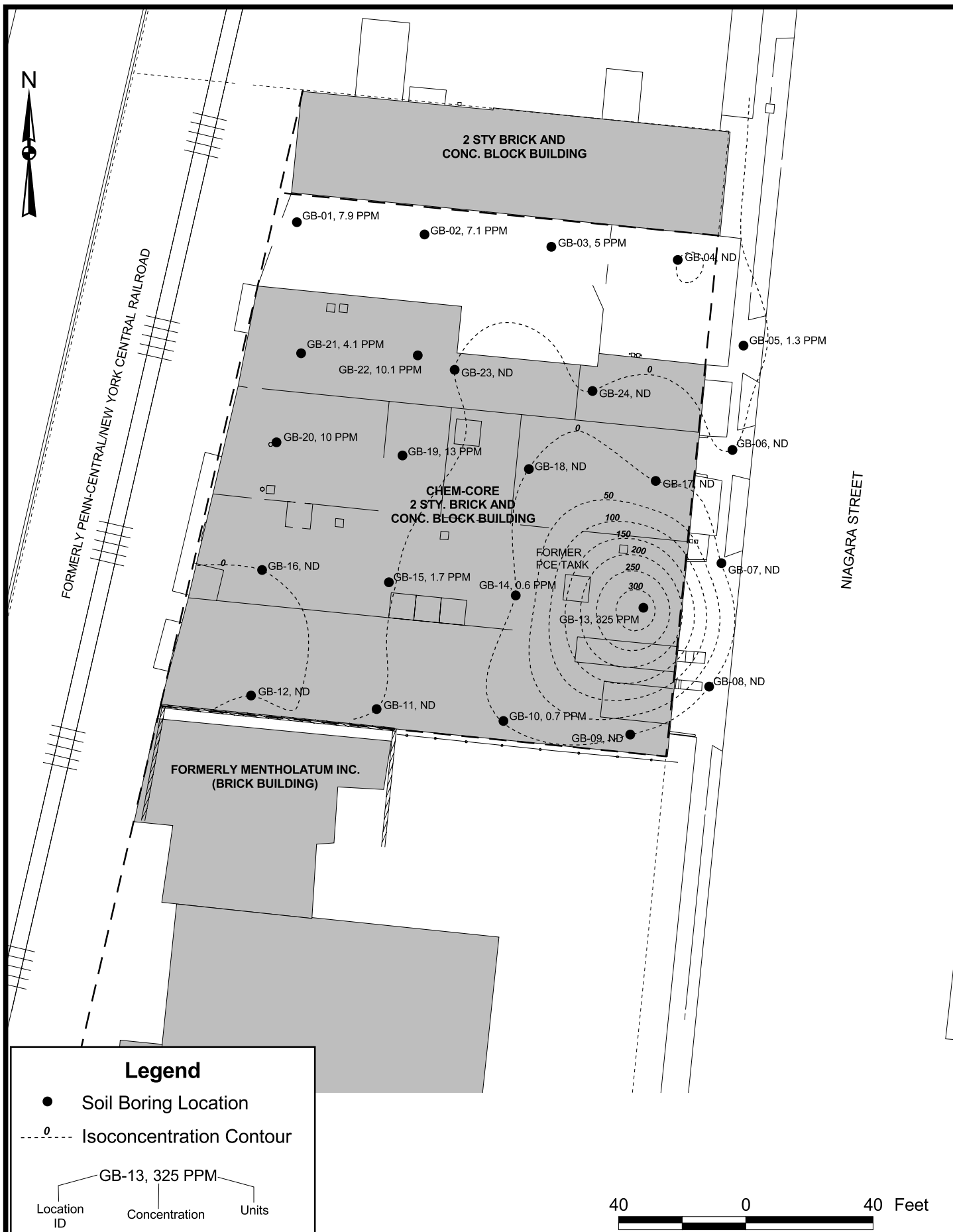


J:\35890_00\GIS\chemical.apr (4 - 6') PID READINGS
11/13/2001



CHEM CORE
HNu PID SOIL GAS RESULTS (4 - 6')

FIGURE 4-3

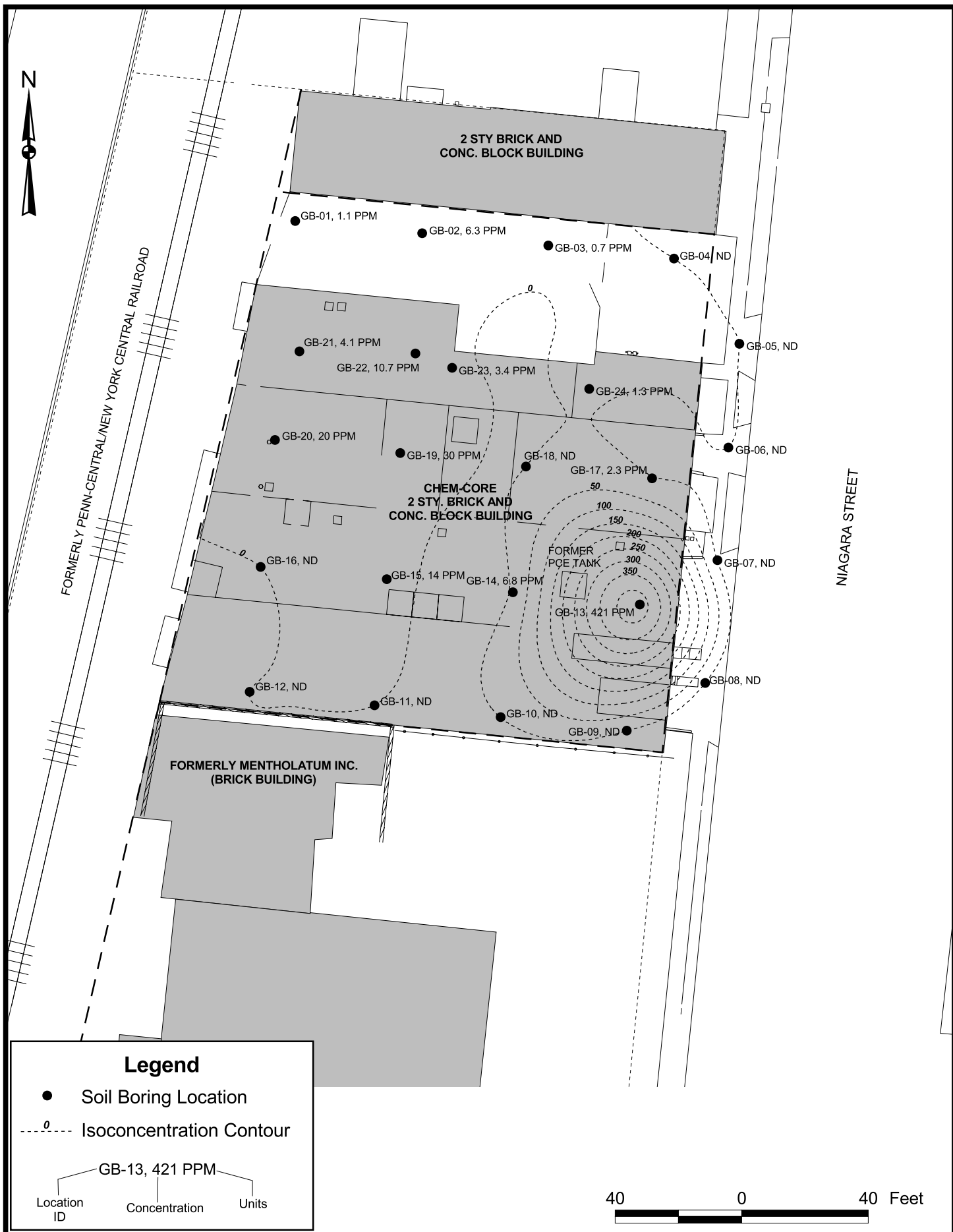


J:\35890_00\GIS\chemical.apr (6 - 8') PID READINGS
11/13/2001



CHEM CORE
HNu PID SOIL GAS RESULTS (6 - 8')

FIGURE 4-4

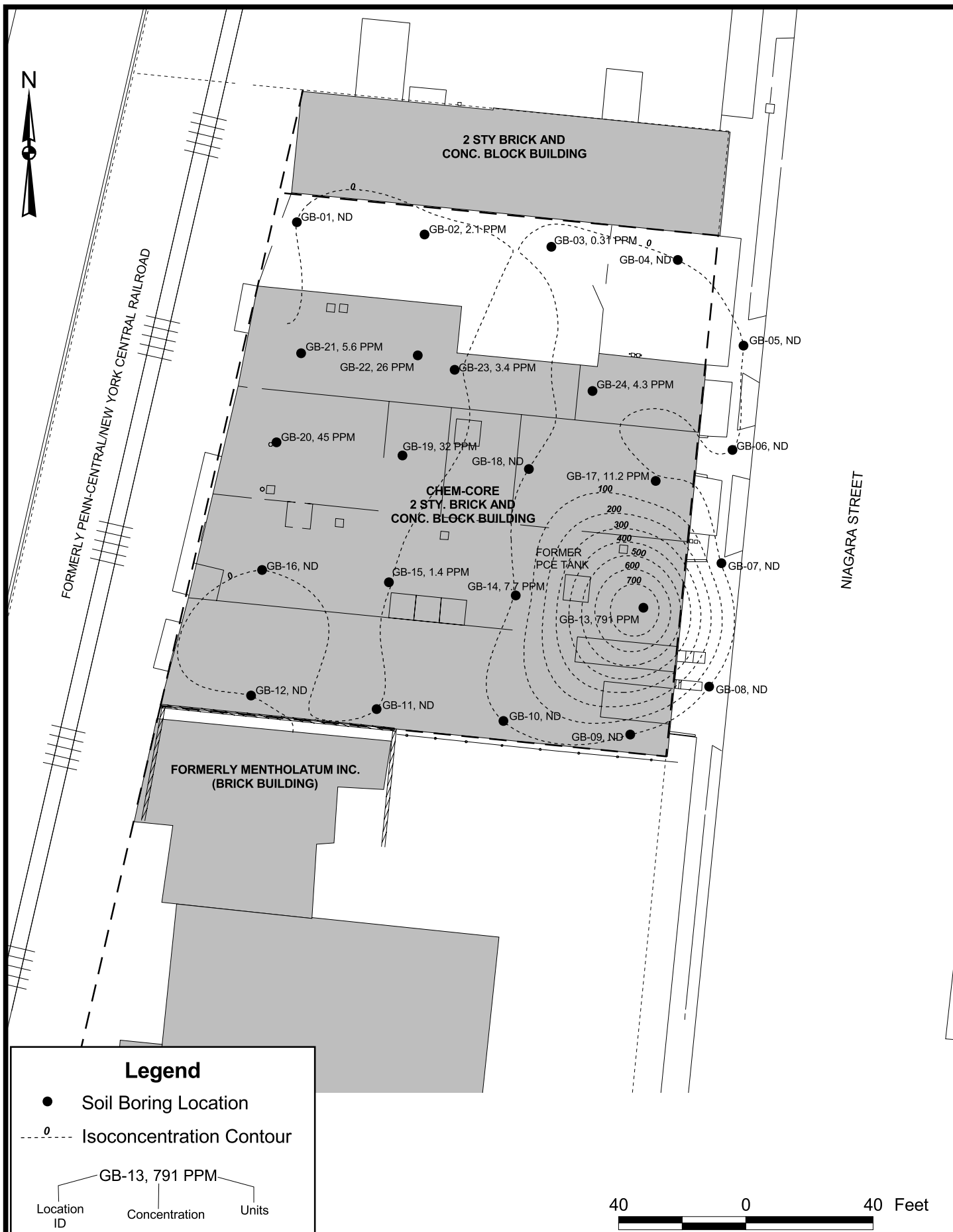


J:\95890.00\GIS\chemical.apr (8 - 10') PID READINGS
11/13/2001



CHEM CORE
HNu PID SOIL GAS RESULTS (8 - 10')

FIGURE 4-5

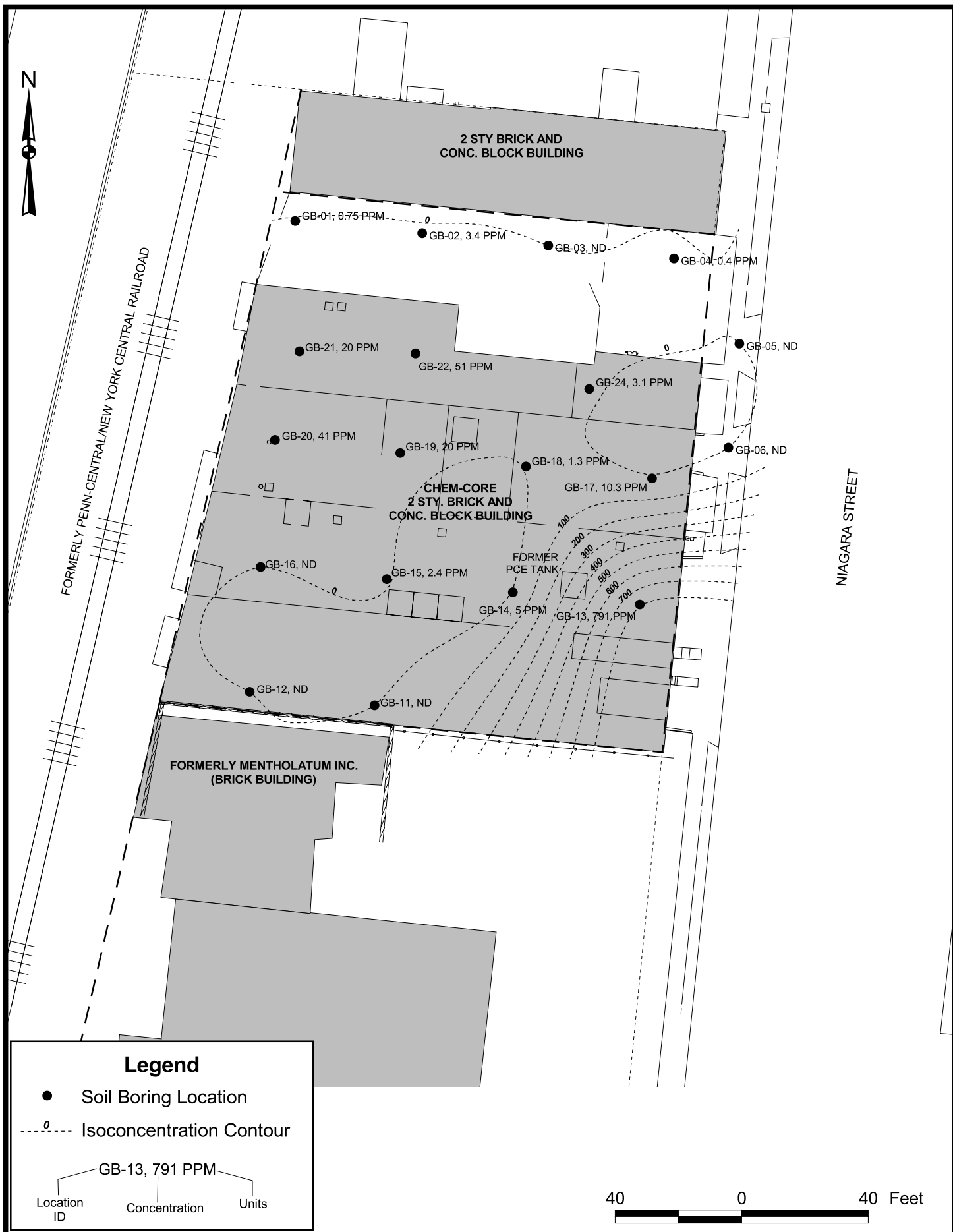


J:\95890_00\GIS\chemical.apr (10 - 12') PID READINGS
11/13/2001

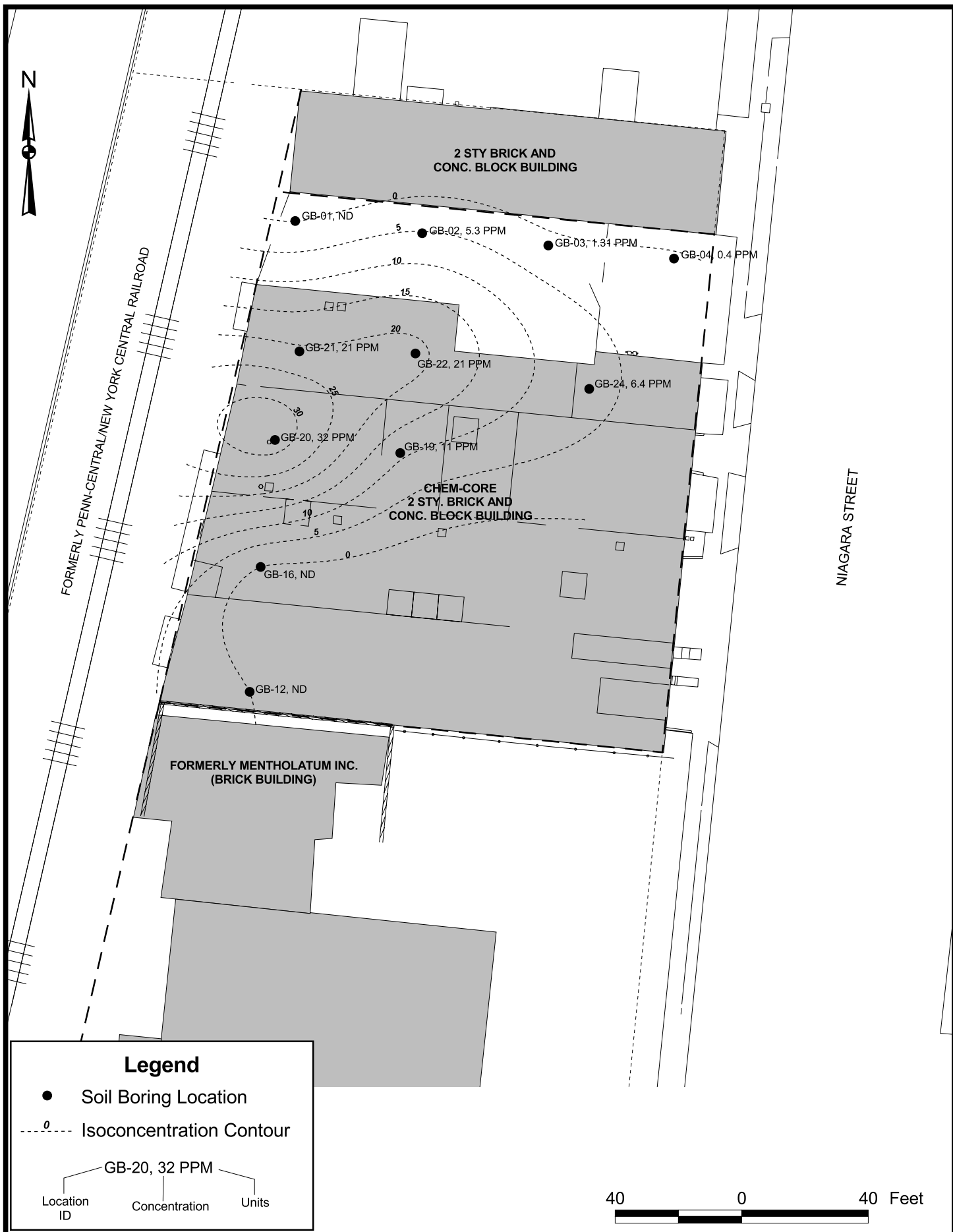


CHEM CORE
HNu PID SOIL GAS RESULTS (10 - 12')

FIGURE 4-6



J:\95890_00\GIS\chemical.apr (12 - 14') PID READINGS
11/13/2001

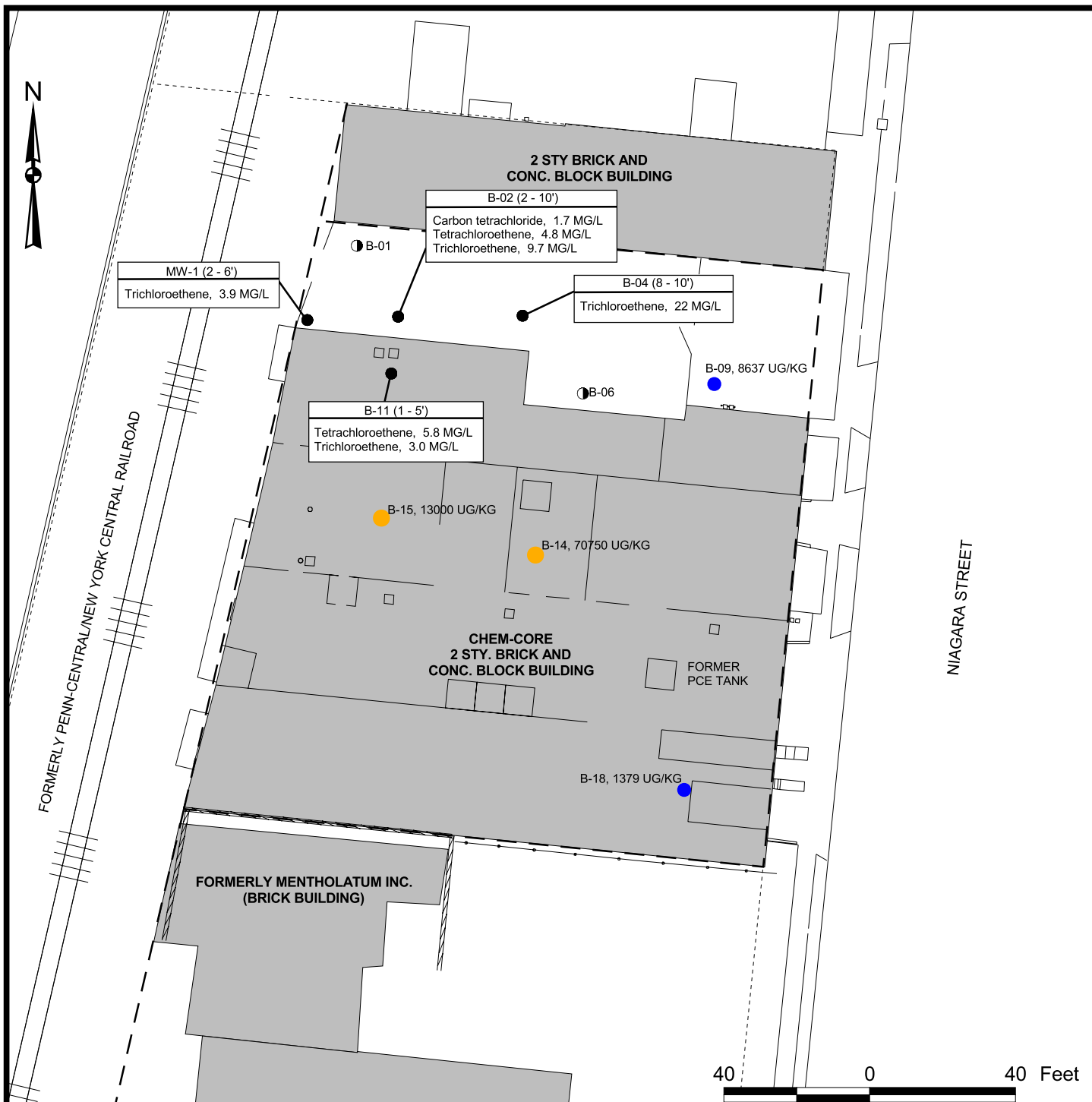


J:\35890_00\GIS\chemical.apr (14 - 16') PID READINGS
11/13/2001



CHEM CORE
HNu PID SOIL GAS RESULTS (14 - 16')

FIGURE 4-8



Legend

- No Compounds Exceed TCLP Extraction Guidance Values
- At Least One Compound Exceeds TCLP Extraction Guidance Values

B-11 (1 - 5')

Trichloroethene, 3.0 MG/L

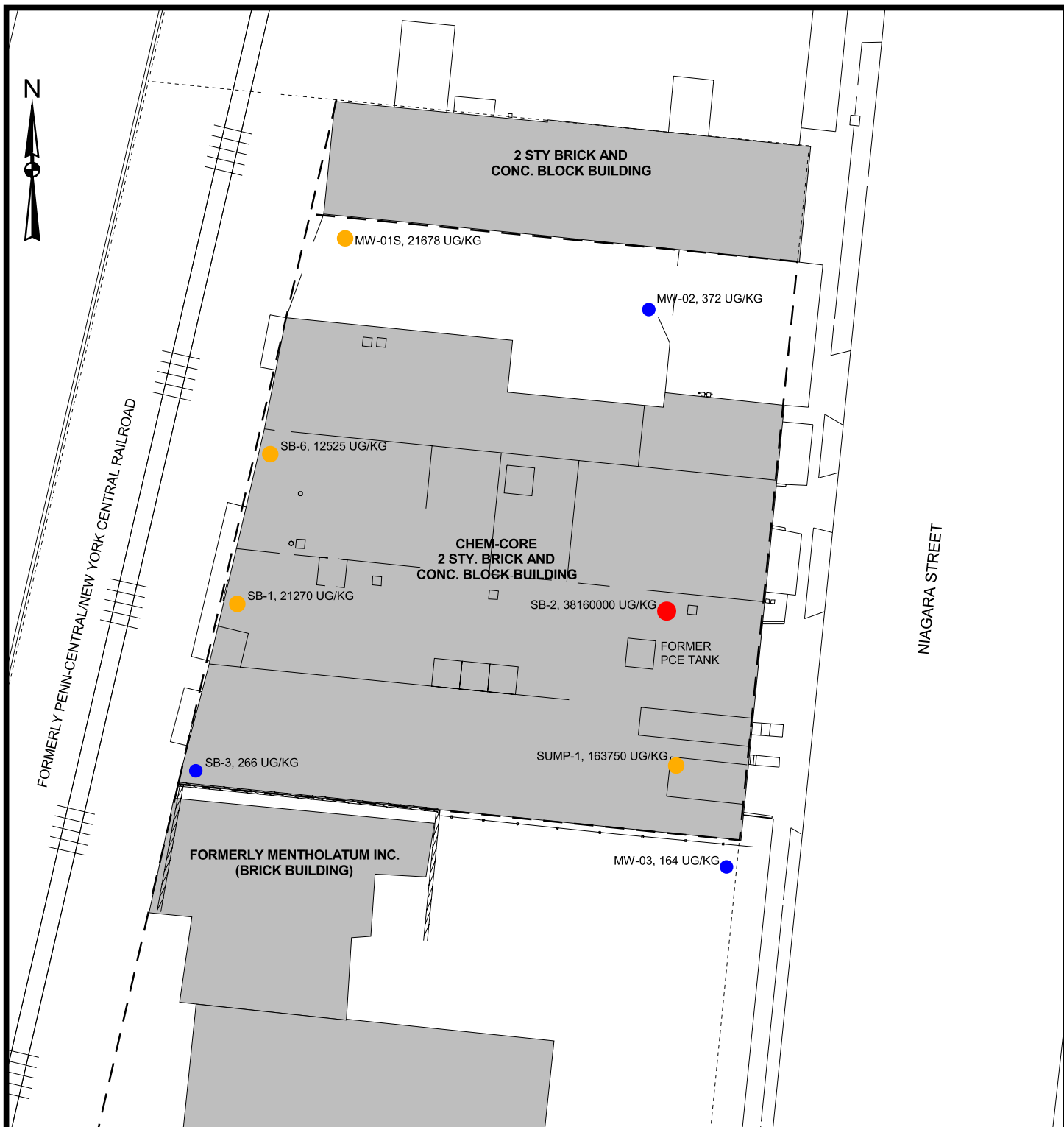
Location ID Compound Exceeding Criteria Depth Interval Concentration Units

Total VOC Concentrations in Soil

- ND
- 0 - 100 UG/KG
- 100 - 10,000 UG/KG
- 10,000 - 1,000,000 UG/KG
- > 1,000,000 UG/KG

B-18, 1379 UG/KG

Location ID Concentration Units



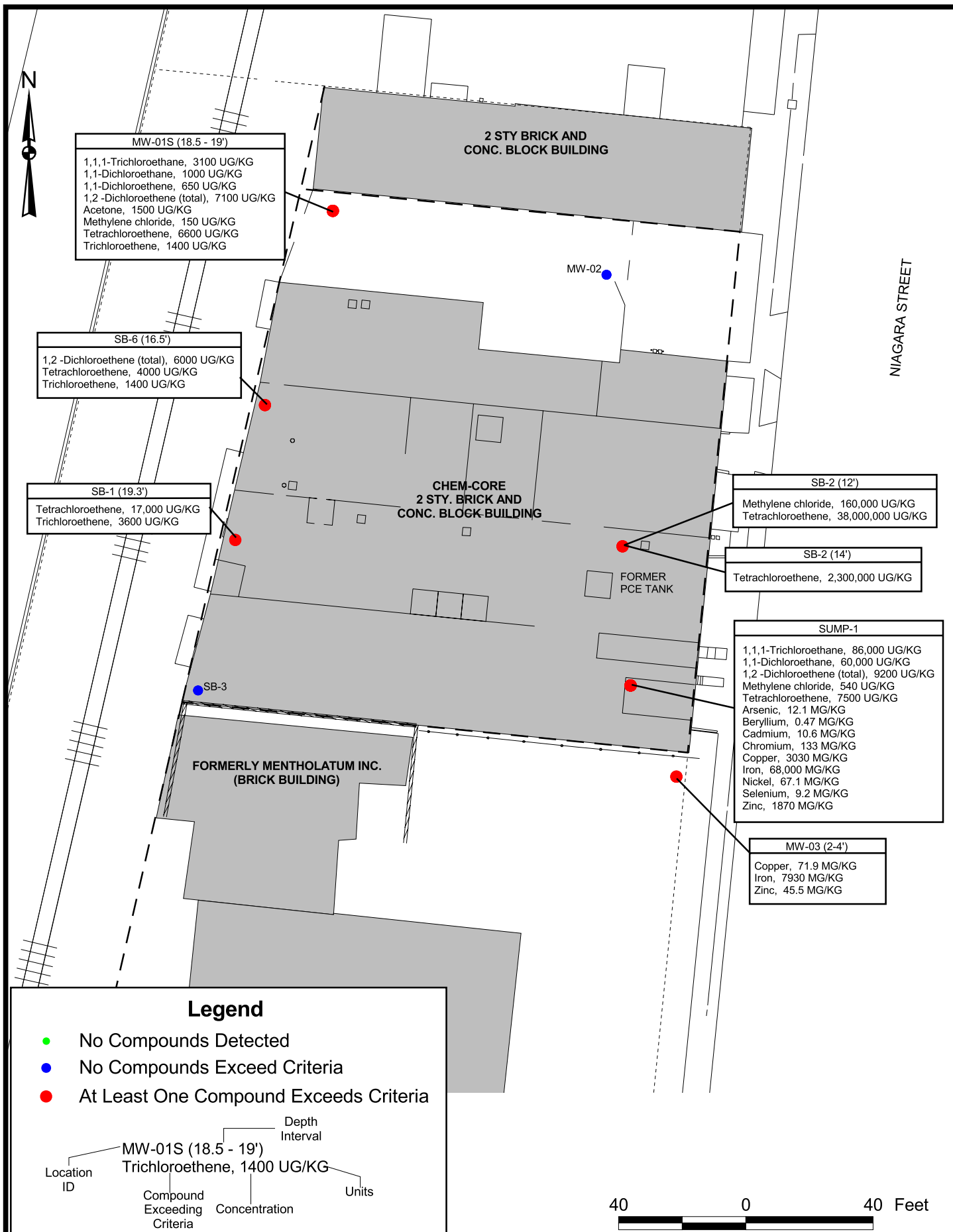
Legend

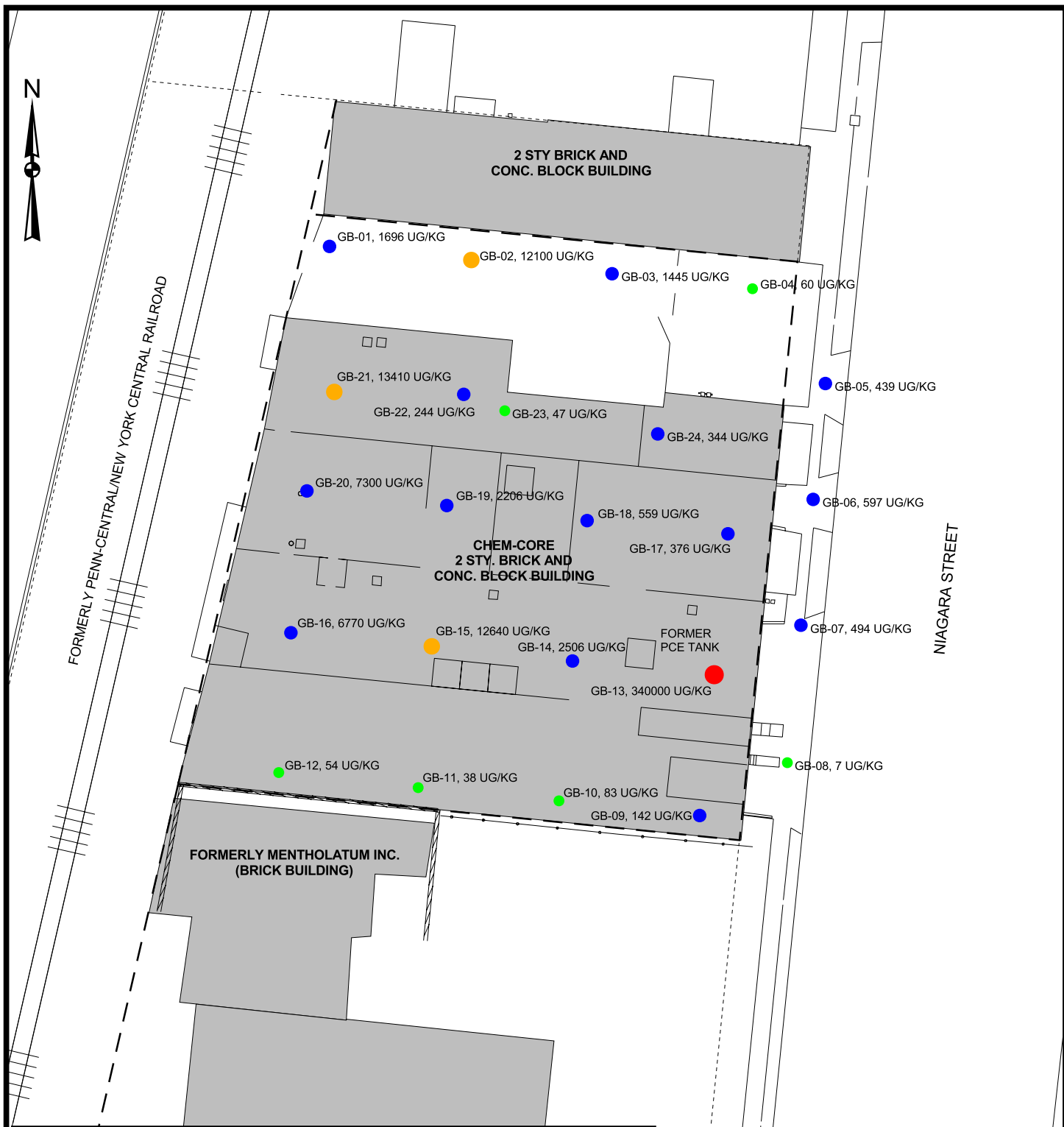
Total VOC Concentrations in Soil

- ND
- 0 - 100 UG/KG
- 100 - 10,000 UG/KG
- 10,000 - 1,000,000 UG/KG
- > 1,000,000 UG/KG

B-18, 1379 UG/KG
 Location ID Concentration Units

40 0 40 Feet





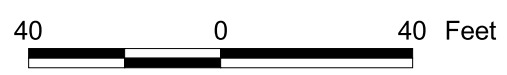
Legend

Total VOC Concentrations in Soil

- ND
- 0 - 100 UG/KG
- 100 - 10,000 UG/KG
- 10,000 - 100,000 UG/KG
- > 100,000 UG/KG

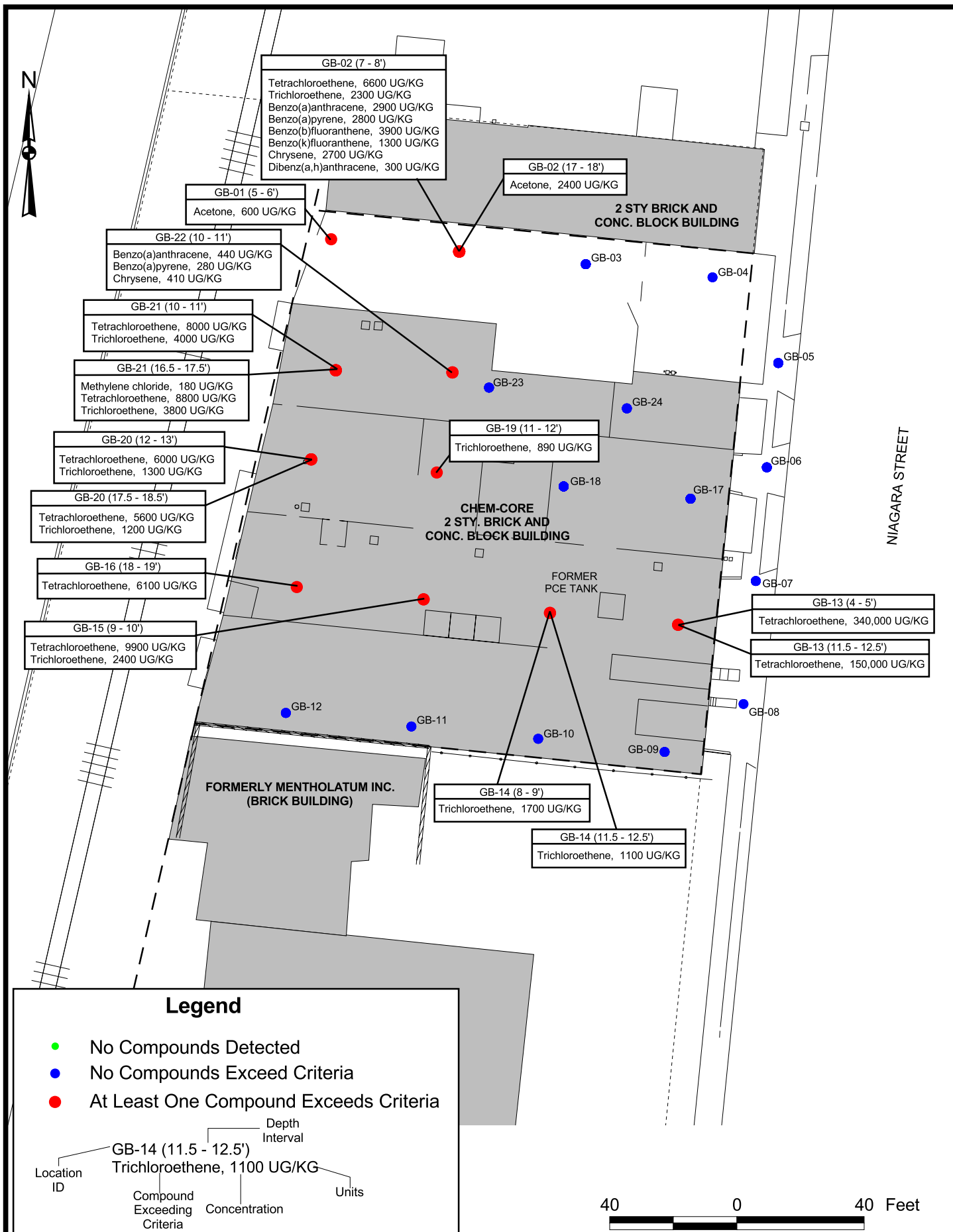
GB-02, 12100 UG/KG

Location ID Concentration Units



CHEM CORE
MAXIMUM TOTAL VOCs DETECTED IN SOIL (2001)

FIGURE 4-12

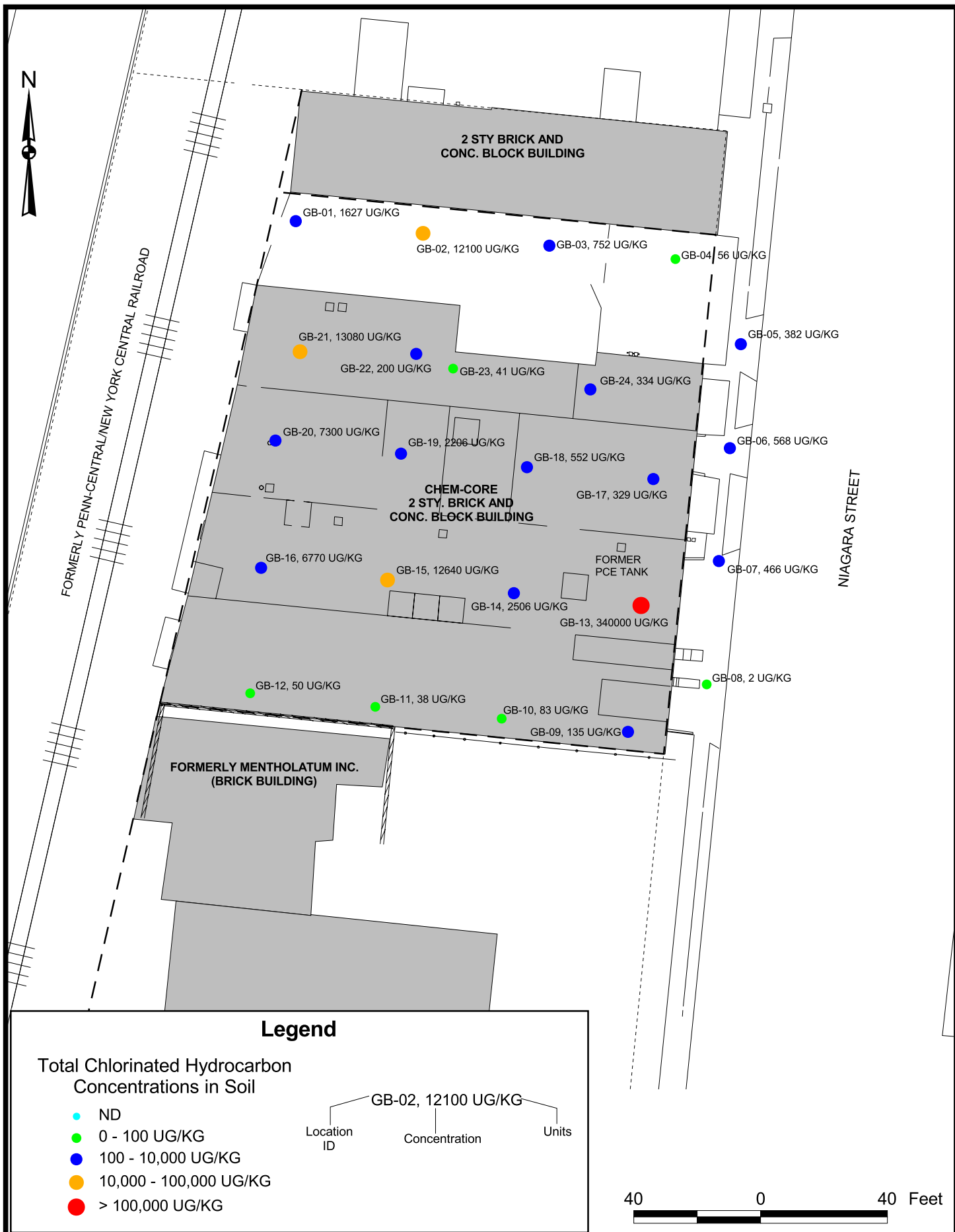


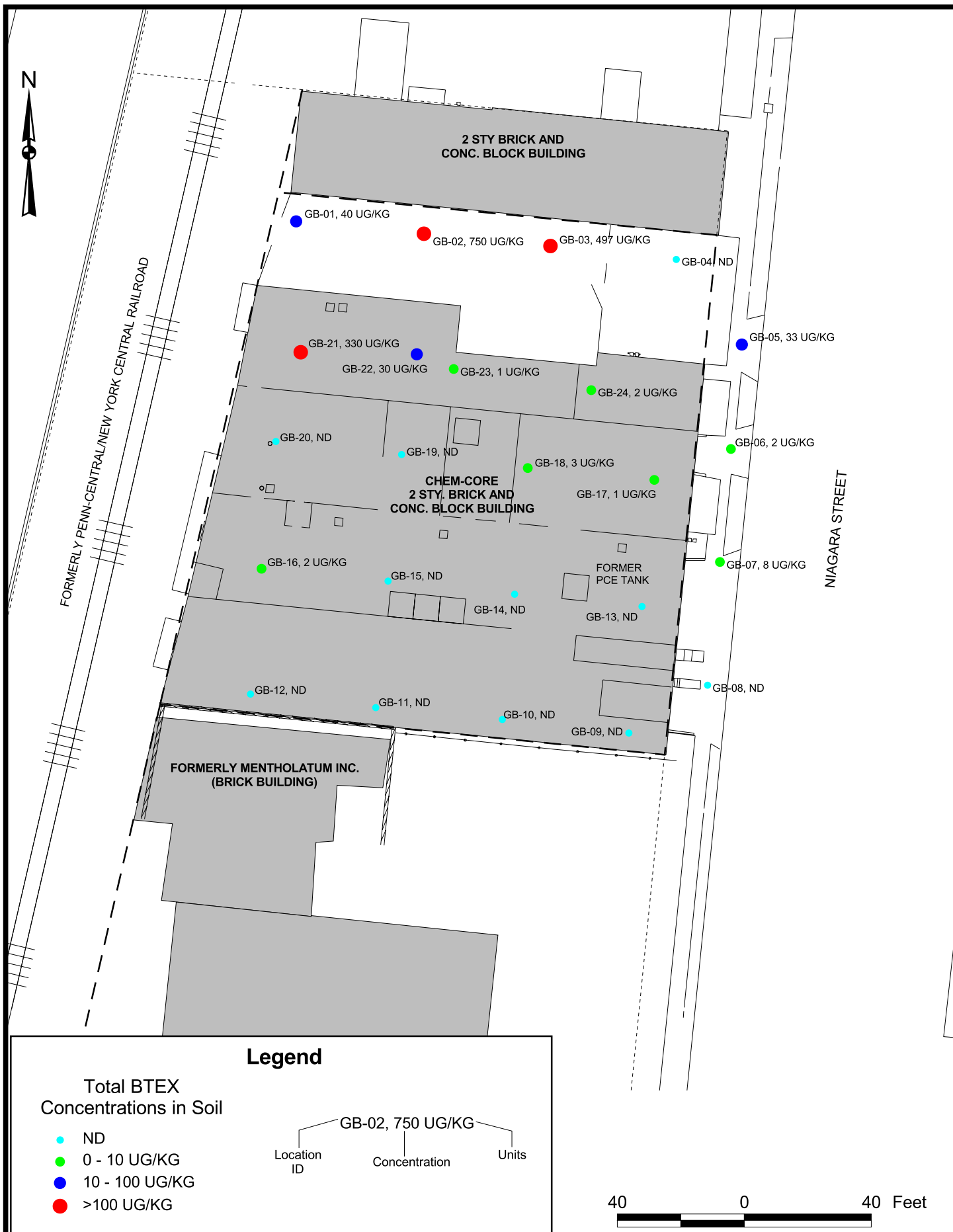
J:\35890.00\GIS\chemical.apr 2001 RI SOIL EXCEEDANCES
 7/1/2002

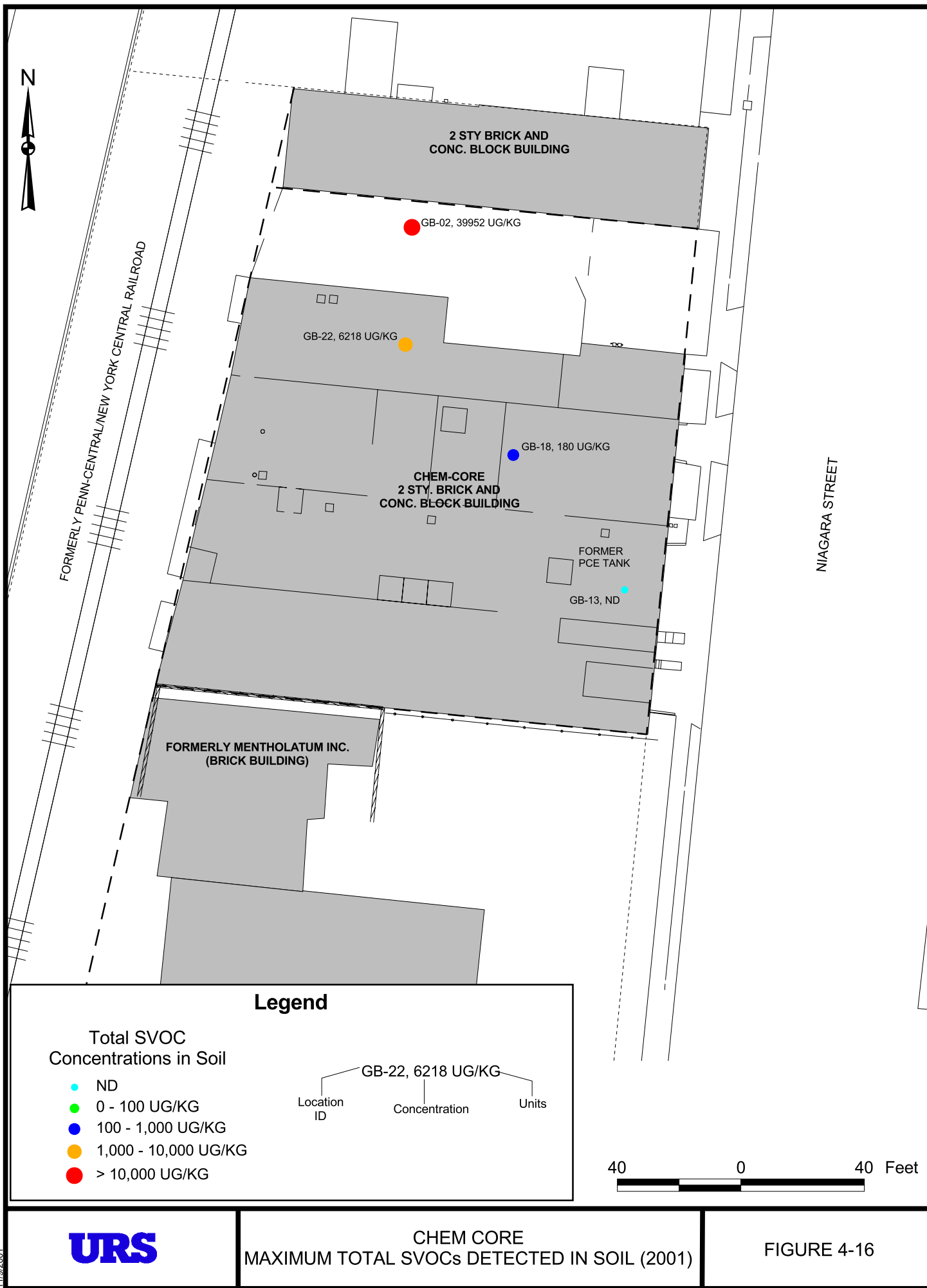


CHEM CORE
 SOIL CONTAMINANTS ABOVE SCGs (2001)

FIGURE 4-13









NOTE: No compounds detected or exceed criteria.

70 0 70 Feet

Legend

- Surface Water Sample Location

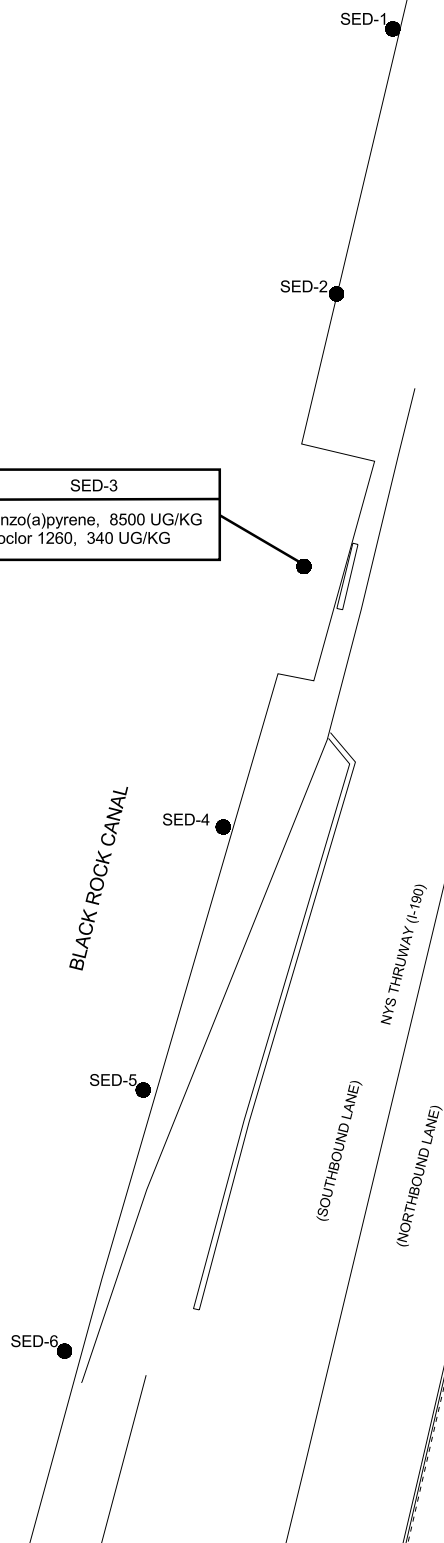


CHEM CORE
SURFACE WATER ANALYTICAL RESULTS (2001)

FIGURE 4-17



SED-3
Benzo(a)pyrene, 8500 UG/KG Aroclor 1260, 340 UG/KG



Legend

- Sediment Sample Location

SED-03

Location ID

Aroclor 1260, 340 UG/KG

Compound Exceeding Criteria

Concentration

Units

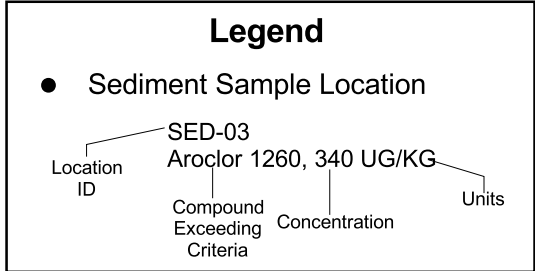
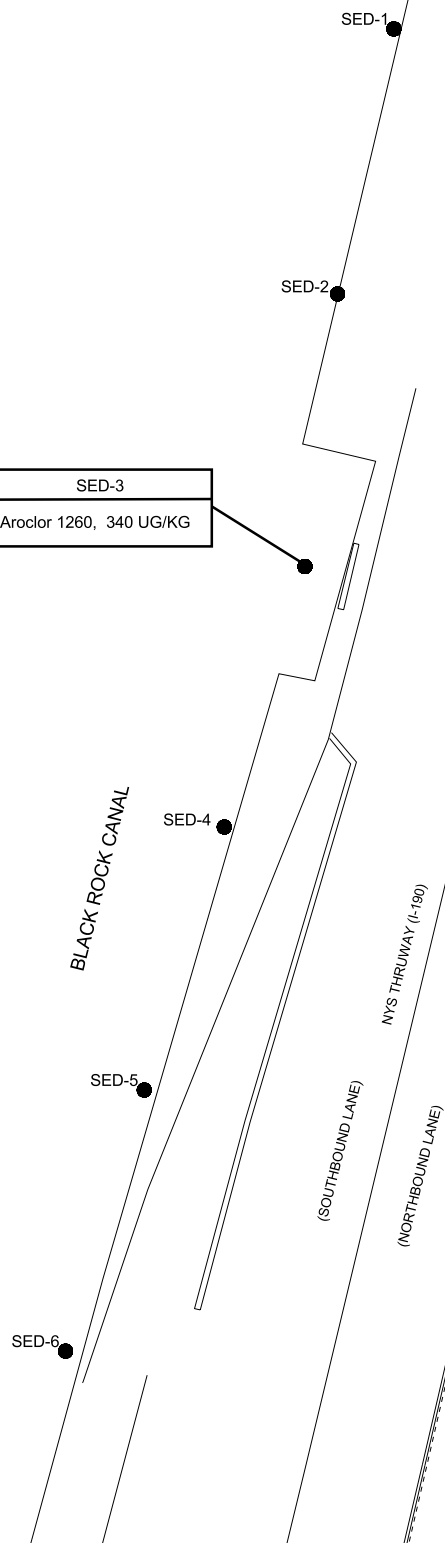


CHEM CORE
SEDIMENT ANALYTICAL RESULTS COMPARED TO
HUMAN HEALTH PROTECTION STANDARDS (2001)

FIGURE 4-18



SED-3
Aroclor 1260, 340 UG/KG



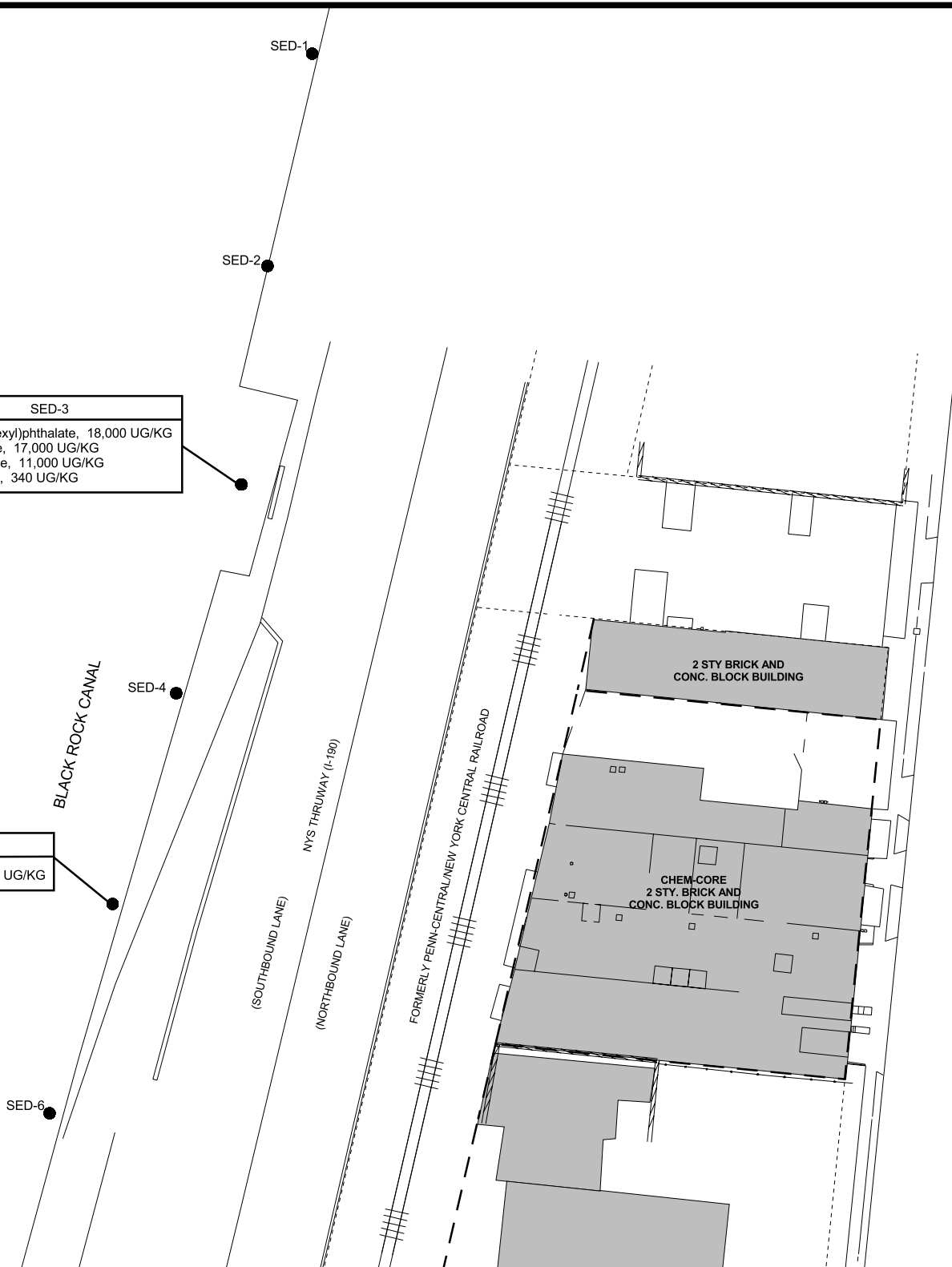
CHEM CORE
SEDIMENT ANALYTICAL RESULTS COMPARED TO
WILDLIFE BIOACCUMULATION PROTECTION
STANDARDS (2001)

FIGURE 4-19



SED-3
bis(2-Ethylhexyl)phthalate, 18,000 UG/KG
Fluoranthene, 17,000 UG/KG
Phenanthrene, 11,000 UG/KG
Aroclor 1260, 340 UG/KG

SED-5
Chlorobenzene, 53 UG/KG





NOTE: No compounds detected or exceed criteria.

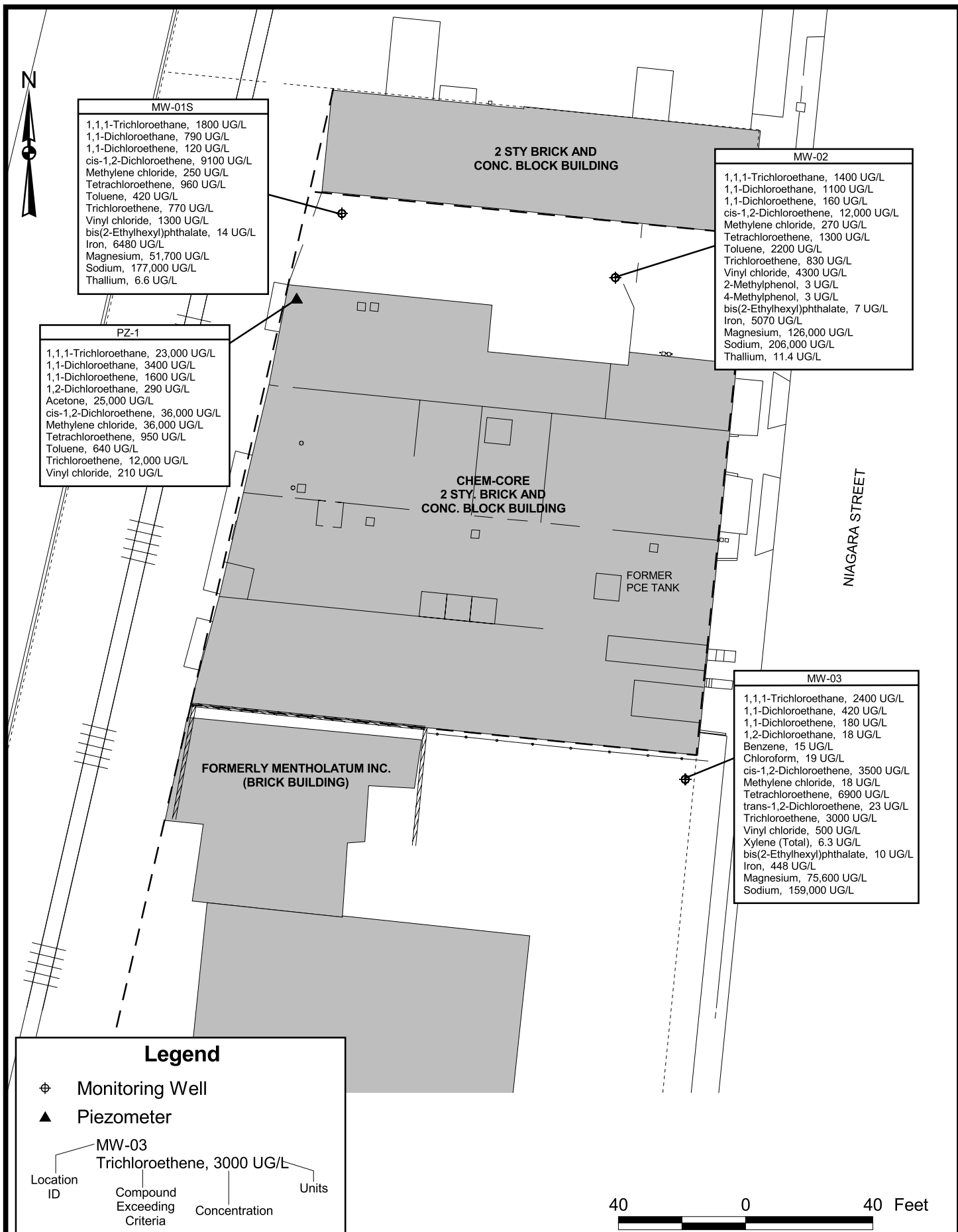
Legend	
●	Sediment Sample Location



CHEM CORE
SEDIMENT ANALYTICAL RESULTS COMPARED TO
BENTHIC ACUTE PROTECTION STANDARDS (2001)

FIGURE 4-21

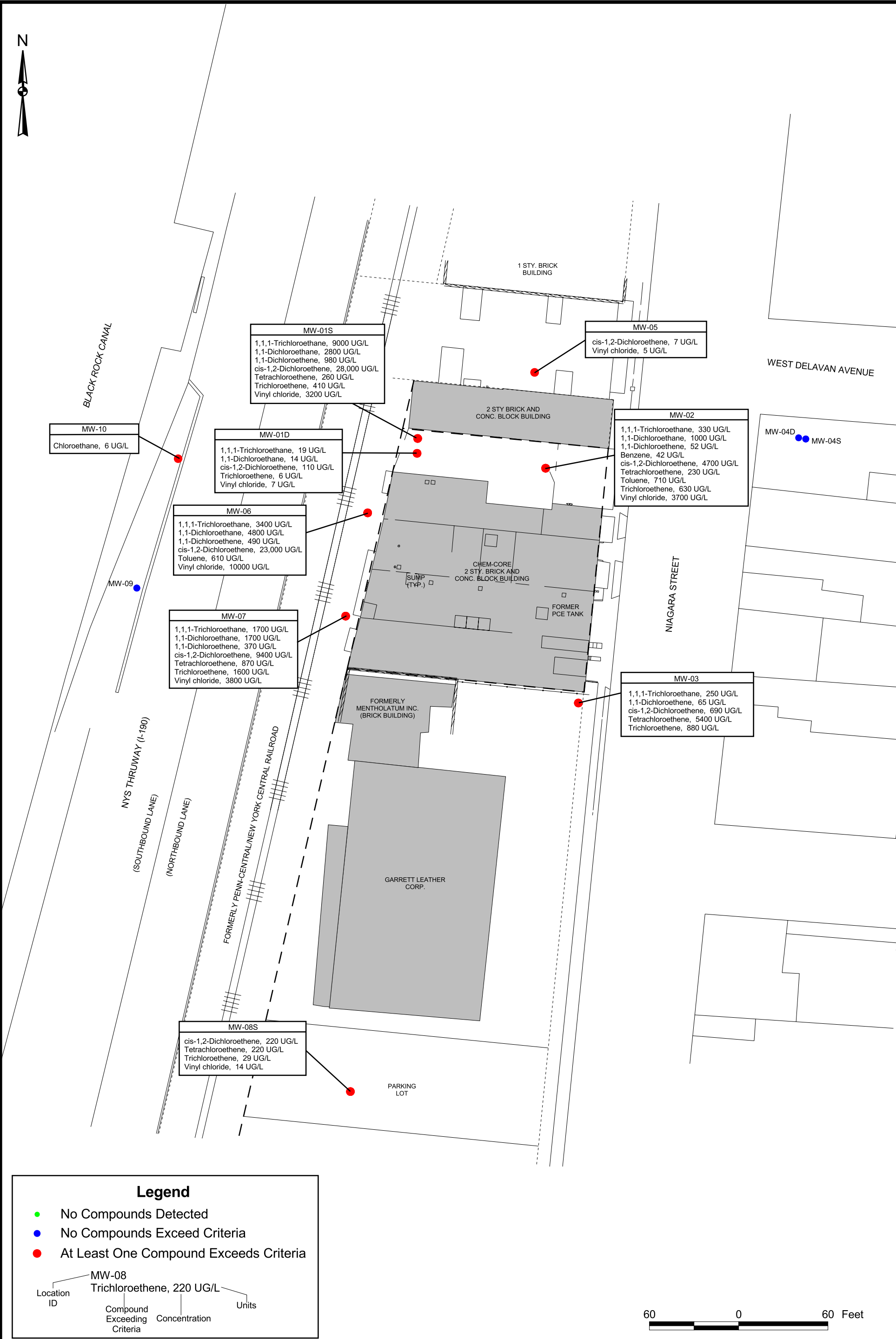
J:\35890_00\GIS\chemical.apr IIWA GROUNDWATER RESULTS (1999)
11/8/2001



CHEM CORE
PREVIOUS INVESTIGATION - IIWA
GROUNDWATER EXCEEDANCES (1999)

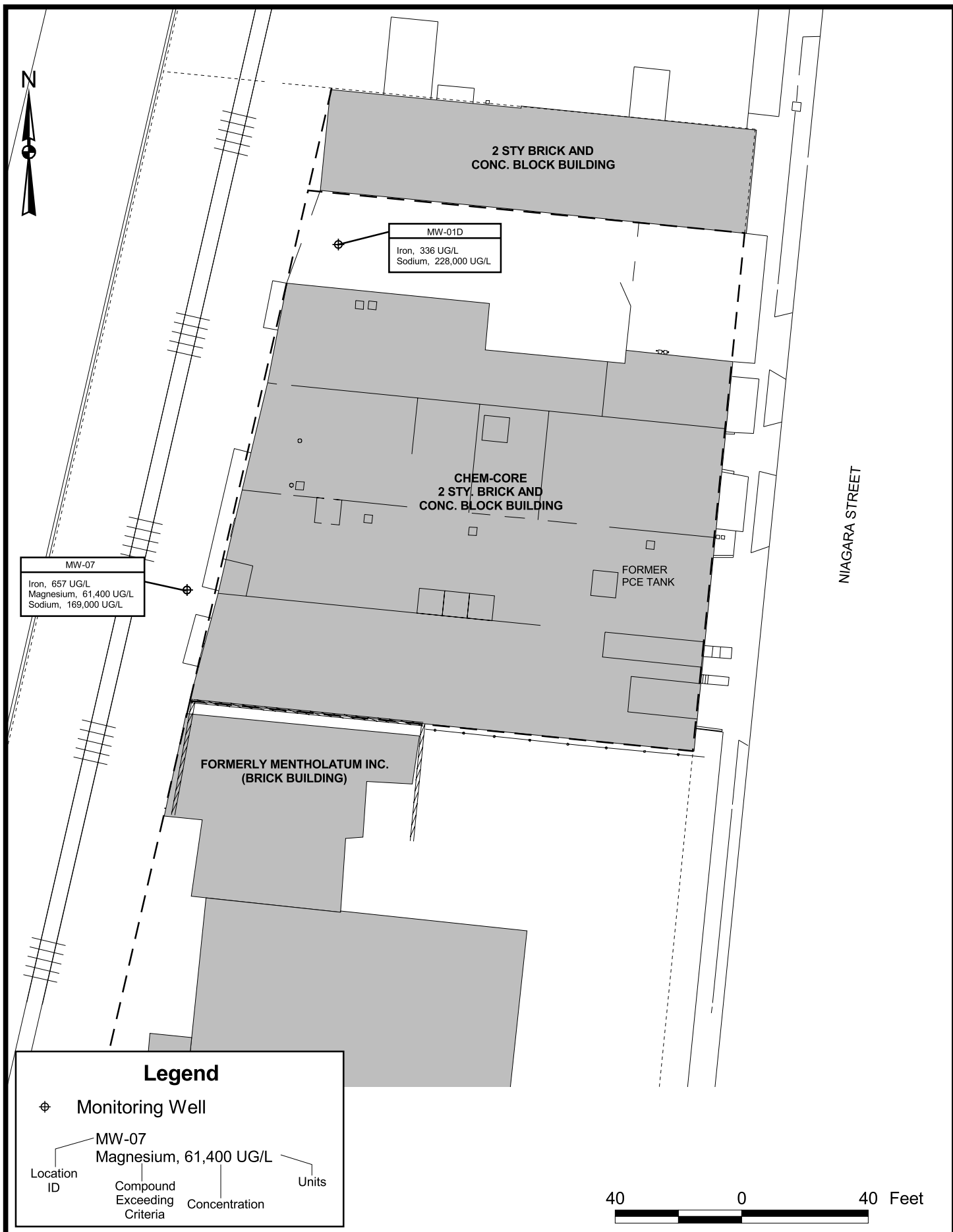
FIGURE 4-22











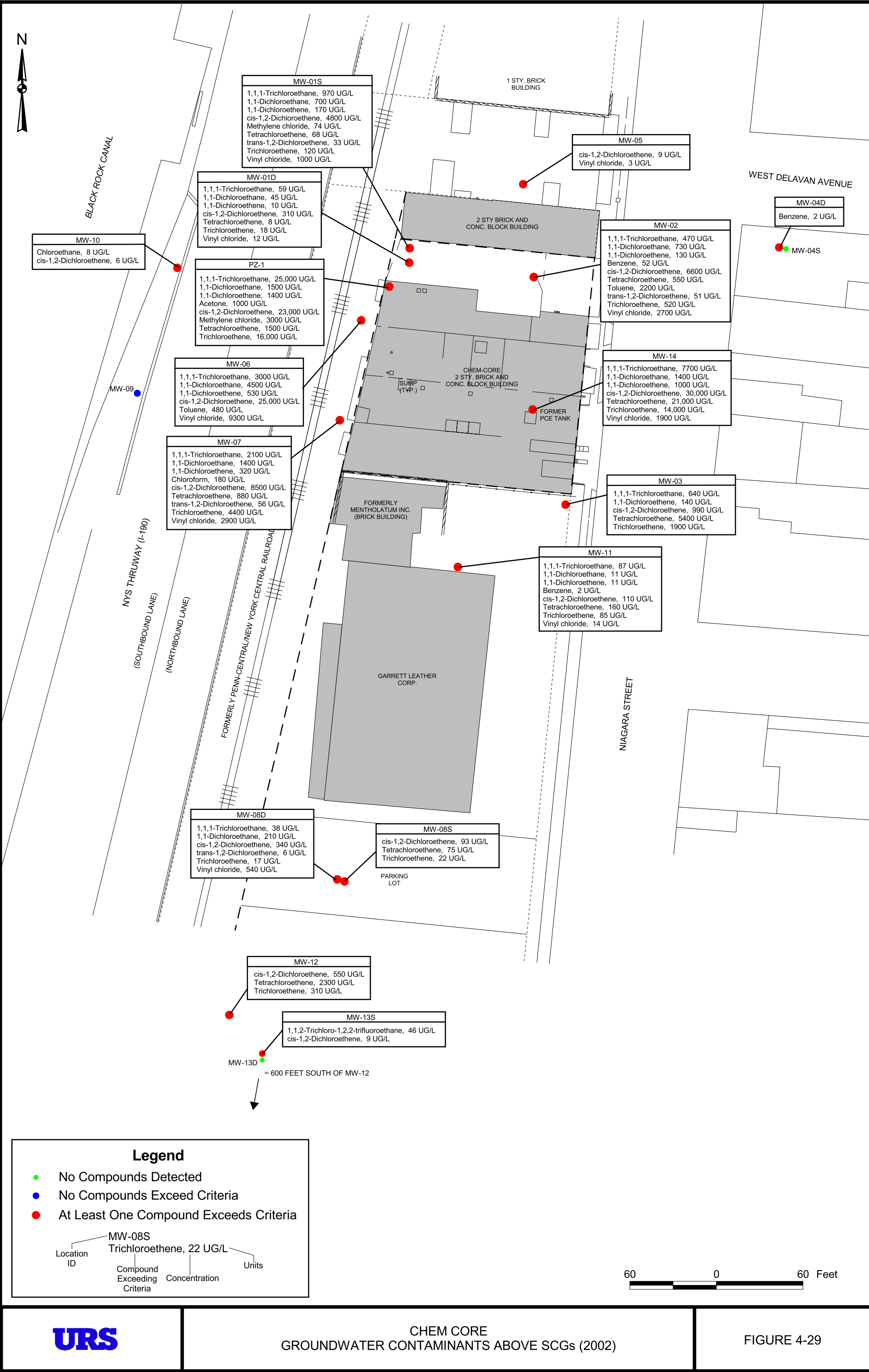
J:\35990.00\GIS\chemical.apr 2001 RI METALS
11/16/2001



CHEM CORE
METALS DETECTED ABOVE SCGs IN
GROUNDWATER (2001)

FIGURE 4-27











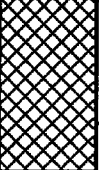
APPENDICES

APPENDIX A

BORING LOGS

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-1			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not encountered										BORING LOCATION: N 1064880.03/ E 1063781.54			
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: ~ 596.50				
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore			DATE STARTED: 07/09/01				
				DIA.		2"			DATE FINISHED: 07/09/01				
				WT.		Direct Push			DRILLER: Steve Laramie				
				FALL		---			GEOLOGIST: Scott McCabe				
* POCKET PENETROMETER READING										REVIEWED BY: <i>Scott McCabe</i>			
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
		1	MC		100%	black	medium dense	Fill: Fine to coarse sand, some gravel, concrete, cinders and slag	---	1/0	dry		
3						↓	↓	↓		1.1/1.8	moist		
5						reddish brown	very stiff	Silty Clay, massive, some roots	CL	5.7/15.6			
6		2*	MC		100%								
								Silty Clay, thinly laminated, trace coarse sand and fine gravel		7.9/11.3			
10		3	MC		100%					1.1/2.3			
										0/0			
15		4*	MC		100%			-few gray Silt partings		.75/1.5			
16										0/0			
								Boring completed at 16.0' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (4-5') and (15-16')										BORING NO. GB-1			

URS Corporation										GEOPROBE LOG									
PROJECT: Chem Core										BORING NO: GB-2									
CLIENT: New York State DEC										SHEET: 1 of 1									
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02									
GROUNDWATER: Perched water 7.0-7.3'										CAS.		SAMPLER		CORE		TUBE		GROUND ELEVATION: ~ 596.50	
DATE	TIME	LEVEL	TYPE	TYPE			MacroCore			DATE STARTED: 07/09/01									
				DIA.			2"			DATE FINISHED: 07/09/01									
				WT.			Direct Push			DRILLER: Steve Laramie									
				FALL			---			GEOLOGIST: Scott McCabe									
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>									
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS								
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID									
2		1	MC		100%	gray brown	dense stiff	Dolomite gravel	---	0/0	dry								
								Fill: Clayey Silt, trace brick, slag, cinder		0/0									
5		2*	MC		100%	reddish brown	very stiff	Silty Clay, massive, some roots, trace sand	CL	.32/41									
								-7.0-7.3' Black, wet gravel		7.1/7.3									
10	3	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel		6.3/6.1	wet 7.0-7.3' black product moist									
							-few gray Silt partings		2.1/1.3										
15	4	MC		100%					3.4/2.1										
16										5.3/4.3									
18		5*	MC		100%	brown	very dense	Clayey Silt, some fine to coarse sand and fine gravel	ML	121/149									
20								Boring completed at 18.0' bgs MacroCore Refusal											
25																			
30																			
35																			
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02									
* Samples submitted for analysis (7-8') and (17-18')										BORING NO. GB-2									

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-3			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched water 4.0-5.5'										BORING LOCATION: N1064872.35 / E 1063861.55			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/09/01			
				DIA.		2"				DATE FINISHED: 07/09/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
		1	MC		100%	gray brown ↓	dense stiff ↓	Dolomite gravel Fill: Clayey Silt, trace brick, slag, cinder ↓	---	2.5/76	dry		
5												.49/0	
5.5		2*	MC		100%	black	loose	Fill: Fine to coarse sand, some gravel	CL ↓	19/44	wet 4.0-5.5' black product moist		
												5/14	
10		3	MC		100%	reddish brown ↓	very stiff ↓	Silty Clay, thinly laminated, trace coarse sand and fine gravel ↓				.7/3.2	
												.31/0	
15		4*	MC		100%					0/0			
15.5						brown	v.dense	Clayey Silt, some sand and gravel	ML	1.31/3.42	very moist		
16.3													
20								Boring completed at 16.3' bgs MacroCore Refusal					
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (4-5') and (15-16')										BORING NO. GB-3			

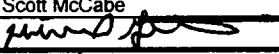
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-4			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched 6.5-11.0'										BORING LOCATION: N 1064868.15 / E 1063901.38			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/10/01			
				DIA.		2"				DATE FINISHED: 07/10/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>Kevin D. [Signature]</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
1		1	MC		100%	gray	dense	Dolomite gravel	---	0/0	dry		
				reddish brown		very stiff	Silty Clay, massive, trace sand and fine gravel	CL					
5									0/0				
6.5									0/0				
		2*	MC		100%	↓	↓	↓	↓	0/0	moist		
		3	MC		100%	light brown	medium dense	Fine sand	SP	0/0	wet 6.5-11.0		
10													
11													
		4*	MC		100%	reddish brown	very stiff	Silty Clay, thinly laminated, trace coarse sand and fine gravel	CL	0/0	↓ moist		
14													
15													
						gray	v.dense	Clayey Silt, some sand and gravel	ML	.4/.1			
						Boring completed at 15.0' bgs MacroCore Refusal							
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO.		0500035890.02	
* Samples submitted for analysis (14-15')										BORING NO.		GB-4	

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-5			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064841.25/E 1063921.99			
CAS.										GROUND ELEVATION: 596.57			
SAMPLER MacroCore										DATE STARTED: 07/10/01			
CORE										DATE FINISHED: 07/10/01			
TUBE										DRILLER: Steve Laramie			
DATE										GEOLOGIST: Scott McCabe			
TIME										REVIEWED BY:			
LEVEL										* POCKET PENETROMETER READING			
TYPE													
DIA. 2"													
WT. Direct Push													
FALL ---													
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
										PID/FID			
1		1	MC		100%	gray	v.dense	3" asphalt over gravel	---	0/0	dry		
				reddish brown		very stiff	Silty Clay, massive	CL	0/0				
5		2*	MC		100%					1.1/1.43			
								1.3/1.0					
10		3	MC		100%			Silty Clay, thinly laminated		0/0			
12									0/0				
13		SSSS	4*	MC		100%	brown	v. dense	Clayey Silt, some sand and gravel	ML	0/0	moist	
15									Boring completed at 13.0' bgs MacroCore Refusal				
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
32													
33													
34													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a										PROJECT NO. 0500035890.02			
2" diameter by 4' long Macro Core sampler.										BORING NO. GB-5			
* Samples submitted for analysis (4-6') and (12-13')													

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-6			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064808.90/E 1063913.40			
CAS.										GROUND ELEVATION: 596.19			
SAMPLER MacroCore										DATE STARTED: 07/10/01			
CORE										DATE FINISHED: 07/10/01			
TUBE										DRILLER: Steve Laramie			
DATE										GEOLOGIST: Scott McCabe			
TIME										REVIEWED BY:			
LEVEL										* POCKET PENETROMETER READING			
TYPE													
DIA.													
WT.													
FALL													
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
										PID/FID			
1		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry		
				reddish brown		very stiff	Silty Clay, massive	CL	0/0				
5		2	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel		0/0		moist	
							-few gray Silt partings		0/0				
10		3*	MC		100%					0/0			
11										0/0			
13		4	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	0/0			
										0/0			
15								Boring completed at 13.0' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (8-10')										BORING NO. GB-6			

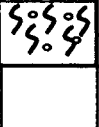
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-7			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064771.02/E 1063909.99			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.93			
DATE TIME LEVEL TYPE TYPE										DATE STARTED: 07/10/01			
DIA. 2"										DATE FINISHED: 07/10/01			
WT. Direct Push										DRILLER: Steve Laramie			
FALL ---										GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY:			
SAMPLE						DESCRIPTION				REMARKS			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
1		1	MC		100%	gray	v.dense	6" concrete over gravel	—	0/0	dry		
				reddish brown		very stiff	Silty Clay, massive	CL					
5		2	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel		0/0	moist		
10		3*	MC		100%					0/0			
12													
						brown	very dense	Clayey Silt, some sand and gravel	ML	0/0			
15								Boring completed at 12.0' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (11-12')										BORING NO. GB-7			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-8			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064737.14/E 1063906.47			
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 596.77				
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore			DATE STARTED: 07/10/01				
				DIA.		2"			DATE FINISHED: 07/10/01				
				WT.		Direct Push			DRILLER: Steve Laramie				
				FALL		---			GEOLOGIST: Scott McCabe				
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
1		1	MC		100%	gray	v.dense	3" asphalt over gravel	---	0/0	dry		
						reddish brown	very stiff	Silty Clay, massive	CL	0/0			
5										0/0		moist	
		2	MC		100%					0/0			
								Silty Clay, thinly laminated		0/0			
10			3	MC		100%					0/0		
11.5							brown	v. dense	Clayey Silt, some sand and gravel	ML	0/0		
15		Boring completed at 11.5' bgs MacroCore Refusal											
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (10-11')										BORING NO. GB-8			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-9			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064718.96 / E 1063886.36			
CAS.					SAMPLER		CORE		TUBE		GROUND ELEVATION: ~ 596.50		
DATE	TIME	LEVEL	TYPE	TYPE	MacroCore						DATE STARTED: 07/10/01		
				DIA.	2"						DATE FINISHED: 07/10/01		
				WT.	Direct Push						DRILLER: Steve Laramie		
				FALL	---						GEOLOGIST: Scott McCabe		
* POCKET PENETROMETER READING										REVIEWED BY: 			
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
4		1	MC		100%	gray	v.dense	4" concrete	---	0/0	dry		
reddish brown						very stiff	Silty Clay, massive	CL	0/0				
5		2	MC		100%							0/0	
												0/0	
10		3*	MC		100%			Silty Clay, thinly laminated				0/0	
12.3							Clayey Silt, some sand and gravel	ML	0/0	moist			
15							Boring completed at 12.3' bgs MacroCore Refusal						
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (9-10') and (11-12')										BORING NO. GB-9			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-10			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched 4.5-5.0										BORING LOCATION: N 1064723.15 / E 1063846.52			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/11/01			
				DIA.		2"				DATE FINISHED: 07/11/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE						DESCRIPTION				REMARKS			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
1		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry		
reddish brown						very stiff	Silty Clay, massive	CL					
5		2	MC		100%	brown	loose	Silty Fine Sand	SP	.7/1	wet 4.5-5.0 moist		
reddish brown						very stiff	Silty Clay, thinly laminated	CL	.7/1				
10		3	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	0/0			
										0/0			
11.5						Boring completed at 11.5' bgs MacroCore Refusal							
15													
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (4-5') and (10-11')										BORING NO. GB-10			

URS Corporation										GEOPROBE LOG				
PROJECT: Chem Core										BORING NO: GB-11				
CLIENT: New York State DEC										SHEET: 1 of 1				
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02				
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064726.99 / E 1063806.69				
CAS.					SAMPLER		CORE		TUBE		GROUND ELEVATION: ~ 596.50			
DATE		TIME		LEVEL		TYPE		TYPE		MacroCore		DATE STARTED: 07/11/01		
								DIA.		2"		DATE FINISHED: 07/11/01		
								WT.		Direct Push		DRILLER: Steve Laramie		
								FALL		---		GEOLOGIST: Scott McCabe		
* POCKET PENETROMETER READING										REVIEWED BY:				
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID				
1		1*	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry			
				reddish brown		very stiff	Silty Clay, massive	CL	0/0					
4										moist				
5		2	MC		100%			Silty Clay, thinly laminated		0/0				
										0/0				
10	3	MC		100%					0/0					
11										0/0				
13.5		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	0/0				
15														
20								Boring completed at 13.5' bgs MacroCore Refusal						
25														
30														
35														
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02				
* Samples submitted for analysis (2-3') and (12.5-13.5')										BORING NO. GB-11				

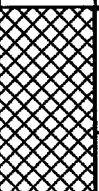
URS Corporation										GEOPROBE LOG				
PROJECT: Chem Core										BORING NO: GB-12				
CLIENT: New York State DEC										SHEET: 1 of 1				
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02				
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064731.19 / E 1063767.21				
CAS.					SAMPLER		CORE		TUBE		GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE	MacroCore						DATE STARTED: 07/11/01			
				DIA.	2"						DATE FINISHED: 07/11/01			
				WT.	Direct Push						DRILLER: Steve Laramie			
				FALL	---						GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 				
DEPTH FEET	SAMPLE				DESCRIPTION							REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID				
1		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry			
2						brown	v. stiff	Fill: Clayey Silt, some gravel, slag						
						dark brown	medium dense	Fine Sandy Silt, trace clay						
5		2	MC		100%	reddish brown	very stiff	Silty Clay, massive	CL	0/0	moist			
								Silty Clay, thinly laminated						
10								3*				MC		100%
15		4	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	0/0				
17								5*				MC		100%
20	Boring completed at 17.0' bgs MacroCore Refusal													
25														
30														
35														
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02				
* Samples submitted for analysis (8-10') and (16-17')										BORING NO. GB-12				

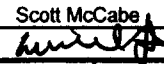
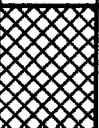
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-13			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064758.79 / E 1063890.55			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/11/01			
				DIA.		2"				DATE FINISHED: 07/11/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE						DESCRIPTION				REMARKS			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
1		1	MC		100%	gray	v.dense	4" concrete over gravel	---	26/8	dry		
						reddish brown	very stiff	Silty Clay, massive	CL	25/19			
5		2*	MC		100%			Silty Clay, thinly laminated		542/997	strong solvent odor		
										325/391	moist		
10		3	MC		100%					471/840			
12.5		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel -Fine Sand seams	ML	791/2172	last PID/FID from sand seam		
15								Boring completed at 12.5' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (4-5') and (11.5-12.5')										BORING NO. GB-13			

URS Corporation											GEOPROBE LOG			
PROJECT: Chem Core											BORING NO: GB-14			
CLIENT: New York State DEC											SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.											JOB NO.: 0500035890.02			
GROUNDWATER:											BORING LOCATION: N 1064762.63 / E 1063850.37			
											GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		CAS.	SAMPLER	CORE	TUBE		DATE STARTED: 07/11/01			
				DIA.			2"				DATE FINISHED: 07/11/01			
				WT.			Direct Push				DRILLER: Steve Laramie			
				FALL			---				GEOLOGIST: Scott McCabe			
											REVIEWED BY: <i>[Signature]</i>			
* POCKET PENETROMETER READING														
SAMPLE											DESCRIPTION			
DEPTH	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS				
FEET										PID/FID				
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	1.3/0	dry			
						reddish brown	very stiff	Clayey Silt, some gravel, trace cinder and slag						
4						↓	↓	↓						1.1/0
5		2	MC		100%	r. brown	m. dense	Silty Sand	SM	.7/0	very moist moist			
						reddish brown	very stiff	Silty Clay, thinly laminated	CL	.6/0				
						↓	↓	↓	↓	6.8/3.4				
10														
11		3*	MC		100%	↓	↓	↓	↓	7.7/2.3				
12.5		4*	MC		100%	brown	v.dense	Clayey Silt, some sand and gravel	ML	5/5.4				
15								Boring completed at 12.5' bgs MacroCore Refusal						
20														
25														
30														
35														

Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.
* Samples submitted for analysis (8-9') and (11.5-12.5')

PROJECT NO. 0500035890.02
BORING NO. GB-14

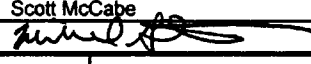
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-15			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064766.06/E 1063812.63			
CAS.										GROUND ELEVATION: 596.82			
SAMPLER										DATE STARTED: 07/11/01			
CORE										DATE FINISHED: 07/11/01			
TUBE										DRILLER: Steve Laramie			
DATE										GEOLOGIST: Scott McCabe			
TIME										REVIEWED BY: 			
LEVEL										* POCKET PENETROMETER READING			
TYPE													
TYPE													
DIA.										2"			
WT.										Direct Push			
FALL										---			
DESCRIPTION													
SAMPLE													
DEPTH FEET	STRATA	NO.	TYPE	BLOWS		REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS		
				PER 6"							PID/FID		
		1	MC			100%	gray	v.dense	4" concrete over gravel	---	0/0	dry	
					reddish brown		very stiff	Fill: Clayey Silt, some gravel, trace cinder coal and slag	0/0				
5											1.9/0		
6		2	MC			100%	reddish brown	very stiff	Silty Clay, thinly laminated, trace coarse sand and fine gravel	CL	1.7/3.4	moist	
										14/8.9			
10										1.4/3.2			
10.5		3*	MC			100%	brown	very dense	Clayey Silt, some sand and gravel	ML	2.4/6.1		
14													
15									Boring completed at 14.0' bqs MacroCore Refusal				
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (9-10') and (13-14')										BORING NO. GB-15			

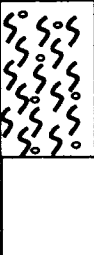
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-16			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064771.55/E 1063772.60			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.72			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/11/01			
				DIA.		2"				DATE FINISHED: 07/11/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 			
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry		
						reddish brown	very stiff	Fill: Sandy Silt, trace clay, cinder, and slag					
4						↓	↓	↓		0/0			
5		2	MC		100%	reddish brown	very stiff	Silty Clay, massive	CL	0/0			
								Silty Clay, thinly laminated, trace coarse sand and fine gravel					
10										0/0			
										0/0			
										0/0			
15										0/0			
		4	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	0/0	moist		
19										0/0			
20								Boring completed at 19.0' bgs MacroCore Refusal					
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (17-18') and (18-19')										BORING NO. GB-16			

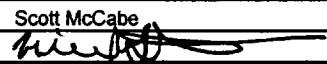
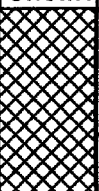
URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-17			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064798.62 / E 1063894.39			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>Handwritten Signature</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	dry			
						reddish brown	very stiff	Fill: Clayey Silt, trace gravel and cinders					
4		2	MC		100%	reddish brown	very stiff	Silty Clay, massive	CL				
5								Silty Clay, thinly laminated					
10		3*	MC		100%								
11													
		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML				
14													
15								Boring completed at 14.0' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (11-12') and (13-14')										BORING NO. GB-17			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-18			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched 6.5-7.0										BORING LOCATION: N 1064802.47 / E 1063854.56			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>humb</i>			
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
1		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry		
						reddish brown	very stiff	Silty Clay, massive	CL				
5													
6.5		2	MC		100%					0/0	wet 6.5-7.0 dry		
7													
10													
11.5		3*	MC		100%					0/0			
13.5													
15		4*	MC		100%					1.3/4.2			
20								Boring completed at 13.5' bgs MacroCore Refusal					
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (10-12') and (12.5-13.5')										BORING NO. GB-18			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-19			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064806.66 / E 1063814.73			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>himself</i>			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	5.3/1.7	dry		
3						reddish brown	very stiff	Fill: Clayey Silt, trace gravel, cinders and slag		7/0			
5		2	MC		100%	reddish brown	very stiff	Silty Clay, massive	CL	10/3.2	moist		
								Silty Clay, thinly laminated, trace coarse sand and fine gravel		13/17			
10		3*	MC		100%					30/17			
11.5										32/25			
15		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	20/11			
15.3										11/6			
								Boring completed at 15.3' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (11-12") and (14-15')										BORING NO. GB-19			

URS Corporation										GEOPROBE LOG					
PROJECT: Chem Core										BORING NO: GB-20					
CLIENT: New York State DEC										SHEET: 1 of 1					
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02					
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064810.85 / E 1063775.25					
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50					
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01					
				DIA.		2"				DATE FINISHED: 07/12/01					
				WT.		Direct Push				DRILLER: Steve Laramie					
				FALL		---				GEOLOGIST: Scott McCabe					
* POCKET PENETROMETER READING										REVIEWED BY: 					
SAMPLE										DESCRIPTION					
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS					
										PID/FID					
2		1	MC		100%	gray	v.dense	4" concrete over gravel	---	1.4/0	dry				
						brown	stiff	Fill: Clayey Silt, some brick, slag and sand		3.1/1.2					
						reddish brown	very stiff	Silty Clay, massive	CL	4.1/2.1					
5		2	MC	100%						10/6					
										20/14.7					
										45/21					
10	3	MC	100%												
12															
		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	ML	41/22					
15															32/19
															60/51
		5*	MC	100%						41/19					
18.5															
20															
25															
30															
35															
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02					
* Samples submitted for analysis (12-13') and (17.5-18.5')										BORING NO. GB-20					

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-21			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1034838.83/ E 1063782.99			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.71			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE						DESCRIPTION					REMARKS		
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID			
2		1	MC		100%	gray	v.dense	4" concrete over gravel	CL	.7/0	dry		
						brown	stiff	Fill: Clayey Silt, some brick, slag and sand					
						reddish	very	Silty Clay, massive					
						brown	stiff						
5		2	MC		100%					1.3/0	moist		
10		3	MC		100%			Silty Clay, thinly laminated		4.1/9			
12.5		4	MC		100%					4.1/1.2			
15		5	MC		100%			Clayey Silt, some sand and gravel		5.6/3			
17.5									ML	20/33			
										21/11			
										30/17			
20								Boring completed at 17.5' bgs MacroCore Refusal					
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (10-11') and (16.5-17.5')										BORING NO. GB-21			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-22			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched 5.5-6.0										BORING LOCATION: N1064837.91/ E 1063819.65			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 596.75			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 			
SAMPLE										DESCRIPTION			
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
		1	MC		100%	gray	v.dense	4" concrete over gravel	---	0/0	dry		
				reddish brown		very stiff	Fill: Silty Clay, some gravel, cinder and slag	11.3/10.7					
5													
6													
		2	MC		100%	↓	↓		- 5.5-6.0 Sand and gravel	CL	10.1/6.3	wet 5.5-6.0 dry	
				reddish brown		very stiff	Silty Clay, thinly laminated	10.7/8.2					
10													
		3*	MC		100%	↓	↓			ML	76/21		
12.5													
15													
		4*	MC		100%	brown	very dense	Clayey Silt, some sand and gravel	↓	51/65			
				↓									
								Boring completed at 15.0' bgs MacroCore Refusal		21/23			
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (10-11') and (14-15')										BORING NO. GB-22			

URS Corporation										GEOPROBE LOG			
PROJECT: Chem Core										BORING NO: GB-23			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Geologic NY, Inc.										JOB NO.: 0500035890.02			
GROUNDWATER: Perched 6-8'										BORING LOCATION: N 1064833.56 / E 1063831.15			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: ~ 596.50			
DATE	TIME	LEVEL	TYPE	TYPE		MacroCore				DATE STARTED: 07/12/01			
				DIA.		2"				DATE FINISHED: 07/12/01			
				WT.		Direct Push				DRILLER: Steve Laramie			
				FALL		---				GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: <i>[Signature]</i>			
SAMPLE DESCRIPTION													
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	REMARKS			
										PID/FID			
		1	MC		100%	gray black	v.dense medium dense	4" concrete over gravel Fill: Fine to coarse sand, some slag, cinders and coal		0/0	dry wet 6-8' ↓ dry		
5									0/0				
										0/0			
8			2"	MC		100%						0/0	
10		3"	MC		100%	reddish brown	very stiff	Silty Clay, thinly laminated, trace coarse sand and fine gravel	CL	3.4/1.4			
11													3.4/1.4
12.5		4	MC		100%	brown	v. dense	Clayey Silt, some sand and gravel	ML				
15								Boring completed at 12.5' bgs MacroCore Refusal					
20													
25													
30													
35													
Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a 2" diameter by 4' long Macro Core sampler.										PROJECT NO. 0500035890.02			
* Samples submitted for analysis (7-8') and (11.5-12.5')										BORING NO. GB-23			

URS Corporation

GEOPROBE LOG

PROJECT: Chem Core

CLIENT: New York State DEC

BORING CONTRACTOR: Geologic NY, Inc.

GROUNDWATER: Perched 4-5'

CAS.

SAMPLER

CORE

TUBE

BORING NO: GB-24

SHEET: 1 of 1

JOB NO.: 0500035890.02

BORING LOCATION: N 1064826.92 / E 1063874.48

GROUND ELEVATION: ~ 596.50

DATE	TIME	LEVEL	TYPE	TYPE	CAS.	SAMPLER	CORE	TUBE
						MacroCore		
				DIA.		2"		
				WT.		Direct Push		
				FALL		—		

DATE STARTED: 07/12/01

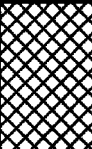
DATE FINISHED: 07/12/01

DRILLER: Steve Laramie

GEOLOGIST: Scott McCabe

REVIEWED BY:

* POCKET PENETROMETER READING

DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL	USCS	PID/FID	
		1	MC		100%	gray black	v.dense medium dense	4" concrete over gravel Fill: Fine to coarse sand, some slag, cinders and coal	---	0/0	dry
5										0/0	
		2	MC		100%	reddish brown	very stiff	Silty Clay, massive	CL	0/0	wet 4-5'
										0/0	dry
10		3	MC		100%			Silty Clay, thinly laminated, trace coarse sand and fine gravel		1.3/4.2	
										4.3/8.9	
12.5		4*	MC		100%	brown	v. dense	Clayey Silt, some sand and gravel	ML	3.1/9.1	
15										6.4/12.7	
								Boring completed at 14.5' bgs MacroCore Refusal			
20											
25											
30											
35											

Comments: Boring advanced with GH-40 Geoprobe mounted on a Skid-steer using a
2" diameter by 4' long Macro Core sampler.

* Samples submitted for analysis (12-13') and (13.5-14.5')

PROJECT NO. 0500035890.02

BORING NO. GB-24

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-1

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064782.58 N
1063757.24 E

GROUNDWATER:

CAS.

SAMPLER

CORE

TUBE

GROUND ELEVATION: 596.65 FT

DATE

TIME

LEVEL

TYPE

TYPE

MACROCORE

DATE STARTED: 2/22/99

DIA.

2 1/2 IN

DATE FINISHED: 2/22/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

REVIEWED BY: Michael [Signature]

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		NO FID		
0	4.5-9.9	1	MC	NA	70%	LIGHT GRAY BLACK. REDDISH BROWN	LOOSE ↓ STIFF	6 IN CONCRETE FILL: FINE TO COARSE GRAVEL AND FINE TO COARSE SAND FINE TO MEDIUM SAND, SOME CLINCHER, BRICK CLAYEY SILT, TRACE FINE TO MEDIUM SAND, FINE TO MEDIUM GRAVEL.		1.0 1.0	FILL	DRY
5		2	MC	NA	100%	↓	↓			1.8 2.4	↓	THINLY LAMINATED, TYPICALLY 1/16 IN THICK.
7		3	MC	NA	100%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY, SILT PARTINGS		2.5 1.3	CL	
10		4	MC	NA	100%	↓	↓	- TRACE FINE TO MEDIUM SAND AND GRAVEL		20.1 18.7	↓	
14.2		5	MC	NA	100%	REDDISH BROWN	STIFF	CLAY SILT, TRACE TO SOME FINE TO COARSE SAND AND GRAVEL.		19.8 5.6	ML	
15		6	MC	NA	100%	↓	↓			7.8 5.2	↓	
19.3								BORING ADVANCED TO 19.3' APPROXIMATE TOP OF BEDROCK				MACRO CORE REFUSAL.
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUCK-MOUNTED GEOPROBE, MODEL 8 MV TO 19.3'

PROJECT NO.: 05.35616.

BORING NO.: SB-1

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-2

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064770.63 N
1063874.52 E

GROUNDWATER:

GROUND ELEVATION: 597.15 FT

DATE

TIME

LEVEL

TYPE

CAS.

SAMPLER

CORE

TUBE

DATE STARTED: 2/22/99

DATE

TIME

LEVEL

TYPE

CAS.

SAMPLER

CORE

TUBE

DATE FINISHED: 2/22/99

DATE

TIME

LEVEL

TYPE

CAS.

SAMPLER

CORE

TUBE

DRILLER: JOE NOSSAL

DATE

TIME

LEVEL

TYPE

CAS.

SAMPLER

CORE

TUBE

GEOLOGIST: SCOTT MCCABE

DATE

TIME

LEVEL

TYPE

CAS.

SAMPLER

CORE

TUBE

* POCKET PENETROMETER READING

REVIEWED BY: Michael [Signature]

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		P.D. FID		
0.0	0049	1	MC		90%	DK. BROWN REDDISH BROWN	LOOSE STIFF	GEN CONCRETE FILL SANDY SILT, TRACE GRAVEL CLAYEY SILT, TRACE FINE TO COARSE SAND, FINE GRAVEL.		52 11.8	FILL	SOLVENT ODM. DRY
5.2		2	MC		100%	REDDISH BROWN	VERY STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS		502 294	CL	THINLY LAMINATED TYPICALLY 1/16" THICK.
10		3	MC		100%			- TRACE FINE TO COARSE SAND, GRAVEL		1281 7634		STRONG SOLVENT ODOR
14.5		4	MC		100%	REDDISH BROWN	STIFF	CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL.		834 2043	ML	* P10 = 768 F10 = 825
15		5	MC		100%					*		
15								BORING ADVANCED TO 14.5' APPROXIMATE TOP OF BEDROCK				MACRO CORE REFUSAL

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE MODEL 8mu TO 14.5'

PROJECT NO.: 05.35616

BORING NO.: SB-2

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-3

PROJECT: CHEMCORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064735.31 N
1063745.35 E

GROUNDWATER:

CAS.

SAMPLER

CORE

TUBE

GROUND ELEVATION: 596.96 FT

DATE

TIME

LEVEL

TYPE

TYPE

MACROLOG

DATE STARTED: 2/23/99

DIA.

2 1/2 IN

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCCLABE

* POCKET PENETROMETER READING

REVIEWED BY: *[Signature]*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		DD AD		
2.4		1	MC	NA	75%	LIGHT GRAY DARK BROWN	LOOSE MEDIUM STIFF	GTM CONCRETE FILL: FINE TO COARSE SAND AND GRAVEL, TRACE BRICK CLAYEY SILT, SOME FINE TO MEDIUM SAND, WOOD, CINDER SILTY CLAY w/FILL		1.0 4.6	FILL	DRY
5		2	MC	NA	100%	REDDISH BROWN	STIFF			1.1 2.5		MASSIVE
7		3	MC	NA	100%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS		1.5 1.9	CL	THINLY LAMINATED TYPICALLY 1/16 IN THICK.
10		4	MC	NA	100%			- TRACE FINE TO COARSE SAND, FINE GRAVEL		3.1 2.5		
13.5		5	MC	NA	100%	REDDISH BROWN	STIFF	CLAYEY SILT, TRACE FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL		0 0	CL ML	
15		6	MC	NA	100%					0 0		
17.3								BORING ADVANCED TO 17.3' APPROXIMATE TOP OF BEDROCK				MACRO CORE REFUSAL
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE, MODEL 8mu TO 17.3'

PROJECT NO.: 05.35616

BORING NO.: SB-3

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-4

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064727.62 N
1063810.26 E

GROUNDWATER:

CAS.

SAMPLER

CORE

TUBE

GROUND ELEVATION: 597.25 FT

DATE

TIME

LEVEL

TYPE

TYPE

MAKED CORE

DATE STARTED: 2/23/99

DIA.

2 1/2 IN

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCCLABE

* POCKET PENETROMETER READING

REVIEWED BY: *mw*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	PRO FIN	CLASS USCS	
0.5	4A9A			NA	—			6 IN CONCRETE			
		1	MC	NA	70%	GRAY REDDISH BROWN	MEDIUM STIFF	FILL: CLAY SILT, SOME TO TRACE FINE TO COARSE SAND, FINE GRAVEL, LINDER COAL, SLAG	3/4 1/2	Fill	DRY
5		2	MC	NA	90%				0		
6.5						REDDISH BROWN	VERY STIFF	SILTY CLAY, TRACE FINE TO MEDIUM SAND	0	CL	THINLY LAMINATED TYPICALLY 1/16 IN THICK
		3	MC	NA	100%				0		
10						REDDISH BROWN	STIFF	CLAYEY SILT, SOME TO TRACE FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL.	0	ML	
		4	MC	NA	100%				0		
		5	MC	NA	100				0		
15								BORING ADVANCED TO 14.5' APPROXIMATE TOP OF BEDROCK			MACRO CORE REFUSAL.
20											
25											
30											
35											

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE MODEL 8MU TO 14.5'

PROJECT NO.: 05.35616

BORING NO.: SB-4

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-5

PROJECT: CHEMCORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064728.55 N
1063856.72 E

GROUNDWATER:

GROUND ELEVATION: 597.35 FT

DATE

TIME

LEVEL

TYPE

TYPE

CAS. SAMPLER CORE TUBE

DATE STARTED: 2/23/99

DATE

TIME

LEVEL

TYPE

TYPE

CAS. SAMPLER CORE TUBE

DATE FINISHED: 2/23/99

DATE

TIME

LEVEL

TYPE

TYPE

CAS. SAMPLER CORE TUBE

DRILLER: JOE NOSSAL

DATE

TIME

LEVEL

TYPE

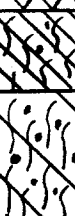
TYPE

CAS. SAMPLER CORE TUBE

GEOLOGIST: SCOTT MCABE

* POCKET PENETROMETER READING

REVIEWED BY: [Signature]

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	AD FID			
0.5	4444							6 IN CONCRETE				
		1	MC	N/A	75%	REDDISH BROWN	STIFF	FILL: CLAYEY SILT, SOME FINE TO MEDIUM SAND AND GRAVEL, TRACE CINDER	0 0	FILE	DRY	
								VERY STIFF	SILTY FINE SAND.			
5		2	MC	N/A	100%			SILTY CLAY	0 0		MASSIVE	
		3	MC	N/A	100%	REDDISH BROWN	VERY STIFF	SILTY CLAY, TRACE FINE TO COARSE SAND	1/4 1/2	CL	THINLY LAMINATED TYPICALLY 1/16" THICK	
10		4	MC	N/A	100%	REDDISH BROWN	STIFF	CLAYEY SILT, SOME FINE TO COARSE SAND AND FINE TO COARSE GRAVEL	0 0	ML		
		5	MC	N/A	100%				1/2 1/4			
13.2								BORING ADVANCED TO 13.2' APPROXIMATE TOP OF BEDROCK			MACRO CORE REFUSAL	
15												
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUXIL MOUNTED GEOPROBE MODEL 8mu TO 13.2'

PROJECT NO.: 05.35616

BORING NO.: SB-5

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: SB-6

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDOT

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064826.86 N
1063768.64 E

GROUNDWATER:

CAS.

SAMPLER

CORE

TUBE

GROUND ELEVATION: 596.28 FT

DATE

TIME

LEVEL

TYPE

TYPE

MACROCORE

DATE STARTED: 2/23/99

DIA.

2 1/2 IN

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NOSDAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

REVIEWED BY: MCD

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	PO FWD			
0.5	44.94							6 IN CONCRETE	4.3 11.5	FWL	DRY THINLY LAMINATED TYPICALLY 1/16" THICK	
		1	MC	NA	70%	BLACK ↓ REDDISH BROWN	LOOSE ↓ MEDIUM STIFF	FILL: FINE TO COARSE SAND AND CINDER, TRACE BRKK, GLASS CLAYEY SILT, TRACE FINE TO COARSE SAND AND GRAVEL, CINDER				
5.5		2	MC	NA	90%	REDDISH BROWN ↓	STIFF ↓ VERY STIFF	SILTY CLAY, FEW SILT AND SILTY FINE SAND PARTINGS — TRACE FINE TO COARSE SAND, FINE GRAVEL,	17.43 NA	CL		
		3	MC	NA	100%	↓	↓	↓	21.2 NA	↓		
10		4	MC	NA	100%	↓	↓	↓	7.2 NA	↓		
		5	MC	NA	100%	↓	↓	↓	7.5 NA	↓		
13						↓	↓	↓				
		6	MC	NA	100%	REDDISH BROWN ↓	STIFF ↓	CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND AND GRAVEL	32.1 NA	ML		
15		7	MC	NA	100%	↓	↓	↓	10.5 NA	↓		
		8	MC	NA	100%	↓	↓	↓	8.1 NA	↓		
19.5								BORING ADVANCED TO 19.5 APPROXIMATE TOP OF BEDROCK.			MACRO CORE REFUSAL	
20												
25												
30												
35												

COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE, MODEL 8mu TO 19.5

NA = NOT AVAILABLE

PROJECT NO.: 05.35616

BORING NO.: SB-6

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: MW-15

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616.00

BORING CONTRACTOR: BUFFALO DRILLING CO.

BORING LOCATION: 1064882.25 N
1063786.05 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 595.86 FT

DATE	TIME	LEVEL	TYPE	TYPE	8 1/4" SPLIT-SPAW	NX
				DIA.	2 IN.	3 IN
				WT.	140 #	-
				FALL	30 IN.	-

DATE STARTED: 2/9/99

DATE FINISHED: 2/15/99

DRILLER: DON KIMBECK

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

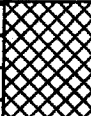
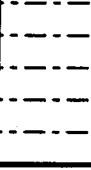
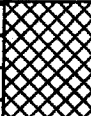
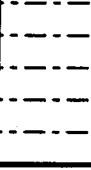
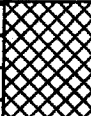
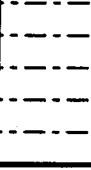
REVIEWED BY: *Michael*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	PID /40	CLASS USCS	
		1	SS	1 2 2 2	25%	BLACK	LOOSE	FILL: SILTY SAND, SOME FINE TO MEDIUM GRAVEL, TRACE BRICK AND WOOD	14.8 97	FILL	MOIST
4		2	SS	8 3 4 5	60%	REDDISH BROWN	MEDIUM STIFF	SILTY CLAY, TRACE FINE TO MEDIUM SAND, GRAVEL	16.4 124		
5		3	SS	4 6 13 16	50%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS (M/SM)	15.3 184	CL	DRY
		4	SS	15 15 18 21	70%		VERY STIFF		11.8 64		THINLY LAMINATED TYPICALLY 1/16" THICK
		5	SS	4 8 16 17	80%		STIFF		14.8 67		
10		6	SS	3 4 7 8	80%		MEDIUM STIFF		12.1 117		
		7	SS	2 5 7 8	100%				15.4 15.4		WET SEAMS AT 12.5, 13.1, 13.4, 13.7' TYPICALLY 1/2-3/4" THICK
15		8	SS	2 4 7 11	100%			- TRACE FINE TO MEDIUM SAND, FINE GRAVEL.	19.2 31.7		
16		9	SS	3 6 9 10	100%	REDDISH BROWN	MEDIUM STIFF	CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND, FINE TO COARSE GRAVEL.	31.4 31.1	ML	MASSIVE
19.8		10	SS	5 7 10 54.4	90%		STIFF		34.1 173		SPoon REFUSAL.
20		1	NX CORE 19.8 TO 24.5	4.25 4.7 54%	90%	LIGHT GRAY	HARD	DOLOMITE THIN TO MEDIUM BEDDED, FINE GRAINED, WITH 1/16" - 1/8" THICK ARGILLACEOUS PARTINGS, HORIZONTAL FRACTURES SPACED 2-4" TYPICALLY.		B R O K E N	AUGER REFUSAL. PID = 2ppm NO WATER COST TO FORMATION RUN #1 TOOK 10 MIN
25		2	NX CORE 24.5 TO 34	9.5 9.5 58%	100%	DARK GRAY	HARD / MEDIUM HARD	VERTICAL FRACTURES: 20.4 - 21.2, 21.6 - 21.7, 25.9 - 26.1 (TYPICALLY 1/2" THICK) MANY SMALL VUGS: 26.3 - 27.5 MOST FRACTURES ALONG ARGILLACEOUS PARTINGS			PID = 1.5 ppm 20 GALLONS LOST TO FORMATION SLIGHT SULFUR ODOR RUN #2 TOOK 21 MIN
30.4						LIGHT GRAY	HARD / MEDIUM HARD	SHALE: THINLY BEDDED HORIZONTAL FRACTURES SPACED 2-4" TYPICALLY. SULFUR ODOR			
32.5								DOLOMITE: MEDIUM BEDDED HORIZONTAL FRACTURES SPACED 7-8" TYPICALLY			
35								BORING COMPLETE AT 35.0 FT			

COMMENTS: BORING ADVANCED WITH B-61 USING 8 1/4" TO 15A TO 19.8 FEET, CORED W/ 3" NX CORE BARREL FROM 19.8' TO 34' AND REAMED WITH 5 7/8" ROLLER BIT TO 35.0' * DEC SAMPLE TAKEN

PROJECT NO.: 05.35616.00

BORING NO.: MW-15

URS Corporation										TEST BORING LOG																																																																																																																																																																																																																																	
PROJECT: Chem Core										BORING NO: MW-1D																																																																																																																																																																																																																																	
CLIENT: New York State DEC										SHEET: 1 of 1																																																																																																																																																																																																																																	
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02																																																																																																																																																																																																																																	
GROUNDWATER: Encountered at 12.0'										BORING LOCATION: N 1064872.18/E 1063785.48																																																																																																																																																																																																																																	
CAS.					SAMPLER		CORE		TUBE																																																																																																																																																																																																																																		
DATE					TIME		LEVEL		TYPE																																																																																																																																																																																																																																		
HSA					Split spoon		NX																																																																																																																																																																																																																																				
DIA.					8 1/4"		2"		2"																																																																																																																																																																																																																																		
WT.					-		140#		-																																																																																																																																																																																																																																		
FALL					-		30"		-																																																																																																																																																																																																																																		
* POCKET PENETROMETER READING										DATE STARTED: 09/17/01																																																																																																																																																																																																																																	
										DATE FINISHED: 09/19/01																																																																																																																																																																																																																																	
										DRILLER: Joe Gardner																																																																																																																																																																																																																																	
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URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-1D			
CLIENT: New York State DEC										SHEET: 2 of 2			
										JOB NO.: 05-00035890.02			
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID			
40						medium gray	medium hard	Interbedded shale and argillaceous dolomite thin to medium bedded, typically alternating ~2' typical fractures spaced 3-6"	broken		core #1 took 29 min no water lost PID=0		
45		c-1	NX	9.4	10								
50													
								Boring completed at 50' bgs					
55													
60													
65													
70													
75													
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 19.0' NX cored 40.0-50.0' bgs. Reamed with 5 7/8" roller bit to 40.0' bgs and reamed with 3 7/8" roller bit 40-50' bgs.										PROJECT NO. 05-00035890.02			
										BORING NO. MW-1D			

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: MW-2

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYS DEC

JOB NO.: 05.35616.00

BORING CONTRACTOR: BUFFALO DRILLING CO.

BORING LOCATION: 1064862.14 N
1063872.12 E

GROUNDWATER:

GROUND ELEVATION: 597.03 FT

DATE	TIME	LEVEL	TYPE	TYPE	CAS.	SAMPLER	CORE	TUBE
				8 1/4"		SPLIT SPOON	NX	
				DIA.		2 IN.	3 IN.	
				WT.		140 #	-	
				FALL		30 IN.	-	

DATE STARTED: 2/10/99

DATE FINISHED: 2/16/99

DRILLER: DON RIMBECK

GEOLOGIST: SCOTT MC CABE

* POCKET PENETROMETER READING

REVIEWED BY: [Signature]

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	PID FID	CLASS USCS	
		1	SS	10 17 7 6	25%	GRAY ↓ BLACK ↓	MEDIUM DENSE MEDIUM STIFF	FILL: FINE TO MEDIUM GRAVEL SOME FINE TO COARSE SAND, TRACE SILT	0 2.4	FILL	MOIST
		2	SS	8 6 6 10	50%			CLAY SILT, SOME TO TRACE FINE TO MEDIUM SAND, TRACE SLAG, CINDER, WOOD	0 9.3		
5		3	SS	3 5 7 8	50%	REDDISH BROWN	MEDIUM STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS	1.7 28.3	CL	DRY
		4	SS	5 13 30 33	50%		VERY STIFF		1.9 16.4		THINLY LAMINATED TYPICALLY 1/16 INCH THICK
		5	SS	6 9 15 15	80%		STIFF		1.9 34.7		
10		6	SS	15 13 16 16	100%		VERY STIFF	-TRACE FINE TO MEDIUM SAND	1.1 11.7		
		7	SS	4 6 9 10	100%		MEDIUM STIFF		1.3 21.7		
14		8	SS	4 4 5 8	100%	REDDISH BROWN	MEDIUM STIFF	CLAY SILT, TRACE TO SOME FINE TO COARSE SAND, FINE TO COARSE GRAVEL.	2.3 15.4	ML	MASSIVE SAMPLE #9 PID=14.8 FID=28.7
16.5		9	SS	5 5 -	25%						SPOON REFUSAL
		1	NX CORE	16.5 TO 21.5	100% 45%	LIGHT GRAY	HARD	DOLOMITE: THIN TO MEDIUM BEDDED, FINE GRAINED, WITH 1/16" - 1/8" THICK ARGILLACEOUS PARTINGS, HORIZONTAL FRACTURES SPACED 2-4" TYPICALLY VERTICAL FRACTURES @ 19.8-19.95, 27.4-27.9, 28.1-28.4, 29.2-30.75, 32-32.15. FEW SMALL VUGS 16.5-21.5, 21.5-21.9, 28.4-28.6 MOST FRACTURES ARE ALONG ARGILLACEOUS PARTINGS.		BROKEN	PID=0ppm NO WATER LOST TO FORMATION RUN#1 TOOK 10 MIN
20		2	NX CORE	21.5 TO 31.9	100% 49%						PID=0ppm RUN#2 TOOK 28 min RETURN WATER LOST AT 29'
25											APPROXIMATELY 50 GALLONS LOST TO FORMATION
30											
32.8		3	NX CORE	31.9 TO 35.0	100% 85%	DARK GRAY ↓ LT GRAY	HARD/ MEDIUM HARD ↓ MED. HARD	SHALE: MEDIUM BEDDED HORIZONTAL FRACTURES, AT 33, 33.5, 34.35, DOLOMITE: MEDIUM BEDDED			PID=0 RUN#3 TOOK APPROXIMATELY 50 GALLONS LOST
34.7								BORING ADVANCED TO 35.0'			
35											

COMMENTS: BORING ADVANCED WITH G-61 USING 8 1/4 IN. ID HSA TO 16.5 FT, COILED WITH 3" NX CORE
BARREL FROM 16.5 TO 35.0 FT AND REAMED WITH 5 7/8 IN ROLLER BIT TO 35.0 FT. * DEC SAMPLE TAKEN

PROJECT NO.: 05.35616.00

BORING NO.: MW-2.

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: MW-3

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: BUFFALO DRILLING CO.

BORING LOCATION: 1064704.41 N
1063894.05 E

GROUNDWATER:

CAS. SAMPLER CORE TUBE

GROUND ELEVATION: 598.63 FT

DATE TIME LEVEL TYPE

TYPE 8 1/4" SPLIT SPOON NX

DATE STARTED: 2/11/99

DIA. 2 IN. 3 IN

DATE FINISHED: 2/18/99

WT. 140# -

DRILLER: DON RIMBECK

FALL 30 IN. -

GEOLOGIST: SCOTT MCCABE

* POCKET PENETROMETER READING

REVIEWED BY: *[Signature]*

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION				REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY ROD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	PID FID CLASS USCS	
		1	SS	4	3	50%	BLACK/GRAY BLACK	HARD LOOSE	4" ASPHALT OVER 8" CONCRETE	0 0 FILL
		2	SS	3	3	60%	REDDISH BROWN	LOOSE MEDIUM STIFF	FILL: FINE TO COARSE SAND, CINDER, SLAG, GRAVEL TRACE BRICK CLAY SILT, TRACE SAND	0 0
4		3	SS	3	7	50%	REDDISH BROWN	STIFF	SILTY CLAY FEW SILT AND SANDY SILT PARTINGS	1.4 2.9 CL
5		4	SS	13	22	70%		HARD		2.8 0
		5	SS	4	14	70%		VERY STIFF		2.4 1.4
10		6	SS	5	23	70%			- TAKE FINE TO MEDIUM SAND, FINE GRAVEL.	2.0 3.1
11		7	SS	20	17	30%	REDDISH BROWN	VERY STIFF	CLAYEY SILT, TRACE FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL	3.1 3.1 ML
12.8		1	NX CORE 12.8 TO 17.1	5.1	5.0	100%	LIGHT GRAY	HARD	DOLOMITE: THIN TO MEDIUM BEDDED, FINE GRAINED, WITH 1/16" - 1/8" THICK ARGILLACEOUS PARTINGS, HORIZONTAL FRACTURES SPACED 2-6" TYPICALLY VERTICAL FRACTURES: 19-19.2', 26.65-26.8', 30.9-31.1 FEW SMALL VUGS: 16.1-16.5', 30.3-30.75, 31.15-31.6 32.2-32.4 MOST FRACTURES ARE ALONG ARGILLACEOUS PARTINGS.	3.1 3.1 B R O K E N
15		2	NX CORE 17.9 TO 27.3	9.1	9.4	97% 66%				3.1 3.1
20		3	NX CORE 27.3 TO 32.5	5.0	5.0	100% 69%				3.1 3.1
25		4	NX CORE 32.5 TO 35.0	2.5	2.5	100% 73%				3.1 3.1
34.7							DK GRAY	HARD/MED	SHALE: THINLY BEDDED BORING ADVANCED TO 35.0'	3.1 3.1

COMMENTS: BORING ADVANCED WITH B-61 USING 8 1/4" ID HSA TO 12.8 FT, CORED WITH 3" NX CORE BARREL FROM 12.8 TO 35', AND REAMED WITH 5 7/8" ROLLER BIT TO 35.0'. * DEL SAMPLE TAKEN.

PROJECT NO.: 05.35616

BORING NO.: MW-3

URS Greiner, Inc.

TEST BORING LOG:

BORING NO.: PZ-1

PROJECT: CHEM CORE

SHEET: 1 OF 1

CLIENT: NYSDEC

JOB NO.: 05.35616

BORING CONTRACTOR: GEOLOGIC NY, INC.

BORING LOCATION: 1064852.73 N
1063772.97 E

GROUNDWATER:

CAS.

SAMPLER

CORE

TUBE

GROUND ELEVATION: 596.78 FT

DATE

TIME

LEVEL

TYPE

TYPE

MARKS

DATE STARTED: 2/23/99

2/23/99

17:30

11.7'

DIA.

2 1/2" N.

DATE FINISHED: 2/23/99

WT.

—

DRILLER: JOE NOSSAL

FALL

DIRECT PUSH

GEOLOGIST: SCOTT MCCLABE

* POCKET PENETROMETER READING

REVIEWED BY: [Signature]

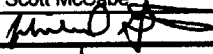
DEPTH FEET	STRATA	SAMPLE				DESCRIPTION					CLASS USCS	REMARKS
		NO.	TYPE	BLOWS PER 6"	RECOVERY RQD %	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION		RD FID		
0-1	82949							1 FT CONCRETE		✓	✓	
1-5		1	MC	NA	90%	REDDISH BROWN	MEDIUM STIFF	CLAYEY SILT, TRACE FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL.		5.6 4.0	FL	DRY
5-8		2	MC	NA	100%		STIFF			13.1 5.7		
8-10		3	MC	NA	100%	REDDISH BROWN	STIFF	SILTY CLAY, FEW SILT AND SANDY SILT PARTINGS - TRACE FINE TO MEDIUM SAND		61.2 43.7	CL	THINLY LAMINATED TYPICALLY 1/16" THICK
10-11.5	38530					GRAY	LOOSE	FINE TO COARSE SAND AND GRAVEL		28.1 19.7	SW/GW	WET
11.5-14	956	4	MC	NA	100%	REDDISH BROWN	STIFF	CLAYEY SILT, TRACE TO SOME FINE TO COARSE SAND AND GRAVEL.			ML	DRY
14-15								BORING ADVANCED TO 14.0'				
15												
20												
25												
30												
35												

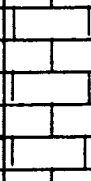
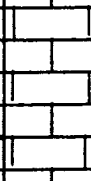
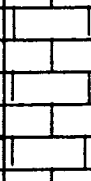
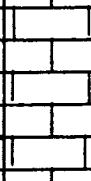
COMMENTS: BORING ADVANCED WITH TRUCK MOUNTED GEOPROBE MODEL 8mu TO 14'

PIZOMETER INSTALLED W/ 3/4 IN PCL; SCREWED 4-14' FINISHED WITH ROADBOX

PROJECT NO.: 05.35616

BORING NO.: PZ-1

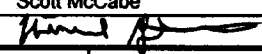
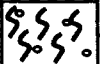
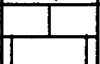
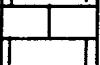
URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-4S			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064882.02/E 1064046.79			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 598.88			
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX			DATE STARTED: 08/20/01			
				DIA.	8 1/4"	2"	2"			DATE FINISHED: 08/28/01			
				WT.	-	140#	-			DRILLER: Joe Gardner			
				FALL	-	30"	-			GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 			

DEPTH FEET	STRATA	SAMPLE				DESCRIPTION				USCS	PID	REMARKS
		NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION				
1									See MW-4D boring log for lithologic description.			
5												
6												
10												
15												
20									See MW-4D boring log for lithologic description.			
25												
30												
35									Boring completed at 34.5' bgs			

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 15.0' Reamed with 5 7/8" roller bit to 34.5' bgs.										PROJECT NO. 05-00035890.02 BORING NO. MW-4S			

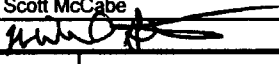
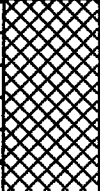
URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-4D			
CLIENT: New York State DEC										SHEET: 1 of 2			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064882.86/E 1064042.04			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 598.67			
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX			DATE STARTED: 08/20/01			
				DIA.	8 1/4"	2"	2"			DATE FINISHED: 08/28/01			
				WT.	-	140#	-			DRILLER: Joe Gardner			
				FALL	-	30"	-			GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY:			
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID			
1		1	ss	- 8	100%	gray	m. dense	4" asphalt over subbase	-	0.0	dry		
				9 13		reddish	medium	Silty Clay, massive	CL	0.0			
		2	ss	4 7	100%	brown	dense			0.0			
				12 15									
5		3	ss	14 16	75%		dense	Silty Clay, thinly laminated		30.8			
6				18 20									
		4	ss	24 21	75%	reddish	dense	Clayey Silt, trace fine to coarse sand and gravel	ML	4.1			
				29 30		brown							
		5	ss	6 13	100%					1.5			
10				17 22		brown				0.0			
		6	ss	23 24	50%					0.0			
				29 32						0.0			
		7	ss	9 18	100%					0.0			
				29 50/5						0.0			
15		8	ss	50/5 -	100%		v. dense	-trace dolomite gravel		0.0			
		c-1	NX		70%	light	hard	Dolomite	broken		core #1 took 7 min. no water lost PID=0		
						3.2 5	63%	brown				Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	
20		c-2	NX		100%			fractures typically spaced 3-8"			core #2 took 7 min. no water lost PID=0		
						5 4.5	75%					most fractures along argillaceous partings	
25		c-3	NX			dark		vertical fractures: 21.3-21.5, 30.8-31.0, 31.1-31.3,			core #3 took 15 min. no water lost PID=0		
						10 10	100%	brown				few small vugs through	
							68%					cores, some filled with	
30												gypsum	
35		c-4	NX										
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 15.0' NX cored 15.0-50.0' bgs. Reamed with 5 7/8" roller bit to 40.0' bgs and reamed with 3 7/8" roller bit 40-50' bgs.										PROJECT NO. 05-00035890.02			
										BORING NO. MW-4D			

URS Corporation										TEST BORING LOG			
										BORING NO:		MW-4D	
PROJECT: Chem Core										SHEET:		2 of 2	
CLIENT: New York State DEC										JOB NO.:		05-00035890.02	
DEPTH FEET	SAMPLE				DESCRIPTION								
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS		
				5.3 5.5	96% 79%	medium gray	medium hard	Interbedded shale and argillaceous dolomite thin to medium bedded, typically alternating ~2' typical fractures spaced 3-6"	broken		core #4 took 9 min. no water lost PID=0		
40		c-4	NX										
45		c-5	NX	9.2 10	92% 41						core # 5 took 19 min. no water lost PID=0		
50													
								Boring completed at 50.0' bgs.					
55													
60													
65													
70													
75													
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 15.0' NX cored 15.0-50.0' bgs. Reamed with 5 7/8" roller bit to 40.0' bgs and reamed with 3 7/8" roller bit 40-50' bgs.										PROJECT NO.		05-00035890.02	
										BORING NO.		MW-4D	

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-5			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064926.55/E 1063864.57			
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 594.79				
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX	DATE STARTED: 08/30/01					
				DIA.	8 1/4"	2"	2"	DATE FINISHED: 09/04/01					
				WT.	-	140#	-	DRILLER: Joe Gardner					
				FALL	-	30"	-	GEOLOGIST: Scott McCabe					
* POCKET PENETROMETER READING										REVIEWED BY: 			
DEPTH FEET	SAMPLE						DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID			
1		1	ss	10 6	50%	gray	m. dense	dolomite gravel and sand	—	0.0	dry		
				5 5		reddish	stiff	Silty Clay, massive	CL	0.0	moist		
		2	ss	5 7	50%	brown	↓			0.0			
				7 6						0.0			
5		3	ss	4 7	75%		↓			0.0			
				12 15			hard	Silty Clay, laminated		0.0			
		4	ss	17 27	100%		↓			0.0			
				25 27			↓			0.0			
		5	ss	4 10	100%		very stiff			0.0			
10				11 15						0.0			
		6	ss	14 15	100%			-few gray, Silt partings		0.0			
				17 19						0.0			
		7	ss	7 9	100%					0.0			
				13 15						0.0			
15		8	ss	3 4	100%					0.0			
				26 29		reddish	dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0			
17		9	ss	46 50/3	100%	brown				0.0			
		c-1	NX	5 5	100%	light brown	hard	Dolomite	broken		core #1 took 9 min. no water lost PID=0		
20							80%						
			c-2	NX	6 7	86%			fractures typically spaced 3-8"			core #2 took 14 min. no water lost PID=0	
25						57%			most fractures along argillaceous partings				
									few small vugs through cores, some filled with gypsum				
30		c-3	NX	6 6	100%						core #3 took 17 min. no water lost PID=0		
32							54%	medium gray	medium hard	Interbedded shale and argillaceous dolomite		broken	
35													
Boring completed at 35.0' bgs.													
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 17.0' NX cored 17.0-35.0' bgs. Reamed with 5 7/8" roller bit to 35.0'													
PROJECT NO. 05-00035890.02													
BORING NO. MW-5													

URS Corporation										TEST BORING LOG																			
PROJECT: Chem Core										BORING NO: MW-6																			
CLIENT: New York State DEC										SHEET: 1 of 1																			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02																			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064832.23/E 1063752.37																			
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 592.55																			
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX		DATE STARTED: 09/11/01																				
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 09/14/01																				
				WT.	-	140#	-		DRILLER: Joe Gardner																				
				FALL	-	30"	-		GEOLOGIST: Scott McCabe																				
* POCKET PENETROMETER READING										REVIEWED BY: <i>Handwritten Signature</i>																			
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS																			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID																			
		1	ss	5 10 10 12	50%	black	medium dense	Fill: Fine to coarse sand and gravel, trace slag, brick and coal	---	0.0	moist																		
		2	ss	16 7 6 7	50%					0.0																			
3.5			3	ss	4 6 6 5					75%		reddish brown	stiff	Silty Clay, thinly laminated	CL	0.0													
5			4	ss	11 16 12 17					75%						very stiff				0.0									
			5	ss	6 10 10 14					75%										0.0									
10			6	ss	15 17 16 17					75%										0.0									
12	7		ss	7 11 11 14	75%	brown	medium dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0																			
	8	ss	10 9 11 14	7%	0.0																								
15	9	ss	10 14 10 11	100%	0.0																								
	10	ss	15 50/1	100%	0.0																								
20		c-1	NX	4.5 5	90% 33%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings fractures typically spaced 3-6" most fractures along argillaceous partings	broken		core #1 took 10 min. no water lost PID=0																		
25													c-2	NX	7.7 8	96% 60%	medium gray	medium hard	Interbedded shale and argillaceous dolomite typical fractures spaced 2-6"	broken		core #2 took 26 min. no water lost PID=0							
28																													
30																													
32																													
35	Boring completed at 32.0' bgs.																												
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 19.0' NX cored 19.0-32.0' bgs. Reamed with 5 7/8" roller bit to 32.0'																													
PROJECT NO. 05-00035890.02										BORING NO. MW-6																			

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-7			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064762.94/E 1063737.65			
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 592.53				
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX		DATE STARTED: 09/10/01				
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 09/14/01				
				WT.	-	140#	-		DRILLER: Joe Gardner				
				FALL	-	30"	-		GEOLOGIST: Scott McCabe				
* POCKET PENETROMETER READING										REVIEWED BY:			
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS			
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID			
		1	ss	4 7 9 11	50%	black	medium dense	Fill: Fine to coarse sand and gravel, trace slag, brick and coal	—	0.0	moist		
		2	ss	6 4 7 7	75%					0.0			
3.5													
5			3	ss	4 6 10 14	75%	reddish brown	very stiff	Silty Clay, thinly laminated	CL		0.0	
		4	ss	12 13 14 14	75%	0.0							
		5	ss	4 7 9 11	100%	0.0							
10			6	ss	5 8 9 12	75%						1.4	
13			7	ss	14 15 11 11	75%	brown	medium dense	Clayey Silt, trace fine to coarse sand and gravel	ML		1.8	
15			8	ss	11 15 10 17	75%						2.5	
17		9	ss	50/3 -	100%	1.5							
20		c-1	NX	3 3	100% 60%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings fractures typically spaced 2-5" most fractures along argillaceous partings few vugs throught	broken	core #1 took 4 min. no water lost PID=0			
25		c-2	NX	9.4 10	94% 38%							core #2 took 26 min. no water lost PID=0	
28													
30						medium gray	medium hard	Interbedded shale and argillaceous dolomite typical fractures spaced 3-6"	broken	core #3 took 10 min. no water lost PID=0			
32		c-3	NX	2.3 2.5	92% 78%								
35								Boring completed at 32.0' bgs.					
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 17.0' NX cored 17.0-32.0' bgs. Reamed with 5 7/8" roller bit to 32.0'										PROJECT NO. 05-00035890.02 BORING NO. MW-7			

URS Corporation										TEST BORING LOG			
PROJECT: Chem Core										BORING NO: MW-8S			
CLIENT: New York State DEC										SHEET: 1 of 1			
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02			
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064443.28/ E 1063740.85			
CAS. HSA										GROUND ELEVATION: 587.82			
SAMPLER Split spoon										DATE STARTED: 08/22/01			
CORE NX										DATE FINISHED: 08/30/01			
TUBE										DRILLER: Joe Gardner			
DATE										GEOLOGIST: Scott McCabe			
TIME										REVIEWED BY: 			
LEVEL													
TYPE													
TYPE													
DIA. 8 1/4"													
WT. -													
FALL -													
* POCKET PENETROMETER READING													
SAMPLE DESCRIPTION													
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"		REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS		
											PID		
		1	ss	-	14	100%	black ↓	m. dense loose ↓	4" asphalt Fill: Fine to coarse sand and gravel, trace concrete and brick	---	9.4	dry moist	
				11	9								
		2	ss	3	5	75%							14.3
				3	3								
5		3	ss	2	2	75%					3.1		
6				5	3								
7		4	ss	4	50/2	100%	r. brown ↓	soft ↓	Silty Clay, trace dolomite gravel	CL	1.4		
10		c-1	NX	4.2	5	84% 0%	light brown ↓	hard ↓	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	broken ↓		core #1 took 11 min. no water lost PID = 0	
15		c-2	NX	7	7	100% 46%	brown ↓		fractures typically spaced 2-6" most fractures along argillaceous partings			core #2 took 18 min. no water lost PID = 0	
20		c-3	NX	6	6	100% 60%			few small vugs through cores, some filled with gypsum			core #3 took 11 min. no water lost PID = 0	
25													
									Boring completed at 25.0' bgs.				
30													
35													
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.02			
HSA to 7.0' NX cored 7.0-25.0' bgs. Reamed with 5 7/8" roller bit to 25.0'										BORING NO. MW-8S			

URS Corporation										TEST BORING LOG																																					
PROJECT: Chem Core										BORING NO: MW-8D																																					
CLIENT: New York State DEC										SHEET: 1 of 1																																					
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03																																					
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064444.68/E 1063735.80																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>CAS.</td> <td>SAMPLER</td> <td>CORE</td> <td>TUBE</td> </tr> <tr> <td>HSA</td> <td></td> <td>NX</td> <td></td> </tr> <tr> <td>DIA.</td> <td>8 1/4"</td> <td>2"</td> <td></td> </tr> <tr> <td>WT.</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>FALL</td> <td>-</td> <td>-</td> <td></td> </tr> </table>										CAS.	SAMPLER	CORE	TUBE	HSA		NX		DIA.	8 1/4"	2"		WT.	-	-		FALL	-	-		GROUND ELEVATION: 587.61																	
CAS.	SAMPLER	CORE	TUBE																																												
HSA		NX																																													
DIA.	8 1/4"	2"																																													
WT.	-	-																																													
FALL	-	-																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>DATE</td> <td>TIME</td> <td>LEVEL</td> <td>TYPE</td> <td>TYPE</td> <td>HSA</td> <td></td> <td>NX</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>DIA.</td> <td>8 1/4"</td> <td></td> <td>2"</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>WT.</td> <td>-</td> <td></td> <td>-</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>FALL</td> <td>-</td> <td></td> <td>-</td> <td></td> </tr> </table>										DATE	TIME	LEVEL	TYPE	TYPE	HSA		NX						DIA.	8 1/4"		2"						WT.	-		-						FALL	-		-		DATE STARTED: 12/18/01	
DATE	TIME	LEVEL	TYPE	TYPE	HSA		NX																																								
				DIA.	8 1/4"		2"																																								
				WT.	-		-																																								
				FALL	-		-																																								
										DATE FINISHED: 01/02/02																																					
										DRILLER: Joe Gardner																																					
										GEOLOGIST: Scott McCape																																					
* POCKET PENETROMETER READING										REVIEWED BY:																																					
SAMPLE DESCRIPTION																																															
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS																																					
										PID																																					
								See MW-8S boring log for lithologic description.																																							
5																																															
6.5																																															
								See MW-8S boring log for lithologic description.																																							
10																																															
15																																															
20																																															
								contact approximated from nearby borings (MW-7 and MW-12)																																							
25																																															
27																																															
30																																															
						medium gray	medium hard	Interbedded shale and argillaceous dolomite	broken																																						
								thin to medium bedded, typically alternating ~2'																																							
33								typical fractures spaced 3-6"																																							
35		c-1	NX	9.1	9.5	96%					core #1 took 16 min. ~ 50 gallons lost PID=0																																				
					34%																																										
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 6.5' NX cored 33.0-42.5' bgs. Reamed with 5 7/8" roller bit 10.0-33.0' and 3 7/8" roller bit 33.0-45.0'										PROJECT NO. 05-00035890.02 BORING NO. MW-8D																																					

URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-8D		
CLIENT: New York State DEC										SHEET: 2 of 2		
										JOB NO.: 05-00035890.03		
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
40		c-1	NX	9.1 9.5	96% 34%	medium gray	medium hard	Interbedded shale and argillaceous dolomite thin to medium bedded, typically alternating ~2' typical fractures spaced 2-3"	broken		core #1 took 16 min. ~ 50 gallons lost PID=0	
45						↓	↓		↓			
50								Boring completed at 45.0' bgs				
55												
60												
65												
70												
75												
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 6.5' NX cored 33.0-42.5' bgs. Reamed with 5 7/8" roller bit 10.0-33.0' and 3 7/8" roller bit 33.0-45.0'										PROJECT NO. 05-00035890.03 BORING NO. MW-8D		

URS Corporation								TEST BORING LOG							
PROJECT: Chem Core								BORING NO: MW-9							
CLIENT: New York State DEC								SHEET: 1 of 1							
BORING CONTRACTOR: Buffalo Drilling Co.								JOB NO.: 05-00035890.02							
GROUNDWATER: Encountered at 12.0'								CAS.	SAMPLER	CORE	TUBE	BORING LOCATION: N 1064781.80/ E1063597.08			
								HSA	Split spoon			GROUND ELEVATION: 582.60			
DATE	TIME	LEVEL	TYPE	TYPE	DIA.		HSA		Split spoon				DATE STARTED: 09/05/01		
					WT.		-		140#				DATE FINISHED: 09/08/01		
					FALL		-		30"				DRILLER: Joe Gardner		
								* POCKET PENETROMETER READING				GEOLOGIST: Scott McCabe			
												REVIEWED BY: [Signature]			

DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
	[Pattern]					black	very dense	6" asphalt over 6" of gravel Fill: Fine to medium sand, trace coarse sand and gravel		—	moist	
		1	ss	5 28	75%							0.0
				27 26								
5		2	ss	6 9	50%							1.9
				14 33								
		3	ss	31 24	75%							2.4
				23 22								
		4	ss	17 19	75%							1.7
10				37 50/3								
		5	ss	25 24	100%							1.3
				20 20								
		6	ss	23 25	100%							0.0
			28 41									
15											wet at 12.0	
20												
25												
30												
35												
Boring completed at 20' bgs												

Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 20.0'

PROJECT NO. 05-00035890.02

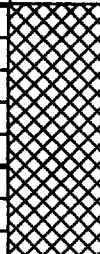
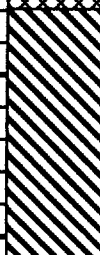
BORING NO. MW-9

URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-10		
CLIENT: New York State DEC										SHEET: 1 of 2		
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.02		
GROUNDWATER: Encountered at 12.0'										BORING LOCATION: N 1064868.72/ E 1063624.93		
CAS. SAMPLER CORE TUBE					GROUND ELEVATION: 582.87							
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX		DATE STARTED: 09/06/01			
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 09/08/01			
				WT.	-	140#	-		DRILLER: Joe Gardner			
				FALL	-	30"	-		GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY:		
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
				-	-	black	medium	6" asphalt over 6" of gravel		0.0	moist	
		1	ss	6	11	75%	brown	dense	Fill: Fine to medium sand, trace coarse sand and gravel		0.0	
				13	15							
5		2	ss	7	10	50%	black		Fill: Silt, some fine to coarse sand and gravel, trace brick, cinder and slag		0.0	
				14	12			dense			1.4	
		3	ss	20	24	100%						
				22	20			very dense			0.0	
10		4	ss	18	22	100%						
				28	18							
		5	ss	26	22	50%					0.0	
				28	18			medium dense			0.0	wet at 12.0'
15	6	ss	8	7	65%					0.0		
			7	8						0.0		
17	7	ss	2	7	75%					0.0		
			5	7								
19	8	ss	3	2	100%	reddish	medium	Silty Clay, thinly laminated	CL	0.0		
			3	3		brown	stiff			0.0		
20	9	ss	2	2	100%	black	loose	Silt, some organics, trace fine sand	OL	0.0		
			3	3								
21	10	ss	5	14	100%					0.0		
			15	18		brown	dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0		
			24	22	75%							
			18	19								
25												
30								Auger refusal at 30.0' bgs				
		c-1	NX	2.8	3	93%	medium gray	medium hard	Interbedded shale and argillaceous dolomite	broken		core #1 took 6 min.
						64%			thin to medium bedded, typically alternating ~2'			no water lost
35		c-2	NX						typical fractures spaced 3-6"			PID=0
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 30.0' NX cored 30.0-41.0' bgs. Reamed with 5 7/8" roller bit to 41.0'										PROJECT NO. 05-00035890.02 BORING NO. MW-10		

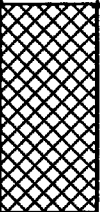
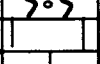
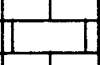
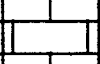
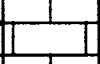
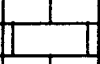
URS Corporation										TEST BORING LOG	
										BORING NO: MW-10	
PROJECT: Chem Core										SHEET: 2 of 2	
CLIENT: New York State DEC										JOB NO.: 05-00035890.02	
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	
	-----					medium gray	medium hard	Interbedded shale and argillaceous dolomite typical fractures spaced 1-3"	broken ↓		core #2 took 11 min. no water lost PID=0
40	-----	c-2	NX	4.5 8	56% 0						
41	-----										
								Boring completed at 41.0' bgs			
45											
50											
55											
60											
65											
70											
75											
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.02	
HSA to 30.0' NX cored 30.0-41.0' bgs. Reamed with 5 7/8" roller bit to 41.0'										BORING NO. Mw-10	

URS Corporation										TEST BORING LOG					
PROJECT: Chem Core										BORING NO: MW-11					
CLIENT: New York State DEC										SHEET: 1 of 1					
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03					
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064661.21/E 1063819.42					
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 598.10						
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX		DATE STARTED: 01/03/02						
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 01/08/02						
				WT.	-	140#	-		DRILLER: Joe Gardner						
				FALL	-	30"	-		GEOLOGIST: Scott McCabe						
* POCKET PENETROMETER READING										REVIEWED BY:					
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS					
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID					
		1	ss	-	-	100%	gray	very	0-.125' asphalt	---	0.0	dry			
				50/3	-		brown	dense	.125-7' sub-base		0.0				
		2	ss	3	3	75%		stiff	.7-1.5' concrete		0.0				
5				8	15		↓		1.5-4.5 Fill: Silty Clay, trace brick, coal		moist				
		3	ss	10	8	75%							0.0		
				5	4		↓	reddish brown	Silty Clay, thinly laminated, trace coarse sand	CL	0.0				
		4	ss	9	14	100%									
				20	24										
			9	14	100%		↓			0.0					
10		5	ss	23	21	100%									
			7	10	100%										
11		6	ss	12	14	100%	↓	brown	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0				
				12	19	100%									
		7	ss	23	22	100%									
				27	50/1	100%									
15		8	ss												
		c-1	NX	3	3	100% 53%	↓	light brown	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings fractures typically spaced 2-6" most fractures along argillaceous partings vertical fractures: 30.5-30.8'	broken		core #1 took 12 min. no water lost PID=0			
20															
25		c-2	NX	9.9	10	99% 56%	↓					core #2 took 32 min. ~ 20 gallons lost PID=0			
30							↓					core #3 took 17 min. ~ 20 gallons lost PID=0			
34		c-3	NX	4.9	5	98% 69%	↓								
35															
							m. gray	m. hard	Interbedded shales and dolomite						
Boring completed at 35.0' bgs															
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 14.5' NX cored 14.5' -35.0'. Reamed with 5 7/8" roller bit 17.5-35.0' bgs.										PROJECT NO. 05-00035890.03					
										BORING NO. MW-11					

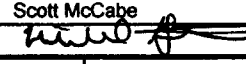
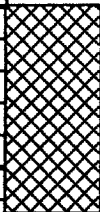
URS Corporation										TEST BORING LOG	
PROJECT: Chem Core										BORING NO: MW-12	
CLIENT: New York State DEC										SHEET: 1 of 2	
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03	
GROUNDWATER: Perched 4-6'										BORING LOCATION: N 1064350.54/E 1063660.96	
CAS.					SAMPLER		CORE		TUBE		
DATE					TIME		LEVEL		TYPE		
HSA					Split spoon		NX				
DIA.					8 1/4"		2"		2"		
WT.					-		140#		-		
FALL					-		30"		-		
* POCKET PENETROMETER READING										DATE STARTED: 12/18/01	
										DATE FINISHED: 12/26/01	
										DRILLER: Joe Gardner	
										GEOLOGIST: Scott McCabe	
										REVIEWED BY: 	

DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
		1	ss	- 4 5 12	50%	black / gray	loose	Fill: Gravel, some sand and brick	—	0.0	dry	
		2	ss	50/4 -	75%	↓ reddish brown	v. dense	↓		0.0	wet 4.0-6.0'	
5		3	ss	3 9 7 4	100%		medium dense			↓		0.0
8		4	ss	5 8 11 12	75%		Fill: regraded Silty Clay ,some gravel, brick					0.0
10		5	ss	7 19 21 27	100%	reddish brown	hard	Silty Clay, thinly laminated, trace coarse sand	CL	0.0	wet ~17.8'	
		6	ss	17 19 13 30	100%	↓	very stiff	↓	0.0			
		7	ss	3 9 14 12	75%				0.0			
15		8	ss	3 9 14 19	100%				0.0			
16		9	ss	20 31 50/5 -	100%	reddish brown	very dense	Clayey Silt, trace fine to coarse sand and gravel	ML	0.0		
20									↓	0.0		
25		c-1	NX	4.75 5	95% 31%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings fractures typically spaced 3-6" most fractures along argillaceous partings vertical fractures: 30.25-31.25	broken		core #1 took 13 min. no water lost PID=0	
30		c-2	NX	4.4 4.5	99% 42%						core #2 took 10 min. no water lost PID=0	
35		c-3	NX	7 7	100% 39%						core #3 took 15 min. ~ 50 gallons lost PID=0	
						m. gray	m. hard	Interbedded shales and dolomite	↓			

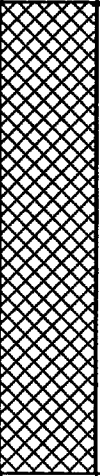
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID		PROJECT NO. 05-00035890.03
HSA to 20.0' NX cored 20.0-36.5' bgs. Reamed with 5 7/8" roller bit to 38.0'		
		BORING NO. MW-12

URS Corporation										TEST BORING LOG	
PROJECT: Chem Core										BORING NO: MW-13 S	
CLIENT: New York State DEC										SHEET: 1 of 2	
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03	
GROUNDWATER: Not Encountered										BORING LOCATION: N 1063778.31/E 1063516.03	
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 593.97		
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX		DATE STARTED: 03/05/02		
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 03/11/02		
				WT.	-	140#	-		DRILLER: Joe Gardner		
				FALL	-	30"	-		GEOLOGIST: Scott McCabe		
* POCKET PENETROMETER READING										REVIEWED BY: 	
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS	
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	
5								See MW-13 D boring log for lithologic description.			
10											
15											
20											
24											
25								See MW-13 D boring log for lithologic description.			
30											
35											
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 24.0' Reamed with 5 7/8" roller bit to 37.0'										PROJECT NO. 05-00035890.04 BORING NO. MW-13 S	

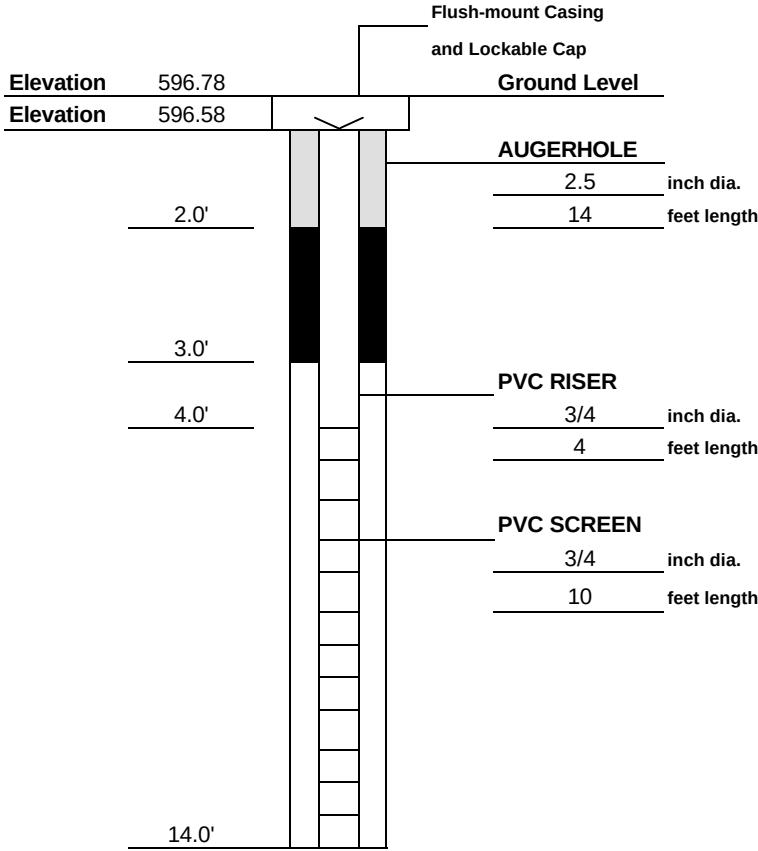
URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-13 S		
CLIENT: New York State DEC										SHEET: 2 of 2		
										JOB NO.: 05-00035890.04		
DEPTH FEET	SAMPLE					DESCRIPTION					REMARKS	
	STRATA	NO.	TYPE	BLOWS	REC%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID		
				PER 6"	RQD%							
37												
								Boring completed at 37.0' bgs				
40												
45												
50												
55												
60												
65												
70												
75												
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID										PROJECT NO. 05-00035890.03		
HSA to 24.0' Reamed with 5 7/8" roller bit to 37.0'										BORING NO. MW-13 S		

URS Corporation										TEST BORING LOG				
PROJECT: Chem Core										BORING NO: MW-13 D				
CLIENT: New York State DEC										SHEET: 1 of 2				
BORING CONTRACTOR: Buffalo Drilling Co.										JOB NO.: 05-00035890.03				
GROUNDWATER: Not Encountered										BORING LOCATION: N 1063773.95/E 1063514.83				
					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION: 593.95					
DATE	TIME	LEVEL	TYPE	TYPE	HSA	Split spoon	NX		DATE STARTED: 03/07/02					
				DIA.	8 1/4"	2"	2"		DATE FINISHED: 03/13/02					
				WT.	-	140#	-		DRILLER: Joe Gardner					
				FALL	-	30"	-		GEOLOGIST: Scott McCabe					
* POCKET PENETROMETER READING										REVIEWED BY: 				
DEPTH FEET	SAMPLE					DESCRIPTION				REMARKS				
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID				
		1	ss	9 6	11 6	100%	black	medium dense	Fill: Fine to coarse sand and cinders, some gravel and slag	---	0.0	dry		
5														
6.5		2	ss	2 3	2 4	75%	dark gray	medium stiff	Fill: Silty Clay, some cinder, coal, and slag		0.0	moist		
10														
15		3	ss	3 9	4 14	100%	reddish brown ↓	medium stiff ↓ stiff ↓ very stiff ↓	Silty Clay, thinly laminated, trace coarse sand ↓		CL ↓	0.0		
18.5														
20	4	ss	2 15	9 17	100%								0.0	
24		5	ss	6 13	10 22	100%	reddish brown ↓	medium dense ↓	Clayey Silt, trace fine to coarse sand and gravel ↓	ML ↓	0.0			
25														
30		c-1	NX	3	3	100% 40%	light brown ↓	hard ↓	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings fractures typically spaced 3-6" most fractures along argillaceous partings	very broken to broken ↓		core #1 took 15 min. no water lost PID=0		
35		c-2	NX	10	10	100% 58%						core #2 took 50 min. water return lost at 33.0' bgs ~ 50 gallons lost PID=0		
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 24.0' NX cored 24.0-52.5' bgs. Reamed with 3 7/8" roller bit to 54.0'														
PROJECT NO. 05-00035890.04										BORING NO. MW-13 D				

URS Corporation							TEST BORING LOG				
PROJECT: Chem Core							BORING NO: MW-13 D				
CLIENT: New York State DEC							SHEET: 2 of 2				
							JOB NO.: 05-00035890.03				
DEPTH FEET	SAMPLE				DESCRIPTION				REMARKS		
	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	
40						light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	very broken to broken		
42.5						medium gray	medium hard	Interbedded shale and argillaceous dolomite	very broken		
45								thin to medium bedded, typically alternating 6"-1'			
50		c-3	NX	9.5	10			typical fractures spaced 1-3"			
52.5											
54											
55								Boring completed at 54.0' bgs			
60											
65											
70											
75											
Comments: Boring advanced with truck-mounted Mobil B-61 using 8 1/4" ID HSA to 24.0' NX cored 24.0-52.5' bgs. Reamed with 3 7/8" roller bit to 54.0'							PROJECT NO. 05-00035890.04				
							BORING NO. MW-13 D				

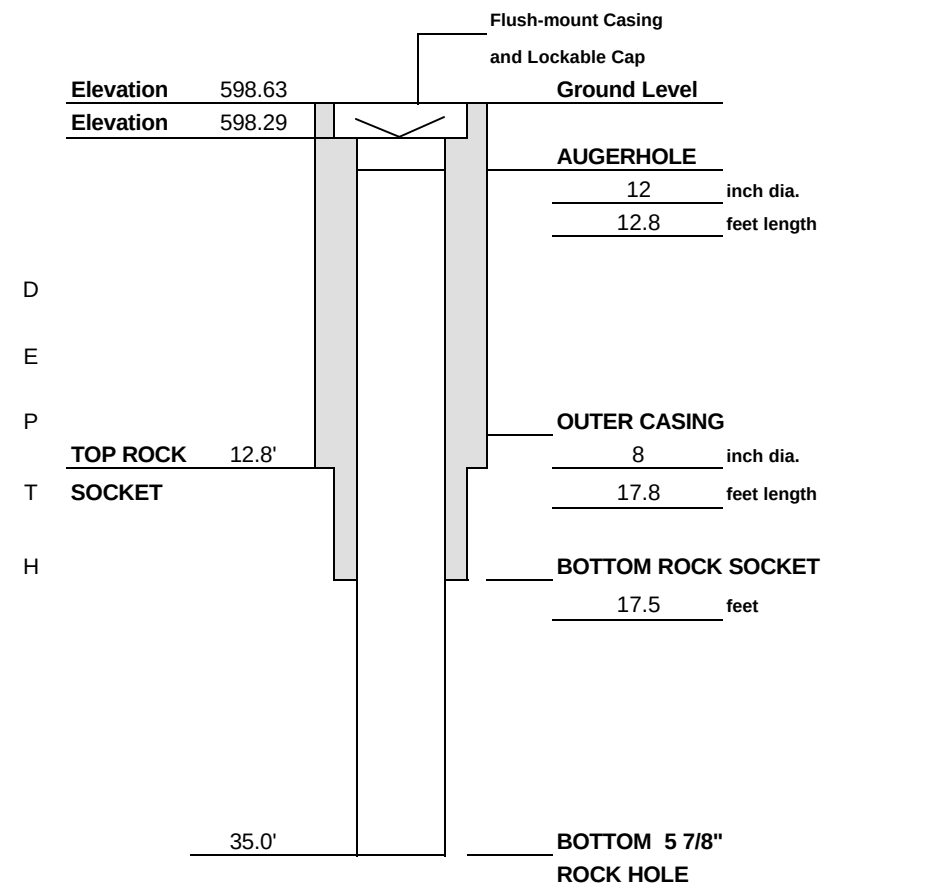
URS Corporation										TEST BORING LOG		
PROJECT: Chem Core										BORING NO: MW-14		
CLIENT: New York State DEC										SHEET: 1 of 1		
BORING CONTRACTOR: Nothnagle Drilling										JOB NO.: 05-00035890.03		
GROUNDWATER: Not Encountered										BORING LOCATION: N 1064770.37/E 1063871.20		
CAS. SAMPLER CORE TUBE										GROUND ELEVATION: 597.17		
DATE	TIME	LEVEL	TYPE	TYPE	HSA		HQ		DATE STARTED: 03/06/02			
				DIA.	8 1/4"		3"		DATE FINISHED: 03/11/02			
				WT.	-		-		DRILLER: Kevin Bush			
				FALL	-		-		GEOLOGIST: Scott McCabe			
* POCKET PENETROMETER READING										REVIEWED BY: 		
SAMPLE DESCRIPTION												
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"	REC% RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS	
5								See SB-2 boring log for lithologic description.				
10												
15											Auger refusal 14.7'	
20		c-1	HQ	4.7	5	94% 49%	light brown	hard	Dolomite Thin to medium bedded, fine grained, with 1/16"-1/8" thick argillaceous partings	broken		core #1 took 210 min. no water lost PID=0
25		c-2	HQ	5	5	100% 86%		fractures typically spaced 3-8" most fractures along argillaceous partings			core #2 took 120 min. no water lost PID=0	
30		c-3	HQ	5	5	100% 58%		Interconnected vugs, 27.75-28.6'			core #3 took 150 min. no water lost PID=0	
33		c-4	HQ	5	5	100% 80%	medium grey	medium hard	Interbedded shales and dolomite	broken		core #4 took 105 min. no water lost PID=0
35												
36												
Comments: Boring advanced with low-profile Mite-E-Mite rig using 6 1/4" ID										PROJECT NO. 05-00035890.04		
HSA to 14.7' Core with HQ-core barrel 16.0-36.0'										BORING NO. MW-14		

APPENDIX B
MONITORING WELL /
PIEZOMETER CONSTRUCTION LOGS

DRILLING SUMMARY		 NOT TO SCALE	
Geologist: Scott McCabe			
Drilling Company: Geologic NY, Inc.			
Driller: Joe Nossal			
Rig Make/Model: Geoprobe Model 8mu			
Date: 2/23/99			
GEOLOGIC LOG			
Depth(ft.)	Description		
0-1.0	Concrete		
1.0-1.5	Void		
1.5-8.0	Fill: Clayey silt, trace fine to coarse sand and gravel.		
8.0-11.0	Silty clay, few silt and sandy silt partings.		
11.0-11.5	Fine to coarse sand and gravel.		
11.5-14.0	Clayey silt, trace to some fine to coarse sand, gravel.		
WELL DESIGN			
CASING MATERIAL		SCREEN MATERIAL	
Surface: Steel flush-mount - 2 inch ID		Type: 3/4 inch ID PVC	Type: #2 Setting: 3.0-14.0' sand
Well: 3/4 inch ID PVC		Slot Size: .010" - Continuous wrap	SEAL MATERIAL Type: Setting: 2.0-3.0' Bentonite powder
COMMENTS:		LEGEND	
		 Cement/Bentonite Grout  Bentonite Seal  Silica Sandpack	
Client: NYSDEC	Location: Chem Core	Project No.: 05.35616	
U R S Greiner	BEDROCK WELL CONSTRUCTION DETAILS	Well Number: PZ-1	

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 9/19/01			Diagram labels and dimensions: - Ground Level - Elevation 595.67 - Elevation 595.39 - Flush-Mount Protective Casing and Lockable Cap - AUGERHOLE: 12 inch dia., 19.0 feet length - OUTER CASING: 6.0 inch dia., 22.0 feet length - BOTTOM ROCK SOCKET: 22.0 feet - STAINLESS STEEL RISER: 4.0 inch dia., 10.0 feet length - OPEN ROCK HOLE - TOP ROCK SOCKET: 19.0 40.0 50.0								
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1-40.0</td> <td>See MW-1S boring log</td> </tr> <tr> <td>40.0-50.0</td> <td>Interbedded shale and dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	1-40.0	See MW-1S boring log	40.0-50.0	Interbedded shale and dolomite	D E P T H (ft)		
Depth(ft.)	Description										
1-40.0	See MW-1S boring log										
40.0-50.0	Interbedded shale and dolomite										
WELL DESIGN			Not to Scale								
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL							
Surface: 8-inch steel flush-mount Well: 4-inch type 304 stainless steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting: SEAL MATERIAL Type: None Setting:							
COMMENTS:		ROCK CORING Cored Interval: 19-50' Core Diameter: 2" Reamed Diameter: 3 7/8"		LEGEND Cement/Bentonite Grout							
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02							
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-1D							

DRILLING SUMMARY		<	

DRILLING SUMMARY		 Diagram labels: Flush-mount Casing and Lockable Cap, Ground Level, AUGERHOLE (12 inch dia., 12.8 feet length), OUTER CASING (8 inch dia., 17.8 feet length), BOTTOM ROCK SOCKET (17.5 feet), TOP ROCK (12.8'), SOCKET, BOTTOM 5 7/8" ROCK HOLE, 35.0', NOT TO SCALE																								
Geologist: Scott McCabe																										
Drilling Company: Buffalo Drilling Co.																										
Driller: Don Rimbeck																										
Rig Make/Model: B-61																										
Date: 2/18/99																										
GEOLOGIC LOG																										
Depth(ft.)	Description																									
0-1.0	4" Asphalt over 8" Concrete																									
1.0-3.0	Fill: Fine to coarse sand, cinder, slag, gravel, brick																									
3.0-4.0	Fill: Clayey silt, trace sand																									
4.0-11.0	Silty clay, few silt and sandy silt partings.																									
11.0-12.8	Clayey silt, trace to some fine to coarse sand, gravel.																									
12.8-34.7	Dolomite: Thin to medium bedded.																									
34.7-35.0	Shale: Thinly bedded.																									
WELL DESIGN		<table border="1"> <thead> <tr> <th>CASING MATERIAL</th> <th>SCREEN MATERIAL</th> <th>FILTER MATERIAL</th> </tr> </thead> <tbody> <tr> <td>Surface: Steel flush-mount - 6 inch ID</td> <td>Type: none</td> <td>Type: none Setting: none</td> </tr> <tr> <td>Well: Steel - 6 inch ID</td> <td>Slot Size: none</td> <td>SEAL MATERIAL Type: none Setting: none</td> </tr> <tr> <td rowspan="4">COMMENTS: Well was constructed as an open rock hole.</td> <td>ROCK CORING</td> <td rowspan="4"> LEGEND  Cement/Bentonite Grout </td> </tr> <tr> <td>Cored Interval: 12.8-35.0'</td> </tr> <tr> <td>Core Diameter: 3 " NX</td> </tr> <tr> <td>Reamed Diameter: 5 7/8"</td> </tr> <tr> <td>Client: NYSDEC</td> <td>Location: Chem Core</td> <td colspan="2">Project No.: 05.35616</td> </tr> <tr> <td>U R S Greiner</td> <td>BEDROCK WELL CONSTRUCTION DETAILS</td> <td colspan="2">Well Number: MW-3</td> </tr> </tbody> </table>		CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL	Surface: Steel flush-mount - 6 inch ID	Type: none	Type: none Setting: none	Well: Steel - 6 inch ID	Slot Size: none	SEAL MATERIAL Type: none Setting: none	COMMENTS: Well was constructed as an open rock hole.	ROCK CORING	LEGEND  Cement/Bentonite Grout	Cored Interval: 12.8-35.0'	Core Diameter: 3 " NX	Reamed Diameter: 5 7/8"	Client: NYSDEC	Location: Chem Core	Project No.: 05.35616		U R S Greiner	BEDROCK WELL CONSTRUCTION DETAILS	Well Number: MW-3	
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL																								
Surface: Steel flush-mount - 6 inch ID	Type: none	Type: none Setting: none																								
Well: Steel - 6 inch ID	Slot Size: none	SEAL MATERIAL Type: none Setting: none																								
COMMENTS: Well was constructed as an open rock hole.	ROCK CORING	LEGEND  Cement/Bentonite Grout																								
	Cored Interval: 12.8-35.0'																									
	Core Diameter: 3 " NX																									
	Reamed Diameter: 5 7/8"																									
Client: NYSDEC	Location: Chem Core	Project No.: 05.35616																								
U R S Greiner	BEDROCK WELL CONSTRUCTION DETAILS	Well Number: MW-3																								

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 8/29/01			Flush-Mount Protective Casing and Lockable Cap Elevation 598.88 Ground Level Elevation														
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-1.0</td> <td>4" asphalt over sub-base</td> </tr> <tr> <td>1.0-6.0</td> <td>Silty Clay</td> </tr> <tr> <td>6.0-15.0</td> <td>Clayey silt, trace fine to coarse sand and gravel</td> </tr> <tr> <td>15.0-35.0</td> <td>Dolomite</td> </tr> <tr> <td>35.0-50.0</td> <td>Interbedded shale and Dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-1.0	4" asphalt over sub-base	1.0-6.0	Silty Clay	6.0-15.0	Clayey silt, trace fine to coarse sand and gravel	15.0-35.0	Dolomite	35.0-50.0	Interbedded shale and Dolomite	D E P T H (ft) TOP ROCK SOCKET 14.0 AUGERHOLE 12 inch dia. 14.0 feet length OUTER CASING 6.0 inch dia. 17.0 feet length BOTTOM ROCK SOCKET 17.0 feet 5 7/8 inch dia. OPEN ROCK HOLE 34.5 Not to Scale		
Depth(ft.)	Description																
0-1.0	4" asphalt over sub-base																
1.0-6.0	Silty Clay																
6.0-15.0	Clayey silt, trace fine to coarse sand and gravel																
15.0-35.0	Dolomite																
35.0-50.0	Interbedded shale and Dolomite																
WELL DESIGN			Not to Scale														
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL													
Surface: 8-inch steel flush-mount Well: 6-inch steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting: SEAL MATERIAL Type: None Setting:													
COMMENTS:		ROCK CORING Cored Interval: None Core Diameter: None Reamed Diameter: 5 7/8		LEGEND Cement/Bentonite Grout													
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02													
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-4S													

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 8/28/01			Diagram labels and dimensions: - Ground Level - Elevation 598.67 - Flush-Mount Protective Casing and Lockable Cap - AUGERHOLE: 12 inch dia., 15.0 feet length - OUTER CASING: 6.0 inch dia., 18.0 feet length - BOTTOM ROCK SOCKET: 18.0 feet - STAINLESS STEEL RISER: 4.0 inch dia., 40.0 feet length - OPEN ROCK HOLE - TOP ROCK SOCKET: 15.0 40.0 50.0														
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-1.0</td> <td>4" asphalt over sub-base</td> </tr> <tr> <td>1.0-6.0</td> <td>Silty Clay</td> </tr> <tr> <td>6.0-15.0</td> <td>Clayey silt, trace fine to coarse sand and gravel</td> </tr> <tr> <td>15.0-35.0</td> <td>Dolomite</td> </tr> <tr> <td>35.0-50.0</td> <td>Interbedded shale and Dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-1.0	4" asphalt over sub-base	1.0-6.0	Silty Clay	6.0-15.0	Clayey silt, trace fine to coarse sand and gravel	15.0-35.0	Dolomite	35.0-50.0	Interbedded shale and Dolomite	D E P T H (ft)		
Depth(ft.)	Description																
0-1.0	4" asphalt over sub-base																
1.0-6.0	Silty Clay																
6.0-15.0	Clayey silt, trace fine to coarse sand and gravel																
15.0-35.0	Dolomite																
35.0-50.0	Interbedded shale and Dolomite																
WELL DESIGN			Not to Scale														
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL													
Surface: 8-inch steel flush-mount Well: 4-inch type 304 stainless steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting:													
				SEAL MATERIAL Type: None Setting:													
COMMENTS:		ROCK CORING Cored Interval: 15-50' Core Diameter: 2" Reamed Diameter: 3 7/8"		LEGEND Cement/Bentonite Grout													
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02													
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-4D													

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 9/4/01			Flush-Mount Protective Casing and Lockable Cap Elevation 594.79 Ground Level AUGERHOLE 12 inch dia. 17.0 feet length														
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-1.0</td> <td>Dolomite gravel and sand</td> </tr> <tr> <td>1.0-15.0</td> <td>Silty Clay</td> </tr> <tr> <td>15.0-17.0</td> <td>Clayey Silt, trace fine to coarse sand and gravel</td> </tr> <tr> <td>17.0-32.0</td> <td>Dolomite</td> </tr> <tr> <td>32.0-35.0</td> <td>Interbedded shale and dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-1.0	Dolomite gravel and sand	1.0-15.0	Silty Clay	15.0-17.0	Clayey Silt, trace fine to coarse sand and gravel	17.0-32.0	Dolomite	32.0-35.0	Interbedded shale and dolomite	D E P T H (ft) TOP ROCK SOCKET 17.0 OUTER CASING 6.0 inch dia. 22.0 feet length BOTTOM ROCK SOCKET 22.0 feet 5 7/8 inch dia. OPEN ROCK HOLE 35.0 Not to Scale		
Depth(ft.)	Description																
0-1.0	Dolomite gravel and sand																
1.0-15.0	Silty Clay																
15.0-17.0	Clayey Silt, trace fine to coarse sand and gravel																
17.0-32.0	Dolomite																
32.0-35.0	Interbedded shale and dolomite																
WELL DESIGN			Not to Scale														
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL													
Surface: 8-inch steel flush-mount Well: 6-inch steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting: SEAL MATERIAL Type: None Setting:													
COMMENTS:		ROCK CORING Cored Interval: 17.0-35.0 Core Diameter: NX Reamed Diameter: 5 7/8		LEGEND Cement/Bentonite Grout													
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02													
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-5													

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 9/14/01			Flush-Mount Protective Casing and Lockable Cap Elevation 592.55 Ground Level AUGERHOLE 12 inch dia. 19.0 feet length														
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-3.5</td> <td>Fill: Fine to coarse sand and gravel, trace coal and slag</td> </tr> <tr> <td>3.5-12.0</td> <td>Silty Clay</td> </tr> <tr> <td>12.0-19.0</td> <td>Clayey silt, trace fine to coarse sand and gravel</td> </tr> <tr> <td>19.0-28.0</td> <td>Dolomite</td> </tr> <tr> <td>28.0-32.0</td> <td>Interbedded shale and dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-3.5	Fill: Fine to coarse sand and gravel, trace coal and slag	3.5-12.0	Silty Clay	12.0-19.0	Clayey silt, trace fine to coarse sand and gravel	19.0-28.0	Dolomite	28.0-32.0	Interbedded shale and dolomite	D E P T H (ft) TOP ROCK SOCKET 19.0 OUTER CASING 6.0 inch dia. 22.0 feet length BOTTOM ROCK SOCKET 22.0 feet 5 7/8 inch dia. OPEN ROCK HOLE 32.0 Not to Scale		
Depth(ft.)	Description																
0-3.5	Fill: Fine to coarse sand and gravel, trace coal and slag																
3.5-12.0	Silty Clay																
12.0-19.0	Clayey silt, trace fine to coarse sand and gravel																
19.0-28.0	Dolomite																
28.0-32.0	Interbedded shale and dolomite																
WELL DESIGN			Not to Scale														
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL													
Surface: 8-inch steel flush-mount Well: 6-inch steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting: SEAL MATERIAL Type: None Setting:													
COMMENTS:		ROCK CORING Cored Interval: 19.0-32.0 Core Diameter: NX Reamed Diameter: 5 7/8		LEGEND Cement/Bentonite Grout													
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02													
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-6													

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 9/14/01			Flush-Mount Protective Casing and Lockable Cap Elevation 592.53 Ground Level AUGERHOLE 12 inch dia. 17.0 feet length														
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-3.5</td> <td>Fill: Fine to coarse sand and gravel, trace coal and slag</td> </tr> <tr> <td>3.5-12.0</td> <td>Silty Clay</td> </tr> <tr> <td>12.0-17.0</td> <td>Clayey silt, trace fine to coarse sand and gravel</td> </tr> <tr> <td>17.0-28.0</td> <td>Dolomite</td> </tr> <tr> <td>28.0-32.0</td> <td>Interbedded shale and dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-3.5	Fill: Fine to coarse sand and gravel, trace coal and slag	3.5-12.0	Silty Clay	12.0-17.0	Clayey silt, trace fine to coarse sand and gravel	17.0-28.0	Dolomite	28.0-32.0	Interbedded shale and dolomite	D E P T H (ft) TOP ROCK SOCKET 17.0 OUTER CASING 6.0 inch dia. 20.0 feet length BOTTOM ROCK SOCKET 20.0 feet 5 7/8 inch dia. OPEN ROCK HOLE 32.0 Not to Scale		
Depth(ft.)	Description																
0-3.5	Fill: Fine to coarse sand and gravel, trace coal and slag																
3.5-12.0	Silty Clay																
12.0-17.0	Clayey silt, trace fine to coarse sand and gravel																
17.0-28.0	Dolomite																
28.0-32.0	Interbedded shale and dolomite																
WELL DESIGN			Not to Scale														
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL													
Surface: 8-inch steel flush-mount Well: 6-inch steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting: SEAL MATERIAL Type: None Setting:													
COMMENTS:		ROCK CORING Cored Interval: 17.0-32.0 Core Diameter: NX Reamed Diameter: 5 7/8		LEGEND Cement/Bentonite Grout													
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02													
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-7													

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 8/30/01			Flush-Mount Protective Casing and Lockable Cap Elevation 587.82 Ground Level Elevation												
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-.5</td> <td>Asphalt</td> </tr> <tr> <td>.5-6.0</td> <td>Fill: Fine to coarse sand and gravel, trace brick and concrete</td> </tr> <tr> <td>6.0-7.0</td> <td>Silty Clay</td> </tr> <tr> <td>7.0-25.0</td> <td>Dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-.5	Asphalt	.5-6.0	Fill: Fine to coarse sand and gravel, trace brick and concrete	6.0-7.0	Silty Clay	7.0-25.0	Dolomite	D E P T H (ft)		
Depth(ft.)	Description														
0-.5	Asphalt														
.5-6.0	Fill: Fine to coarse sand and gravel, trace brick and concrete														
6.0-7.0	Silty Clay														
7.0-25.0	Dolomite														
			TOP ROCK SOCKET 7.0 AUGERHOLE 12 inch dia. 7.0 feet length OUTER CASING 6.0 inch dia. 12.0 feet length BOTTOM ROCK SOCKET 12.0 feet 5 7/8 inch dia. OPEN ROCK HOLE 25.0 Not to Scale												
WELL DESIGN															
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL											
Surface: 8-inch steel flush-mount Well: 6-inch steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting: SEAL MATERIAL Type: None Setting:											
COMMENTS:		ROCK CORING Cored Interval: 7-25.0 Core Diameter: NX Reamed Diameter: 5 7/8		LEGEND Cement/Bentonite Grout											
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02											
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-8S											

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 1/2/02													
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-6.5</td> <td>See MW-8S for lithologic description</td> </tr> <tr> <td>6.5-27.0</td> <td>Dolomite</td> </tr> <tr> <td>27.0-45.0</td> <td>Interbedded shale and Dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-6.5	See MW-8S for lithologic description	6.5-27.0	Dolomite	27.0-45.0	Interbedded shale and Dolomite	D E P T H (ft)		
Depth(ft.)	Description												
0-6.5	See MW-8S for lithologic description												
6.5-27.0	Dolomite												
27.0-45.0	Interbedded shale and Dolomite												
WELL DESIGN			Not to Scale										
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL									
Surface: 8-inch steel flush-mount Well: 4-inch type 304 stainless steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting:									
				SEAL MATERIAL Type: None Setting:									
COMMENTS:		ROCK CORING Cored Interval: 33.0-42.5 Core Diameter: 2" Reamed Diameter: 3 7/8"		LEGEND Cement/Bentonite Grout									
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.03									
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-8D									

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 9/8/01			Flush-Mount Protective Casing and Lockable Cap Elevation 582.60 Ground Level AUGERHOLE 12 inch dia. 20.0 feet length												
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-1.0</td> <td>6" concrete over sub-base</td> </tr> <tr> <td>1.0-17.0</td> <td>Fill: Silt, some fine to coarse sand and gravel, trace brick, concrete and slag</td> </tr> <tr> <td>17.0-19.0</td> <td>Silty Clay</td> </tr> <tr> <td>19.0-20.0</td> <td>Silt, some organics</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-1.0	6" concrete over sub-base	1.0-17.0	Fill: Silt, some fine to coarse sand and gravel, trace brick, concrete and slag	17.0-19.0	Silty Clay	19.0-20.0	Silt, some organics	D E P T H (ft) 6.0 8.0 10.0 20.0 2-inch ID PVC riser 3.5-inch OD PVC pre-pack screen with 2-inch ID PVC screen Not to Scale		
Depth(ft.)	Description														
0-1.0	6" concrete over sub-base														
1.0-17.0	Fill: Silt, some fine to coarse sand and gravel, trace brick, concrete and slag														
17.0-19.0	Silty Clay														
19.0-20.0	Silt, some organics														
WELL DESIGN			Not to Scale												
CASING MATERIAL Surface: 8-inch steel flush-mount Monitor: 2" ID Sch. 40 PVC		SCREEN MATERIAL Type: 3.5" OD Sch. 40 PVC pre-pack with 2" ID Sch. 40 PVC inner screen. Slot Size: 0.010		FILTER MATERIAL Type: #0N Setting: 8.0-20.0' SEAL MATERIAL Type: Bentonite Chips Setting: 6.0-8.0'											
COMMENTS:				LEGEND Cement/Bentonite Grout Bentonite Seal Sand Pack											
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.02											
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-9											

DRILLING SUMMARY														
Geologist: Scott McCabe														
Drilling Company: Buffalo Drilling Co.														
Driller: Joe Gardner														
Rig Make/Model: Mobil B-61														
Date: 9/8/01														
GEOLOGIC LOG														
Depth(ft.)	Description													
0-1.0	6" concrete over sub-base													
1.0-17.0	Fill: Silt, some fine to coarse sand and gravel, trace brick, concrete and slag													
17.0-19.0	Silty Clay													
19.0-21.0	Silt, some organics													
21.0-30.0	Clayey silt, trace fine to coarse sand and gravel													
30.0-42.0	Interbedded shale and dolomite													
WELL DESIGN														
Not to Scale														
<table><tr><td>CASING MATERIAL</td><td>SCREEN MATERIAL</td><td>FILTER MATERIAL</td></tr><tr><td>Surface: 8-inch steel flush-mount</td><td>Type: Open Rock Hole</td><td>Type: None Setting:</td></tr><tr><td>Well: 6-inch steel</td><td></td><td>SEAL MATERIAL</td></tr><tr><td>Monitor: open rock hole</td><td></td><td>Type: None Setting:</td></tr></table>			CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL	Surface: 8-inch steel flush-mount	Type: Open Rock Hole	Type: None Setting:	Well: 6-inch steel		SEAL MATERIAL	Monitor: open rock hole		Type: None Setting:
CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL												
Surface: 8-inch steel flush-mount	Type: Open Rock Hole	Type: None Setting:												
Well: 6-inch steel		SEAL MATERIAL												
Monitor: open rock hole		Type: None Setting:												
<table><tr><td>COMMENTS:</td><td>ROCK CORING</td><td>LEGEND</td></tr><tr><td></td><td>Cored Interval: 30.0-41.0</td><td> Cement/Bentonite Grout</td></tr><tr><td></td><td>Core Diameter: NX</td><td></td></tr><tr><td></td><td>Reamed Diameter: 5 7/8</td><td></td></tr></table>			COMMENTS:	ROCK CORING	LEGEND		Cored Interval: 30.0-41.0	Cement/Bentonite Grout		Core Diameter: NX			Reamed Diameter: 5 7/8	
COMMENTS:	ROCK CORING	LEGEND												
	Cored Interval: 30.0-41.0	Cement/Bentonite Grout												
	Core Diameter: NX													
	Reamed Diameter: 5 7/8													
<table><tr><td>Client: NYSDEC</td><td>Location: Chem Core</td><td>Project No.: 05-00035890.02</td></tr><tr><td>URS Corporation</td><td>BEDROCK MONITORING WELL CONSTRUCTION DETAILS</td><td>Well Number: MW-10</td></tr></table>			Client: NYSDEC	Location: Chem Core	Project No.: 05-00035890.02	URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well Number: MW-10						
Client: NYSDEC	Location: Chem Core	Project No.: 05-00035890.02												
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well Number: MW-10												

DRILLING SUMMARY		
Geologist: Scott McCabe		
Drilling Company:		
Buffalo Drilling Co.		
Driller: Joe Gardner		
Rig Make/Model: Mobil B-61		
Date: 1/8/02		
GEOLOGIC LOG		
Depth(ft.)	Description	
0-1.5	Asphalt over gravel over concrete	
1.5-4.5	Fill: Regraded Silty Clay, some brick and coal	
4.5-11.0	Silty Clay	
11.0-14.5	Clayey silt, trace fine to coarse sand and gravel	
14.5-34.0	Dolomite	
34.0-35.0	Interbedded shale and Dolomite	
WELL DESIGN		
Not to Scale		
CASING MATERIAL		SCREEN MATERIAL
Surface: 8-inch steel flush-mount		Type: Open Rock Hole
Well: 6-inch steel		
Monitor: open rock hole		
COMMENTS:		ROCK CORING
		Cored Interval: 14.5-35.0
		Core Diameter: 2"
		Reamed Diameter: 5 7/8
		LEGEND
		 Cement/Bentonite Grout
Client: NYSDEC	Location: Chem Core	Project No.: 05-00035890.03
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well Number: MW-11

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 12/26/01			Flush-Mount Protective Casing and Lockable Cap Elevation 596.11 Elevation 595.71 Ground Level																
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-6.0</td> <td>Fill: Gravel, some sand and brick</td> </tr> <tr> <td>6.0-8.0</td> <td>Fill: Regraded Silty Clay, some gravel and brick</td> </tr> <tr> <td>8.0-16.0</td> <td>Silty Clay</td> </tr> <tr> <td>16.0-20.0</td> <td>Clayey silt, trace fine to coarse sand and gravel</td> </tr> <tr> <td>20.0-35.0</td> <td>Dolomite</td> </tr> <tr> <td>35.0-38.0</td> <td>Interbedded shale and Dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-6.0	Fill: Gravel, some sand and brick	6.0-8.0	Fill: Regraded Silty Clay, some gravel and brick	8.0-16.0	Silty Clay	16.0-20.0	Clayey silt, trace fine to coarse sand and gravel	20.0-35.0	Dolomite	35.0-38.0	Interbedded shale and Dolomite	D E P T H (ft) TOP ROCK SOCKET 20.0 38.0 AUGERHOLE 12 inch dia. 20.0 feet length OUTER CASING 6.0 inch dia. 23.5 feet length BOTTOM ROCK SOCKET 23.5 feet 5 7/8 inch dia. OPEN ROCK HOLE Not to Scale		
Depth(ft.)	Description																		
0-6.0	Fill: Gravel, some sand and brick																		
6.0-8.0	Fill: Regraded Silty Clay, some gravel and brick																		
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20.0-35.0	Dolomite																		
35.0-38.0	Interbedded shale and Dolomite																		
WELL DESIGN			Not to Scale																
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL															
Surface: 8-inch steel flush-mount Well: 6-inch steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting: SEAL MATERIAL Type: None Setting:															
COMMENTS:		ROCK CORING Cored Interval: 20.0-36.5 Core Diameter: 2" Reamed Diameter: 5 7/8		LEGEND  Cement/Bentonite Grout															
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.03															
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-12															

DRILLING SUMMARY														
Geologist: Scott McCabe														
Drilling Company: Buffalo Drilling Co.														
Driller: Joe Gardner														
Rig Make/Model: Mobil B-61														
Date: 3/11/02														
GEOLOGIC LOG														
Depth(ft.)	Description													
0-3.5	Fill: Fine to coarse sand and cinders, some gravel and slag													
3.5-6.5	Fill: Silty clay, some cinder coal and slag													
6.5-18.5	Silty Clay													
18.5-24.0	Clayey silt, trace fine to coarse sand and gravel													
24.0-37.0	Dolomite													
WELL DESIGN														
Not to Scale														
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Client: NYSDEC	Location: Chem Core	Project No.: 05-00035890.04												
URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well Number: MW-13 S												

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Joe Gardner Rig Make/Model: Mobil B-61 Date: 3/13/02			Diagram labels and values: - Ground Level - Elevation 597.17 - Elevation 596.71 - Flush-Mount Protective Casing and Lockable Cap - AUGERHOLE: 12 inch dia., 24.0 feet length - OUTER CASING: 6.0 inch dia., 27.0 feet length - BOTTOM ROCK SOCKET: 27.0 feet - STAINLESS STEEL RISER: 4.0 inch dia., 42.5 feet length - OPEN ROCK HOLE - TOP ROCK SOCKET: 24.0 42.5 54.0																
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-3.5</td> <td>Fill: Fine to coarse sand and cinders, some gravel and slag</td> </tr> <tr> <td>3.5-6.5</td> <td>Fill: Silty clay, some cinder coal and slag</td> </tr> <tr> <td>6.5-18.5</td> <td>Silty Clay</td> </tr> <tr> <td>18.5-24.0</td> <td>Clayey silt, trace fine to coarse sand and gravel</td> </tr> <tr> <td>24.0-40.0</td> <td>Dolomite</td> </tr> <tr> <td>40.0-54.0</td> <td>Interbedded shale and Dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-3.5	Fill: Fine to coarse sand and cinders, some gravel and slag	3.5-6.5	Fill: Silty clay, some cinder coal and slag	6.5-18.5	Silty Clay	18.5-24.0	Clayey silt, trace fine to coarse sand and gravel	24.0-40.0	Dolomite	40.0-54.0	Interbedded shale and Dolomite	D E P T H (ft)		
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WELL DESIGN			Not to Scale																
CASING MATERIAL		SCREEN MATERIAL		FILTER MATERIAL															
Surface: 8-inch steel flush-mount Well: 4-inch type 304 stainless steel Monitor: open rock hole		Type: Open Rock Hole		Type: None Setting:															
				SEAL MATERIAL Type: None Setting:															
COMMENTS:		ROCK CORING Cored Interval: 42.5-52.5' Core Diameter: 2" Reamed Diameter: 3 7/8"		LEGEND Cement/Bentonite Grout															
Client: NYSDEC		Location: Chem Core		Project No.: 05-00035890.04															
URS Corporation		BEDROCK MONITORING WELL CONSTRUCTION DETAILS		Well Number: MW-13 D															

DRILLING SUMMARY Geologist: Scott McCabe Drilling Company: Buffalo Drilling Co. Driller: Kevin Bush Rig Make/Model: Mite-E-Mite Date: 3/11/02			Flush-Mount Protective Casing and Lockable Cap Elevation 597.17 Elevation 596.71 Ground Level AUGERHOLE 10 inch dia. 14.7 feet length STAINLESS STEEL RISER 4.0 inch dia. 16.0 feet length BOTTOM ROCK SOCKET 16.0 feet 4 inch dia. OPEN ROCK HOLE 36.0 Not to Scale																							
GEOLOGIC LOG <table border="1"> <thead> <tr> <th>Depth(ft.)</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0-14.7</td> <td>See SB-2 for lithologic description.</td> </tr> <tr> <td>14.7-36.0</td> <td>Dolomite</td> </tr> </tbody> </table>			Depth(ft.)	Description	0-14.7	See SB-2 for lithologic description.	14.7-36.0	Dolomite	D E P T H (ft)																	
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CASING MATERIAL	SCREEN MATERIAL	FILTER MATERIAL																								
Surface: 8-inch steel flush-mount	Type: Open Rock Hole	Type: None Setting:																								
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URS Corporation	BEDROCK MONITORING WELL CONSTRUCTION DETAILS	Well Number: MW-14																								

APPENDIX C

MONITORING WELL DEVELOPMENT LOGS

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-1D

PROJECT NO.: 05-00035890.02 Page: 1 of 3

STAFF: Scott McCabe

DATE(S): 9/19/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.30</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.35</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.95</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.47</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>230</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/19/01										
PARAMETERS	0	10	20	30	40	50	60	70	80	90	100
pH	8.6	8.2	7.9	7.8	7.8	11.9	9.3	9.4	9.3	9.2	9.0
SPEC. COND. (umhos)	740	340	480	580	620	1470	1210	1200	1210	1230	1260
TEMPERATURE (°F)	65.9	64.0	63.0	62.4	61.7	61.3	58.9	57.8	58.6	58.4	57.8
TURBIDITY (NTU)	>1000	77	17	14	11	421	21	11	19	7	9

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-1D

PROJECT NO.: 05-00035890.02 Page: 2 of 3

STAFF: Scott McCabe

DATE(S): 9/19/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.30</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.35</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.95</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.47</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>230</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/19/01										
PARAMETERS	110	120	130	140	150	160	170	180	190	200	210
pH	8.7	8.3	8.2	8.1	8.5	8.1	7.9	7.9	7.7	7.8	7.7
SPEC. COND. (umhos)	1270	1260	1270	1290	1430	1430	1330	1340	1340	1340	1350
TEMPERATURE (°F)	58.9	58.1	57.6	58.1	59.4	59.4	57.5	57.8	57.3	57.9	57.1
TURBIDITY (NTU)	14	9	5	6	3	7	4	3	5	3	3

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-1D

PROJECT NO.: 05-00035890.02 Page: 3 of 3

STAFF: Scott McCabe

DATE(S): 9/19/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.30</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.35</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.95</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.47</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>230</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/19/01										
PARAMETERS	220	230									
pH	7.7	7.7									
SPEC. COND. (umhos)	1360	1350									
TEMPERATURE (°F)	56.6	56.7									
TURBIDITY (NTU)	3	3									

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-4S

PROJECT NO.: 05-00035890.02 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 9/6/01, 9/8/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>33.13</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>29.21</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>3.92</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>5.88</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>60</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/6/01	9/6/01	9/6/01	9/6/01	9/8/01	9/8/01	9/8/01	9/8/01	9/8/01	9/8/01	9/8/01
PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	8.3	8.0	7.8	7.6	7.6	7.6	7.4	7.8	7.5	7.5	7.5
SPEC. COND. (umhos)	758	755	766	779	839	771	783	737	756	747	726
TEMPERATURE (°F)	61.4	60.2	60.2	60.8	69.9	65.5	66.5	64.0	65.7	64.6	63.3
TURBIDITY (NTU)	>1000	147	121	46	23	11	13	9	41	19	10

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after 12 gallons removed, recharged 6 gallons in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-4S

PROJECT NO.: 05-00035890.02 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 9/6/01, 9/8/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>33.13</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>29.21</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>3.92</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>5.88</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>60</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/8/01	9/8/01									
PARAMETERS	55	60									
pH	7.46	7.45									
SPEC. COND. (umhos)	729	725									
TEMPERATURE (°F)	63.9	62.8									
TURBIDITY (NTU)	9	7									

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after 12 gallons removed, recharged 6 gallons in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-4D</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 2
STAFF: <u>Scott McCabe</u>	
DATE(S): <u>9/6/01, 9/8/01, 9/10/01, 9/11/01, 9/12/01</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.16</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>33.10</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>17.06</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>11.26</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>80</u>	8"	2.6
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

	9/6/01	9/6/01	9/6/01	9/6/01	9/8/01	9/8/01	9/10/01	9/10/01	9/10/01	9/10/01	9/11/01
PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	8.5	8.5	8.3	8.0	8.1	8.3	8.1	8.2	8.3	8.2	7.7
SPEC. COND. (umhos)	827	816	726	660	2750	2440	2790	2470	2250	2280	3090
TEMPERATURE (°F)	64.3	61.3	60.9	60.7	68.8	69.3	60.7	62.6	60.8	61.2	56.1
TURBIDITY (NTU)	>1000	64	36	27	173	48	11	43	36	29	37

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well dry after initial 15 gallons removed, recharged 1/4 gallon in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-4D

PROJECT NO.: 05-00035890.02 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 9/6/01, 9/8/01, 9/10/01, 9/11/01, 9/12/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.16</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>33.10</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>17.06</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>11.26</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>80</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/11/01	9/11/01	9/12/01	9/12/01	9/12/01	9/12/01					
PARAMETERS	55	60	65	70	75	80					
pH	7.7	7.9	7.7	7.8	7.8	7.8					
SPEC. COND. (umhos)	2890	2670	3450	3150	2970	2860					
TEMPERATURE (°F)	56.4	56.6	61.8	61.8	62.0	63.4					
TURBIDITY (NTU)	16	11	36	19	8	11					

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 15 gallons removed, recharged 1/4 gallon in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-5

PROJECT NO.: 05-00035890.02 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 9/6/01, 9/10/01, 9/13/01, 9/17/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.36</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.46</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>7.90</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>11.85</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>220</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/6/01	9/6/01	9/6/01	9/10/01	9/10/01	9/10/01	9/10/01	9/10/01	9/10/01	9/10/01	9/10/01
PARAMETERS	0	10	20	30	40	50	60	70	80	90	100
pH	8.1	9.8	12.4	12.4	12.3	12.4	12.5	12.4	12.5	12.6	12.4
SPEC. COND. (umhos)	94	96	1523	3410	4280	4390	4230	3890	4780	4720	5040
TEMPERATURE (°F)	63.1	60.7	60.5	68.4	63.7	63.3	62.4	61.5	58.6	58.6	62.2
TURBIDITY (NTU)	>1000	157	96	37	117	261	119	127	23	43	31

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 16 gallons removed, recharged 4 gallons in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-5

PROJECT NO.: 05-00035890.02 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 9/6/01, 9/10/01, 9/13/01, 9/17/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.36</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.46</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>7.90</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>11.85</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>210</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/10/01	9/13/01	9/13/01	9/13/01	9/13/01	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01
PARAMETERS	110	120	130	140	150	160	170	180	190	200	210
pH	12.7	12.5	12.7	12.4	12.4	12.1	12.2	12.0	11.9	11.9	11.9
SPEC. COND. (umhos)	5640	5260	4940	4040	4020	3210	3420	3790	3400	3220	3150
TEMPERATURE (°F)	61.8	62.4	61.6	60.6	59.2	59.5	58.2	58.6	58.6	58.7	60.7
TURBIDITY (NTU)	19	21	12	39	11	13	11	14	16	11	7

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 16 gallons removed, recharged 4 gallons in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-6

PROJECT NO.: 05-00035890.02 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 9/14/01, 9/17/01, 9/18/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.20</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>17.40</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>16.80</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>25.20</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>80</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/17/01	9/17/01	9/17/01
PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	9.4	8.9	8.7	8.7	8.9	9.2	9.3	9.3	8.6	7.8	7.6
SPEC. COND. (umhos)	259	242	241	236	230	222	213	218	1470	1500	1490
TEMPERATURE (°F)	60.7	59.0	59.6	59.7	59.9	59.3	60.2	59.8	57.7	57.9	57.9
TURBIDITY (NTU)	>1000	>1000	691	519	261	191	431	219	>1000	43	37

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 25 gallons removed, recharged 1 gallon in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-6

PROJECT NO.: 05-00035890.02 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 9/14/01, 9/17/01, 9/18/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.20</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>17.40</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>16.80</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>25.20</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>80</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/18/01	9/18/01	9/18/01	9/18/01	9/18/01	9/18/01					
PARAMETERS	55	60	65	70	75	80					
pH	7.4	7.4	7.4	7.4	7.3	7.3					
SPEC. COND. (umhos)	1700	1680	1640	1780	1780	1700					
TEMPERATURE (°F)	56.8	59.4	55.4	65.8	60.6	58.0					
TURBIDITY (NTU)	29	21	16	24	31	23					

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 25 gallons removed, recharged 1 gallon in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-7

PROJECT NO.: 05-00035890.02 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 9/14/01, 9/17/01, 9/18/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.20</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>17.40</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>16.80</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>25.20</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>100</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/14/01	9/17/01	9/17/01
PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	8.9	8.9	8.9	9.0	9.2	9.3	9.4	9.5	9.4	8.0	7.6
SPEC. COND. (umhos)	253	245	244	242	240	278	240	242	296	1690	1650
TEMPERATURE (°F)	60.5	59.8	59.5	59.8	60.3	60.7	62.1	61.8	61.6	62.6	60.1
TURBIDITY (NTU)	>1000	>1000	631	132	119	214	96	79	113	74	23

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 25 gallons removed, recharged 1 gallon in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-7

PROJECT NO.: 05-00035890.02 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 9/14/01, 9/17/01, 9/18/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.20</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>17.40</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>16.80</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>25.20</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>100</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01	9/17/01	
PARAMETERS	55	60	65	70	75	80	85	90	95	100	
pH	7.8	7.8	7.5	7.3	7.4	7.8	7.6	7.6	7.4	7.4	
SPEC. COND. (umhos)	1650	1670	1580	1580	1570	1620	1440	1490	1520	1500	
TEMPERATURE (°F)	59.7	59.1	55.7	55.8	55.7	64.4	62.7	63.2	59.1	57.4	
TURBIDITY (NTU)	11	7	19	11	9	21	16	11	9	14	

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 25 gallons removed, recharged 1 gallon in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-8S

PROJECT NO.: 05-00035890.02 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 9/6/01, 9/8/01, 9/10/01, 9/11/01, 9/12/01, 9/13/01, 9/14/01, 9/17/01, 9/18/01, 9/19/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>24.29</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>19.83</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>4.46</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>6.69</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>105</u>	8"	2.6

OR
V=0.0408 x (CASING DIAMETER)²

ACCUMULATED VOLUME PURGED (GALLONS)

	9/6/01	9/6/01	9/6/01	9/8/01	9/8/01	9/10/01	9/10/01	9/11/01	9/11/01	9/12/01	9/12/01
PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	12.0	11.7	11.6	10.5	11.7	9.3	9.0	9.4	8.9	9.3	8.9
SPEC. COND. (umhos)	1190	1515	1446	965	1346	1140	1100	1270	1280	1350	1370
TEMPERATURE (°F)	72.4	65.2	66.8	65.2	67.3	63.7	62.7	59.1	58.6	61.4	60.9
TURBIDITY (NTU)	>1000	17	11	43	121	14	21	19	23	96	13

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well dry after initial 6 gallons removed, recharged 1/4 to 1/2 gallons in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-8S

PROJECT NO.: 05-00035890.02 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 9/6/01, 9/8/01, 9/10/01, 9/11/01, 9/12/01, 9/13/01, 9/14/01, 9/17/01, 9/18/01, 9/19/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>24.29</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>19.83</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>4.46</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>6.69</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>105</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/12/01	9/13/01	9/13/01	9/14/01	9/14/01	9/17/01	9/17/01	9/18/01	9/18/01	9/19/01	9/19/01
PARAMETERS	55	60	65	70	75	80	85	90	95	100	105
pH	8.9	8.7	8.4	8.6	8.7	8.0	8.3	7.9	7.8	7.7	7.8
SPEC. COND. (umhos)	1280	1240	1220	1430	1420	1290	1340	1420	1360	1360	1330
TEMPERATURE (°F)	62.4	61.6	61.2	59.3	58.9	62.3	62.9	61.8	61.2	64.4	62.6
TURBIDITY (NTU)	16	23	46	21	46	19	25	17	23	21	11

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 6 gallons removed, recharged 1/4 to 1/2 gallons in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-8D

PROJECT NO.: 05-00035890.03 Page: 1 of 3

STAFF: Scott McCabe

DATE(S): 01/03/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>44.70</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>19.77</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.93</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.45</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>110</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	7.0	7.7	7.8	7.8	7.7	7.6	7.5	7.5	7.5	7.5	7.5
SPEC. COND. (umhos)	384	759	1270	1466	1510	1524	1529	1565	1583	1606	1588
TEMPERATURE (°F)	51.5	52.5	52.4	53.6	52.8	52.4	51.8	51.8	51.3	52.3	51.9
TURBIDITY (NTU)	>1000	>1000	671	432	266	123	44	21	11	9	6

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-8D

PROJECT NO.: 05-00035890.03 Page: 2 of 3

STAFF: Scott McCabe

DATE(S): 01/03/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>44.70</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>19.77</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.93</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.45</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>110</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	55	60	65	70	75	80	85	90	95	100	105
pH	7.5	7.5	7.5	7.5	7.5	7.4	7.4	7.4	7.4	7.4	7.4
SPEC. COND. (umhos)	1618	1610	1614	1619	1630	1625	1630	1629	1632	1630	1633
TEMPERATURE (°F)	52.4	52.3	52.1	52.7	52.3	52.3	52.2	52.6	51.8	52.4	52.1
TURBIDITY (NTU)	6	4	3	2	3	1	1	5	2	3	2

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-8D

PROJECT NO.: 05-00035890.03 Page: 3 of 3

STAFF: Scott McCabe

DATE(S): 01/03/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>44.70</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>19.77</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.93</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.45</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>110</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	110										
pH	7.4										
SPEC. COND. (umhos)	1631										
TEMPERATURE (°F)	52.4										
TURBIDITY (NTU)	2										

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-9

PROJECT NO.: 05-00035890.02 Page: 1 of 1

STAFF: Scott McCabe

DATE(S): 9/7/01, 9/11/01, 9/12/01, 9/14/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>19.88</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>9.94</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.94</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.17</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>1.69</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>12</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/7/01	9/11/01	9/11/01	9/12/01	9/14/01	9/14/01					
PARAMETERS	0	9/1	6	8	10	12					
pH	5.6	7.0	8.1	7.3	9.1	7.4					
SPEC. COND. (umhos)	614	764	861	1210	1480	1380					
TEMPERATURE (°F)	69.2	68.3	65.8	64.0	64.2	64.2					
TURBIDITY (NTU)	>1000	>1000	>1000	321	218	141					

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well dry after initial 2 gallons removed, recovered 1/4 gallon in 10 minutes.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-10

PROJECT NO.: 05-00035890.02 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 9/11/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>42.42</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>12.60</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>29.82</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>44.73</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>130</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/11/01										
PARAMETERS	0	10	20	30	40	50	60	70	80	90	100
pH	8.0	7.8	8.2	8.2	8.0	7.9	7.8	7.6	7.6	7.5	7.5
SPEC. COND. (umhos)	1450	987	778	808	804	806	817	726	820	816	826
TEMPERATURE (°F)	6.4	59.8	57.7	5.7	56.3	56.1	57.1	57.7	56.5	56.1	56.6
TURBIDITY (NTU)	>1000	>1000	721	91	37	34	39	37	28	19	31

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-10

PROJECT NO.: 05-00035890.02 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 9/11/01

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>42.42</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>12.60</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>29.82</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>44.73</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>130</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

	9/11/01										
PARAMETERS	110	120	130								
pH	7.5	7.4	7.4								
SPEC. COND. (umhos)	821	837	836								
TEMPERATURE (°F)	56.0	56.9	56.7								
TURBIDITY (NTU)	13	17	18								

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
 Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-11

PROJECT NO.: 05-00035890.03 Page: 1 of 3

STAFF: Scott McCabe

DATE(S): 01/08/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.02</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>9.57</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.45</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>36.68</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>110</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	7.2	7.7	7.6	7.9	8.0	8.2	8.2	7.7	7.4	7.3	7.2
SPEC. COND. (umhos)	209	201	198	198	197	198	195	621	891	1084	1072
TEMPERATURE (°F)	48.6	47.1	46.1	45.7	45.0	45.3	45.2	45.1	45.9	49.1	49.6
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	691	457	337	289

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-11

PROJECT NO.: 05-00035890.03 Page: 2 of 3

STAFF: Scott McCabe

DATE(S): 01/08/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.02</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>9.57</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.45</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>36.68</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>110</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	55	60	65	70	75	80	85	90	95	100	105
pH	7.2	7.1	7.0	7.0	7.1	7.0	7.0	7.0	7.0	7.0	7.0
SPEC. COND. (umhos)	1116	1208	1300	1355	1353	1370	1349	1376	1387	1400	1403
TEMPERATURE (°F)	49.8	50.4	50.8	51.4	51.6	51.5	50.9	50.6	50.8	50.6	51.1
TURBIDITY (NTU)	187	145	126	115	106	95	67	43	35	21	16

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-11

PROJECT NO.: 05-00035890.03 Page: 3 of 3

STAFF: Scott McCabe

DATE(S): 01/08/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.02</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>9.57</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.45</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>36.68</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>110</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	110										
pH	7.0										
SPEC. COND. (umhos)	1417										
TEMPERATURE (°F)	50.9										
TURBIDITY (NTU)	11										

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-12

PROJECT NO.: 05-00035890.03 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 01/04/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>37.60</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>24.13</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.47</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>20.21</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>90</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	7.1	7.1	7.5	7.4	7.3	7.4	7.4	7.4	7.4	7.3	7.4
SPEC. COND. (umhos)	590	573	575	618	649	739	790	843	826	831	841
TEMPERATURE (°F)	54.3	56.6	55.1	54.8	54.9	55.0	53.5	53.1	53.2	53.4	53.1
TURBIDITY (NTU)	>1000	>1000	>1000	524	319	291	163	97	41	35	23

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-12

PROJECT NO.: 05-00035890.03 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 01/04/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>37.60</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>24.13</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.47</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>20.21</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>90</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	55	60	65	70	75	80	85	90			
pH	7.4	7.4	7.5	7.4	7.4	7.4	7.4	7.4			
SPEC. COND. (umhos)	841	845	853	851	854	857	857	853			
TEMPERATURE (°F)	53.1	53.3	53.1	54.1	54.3	54.1	54.2	53.8			
TURBIDITY (NTU)	16	10	9	4	2	3	1	3			

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-13 S

PROJECT NO.: 05-00035890.04 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 03/14/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>36.37</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>18.72</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>17.65</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>26.48</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>190</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40	50	60	70	80	90	100
pH	8.7	9.3	10.3	11.9	11.6	11.3	8.5	8.8	9.7	8.6	8.4
SPEC. COND. (umhos)	313	297	360	3380	1655	1164	935	958	981	967	1009
TEMPERATURE (°F)	49.7	50.8	50.8	54.2	53.4	53.4	49.1	49.5	49.5	48.3	50.5
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	121	85	54	46	35	31	27

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-13 S

PROJECT NO.: 05-00035890.04 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 03/14/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>36.37</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>18.72</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>17.65</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>26.48</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>190</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	110	120	130	140	150	160	170	180	190		
pH	8.4	8.4	8.3	7.9	7.1	7.1	6.8	6.7	7.0		
SPEC. COND. (umhos)	973	958	969	1047	1577	1636	1639	1638	1651		
TEMPERATURE (°F)	51.1	50.0	49.4	56.7	59.8	57.2	57.6	57.1	57.7		
TURBIDITY (NTU)	21	18	11	8	6	6	9	10	13		

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-13 D

PROJECT NO.: 05-00035890.04 Page: 1 of 4

STAFF: Scott McCabe

DATE(S): 03/14/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>53.31</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>6.36</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>46.95</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>30.99</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>360</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	10	20	30	40	50	60	70	80	90	100
pH	8.8	8.2	9.6	11.3	11.4	11.1	11.0	10.9	10.9	10.6	10.4
SPEC. COND. (umhos)	308	297	343	1313	1738	1803	1889	1984	2080	2210	2360
TEMPERATURE (°F)	55.7	55.3	55.9	54.8	54.6	55.4	54.6	54.7	55.4	55.3	55.2
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-13 D

PROJECT NO.: 05-00035890.04 Page: 2 of 4

STAFF: Scott McCabe

DATE(S): 03/14/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>53.31</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>6.36</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>46.95</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>30.99</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>360</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	110	120	130	140	150	160	170	180	190	200	210
pH	10.0	9.8	9.5	9.6	9.5	9.4	9.3	9.3	10.5	9.5	9.2
SPEC. COND. (umhos)	2526	2630	2720	2820	2940	3050	3190	3310	3350	3450	3510
TEMPERATURE (°F)	55.2	54.7	55.1	54.5	54.5	54.2	54.1	54.6	49.8	50.3	49.2
TURBIDITY (NTU)	>1000	192	63	54	36	25	21	19	15	13	16

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-13 D

PROJECT NO.: 05-00035890.04 Page: 3 of 4

STAFF: Scott McCabe

DATE(S): 03/14/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>53.31</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>6.36</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>46.95</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>30.99</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>360</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	220	230	240	250	260	270	280	290	300	310	320
pH	8.9	8.7	8.5	8.3	8.3	8.2	8.1	7.9	7.9	7.9	7.8
SPEC. COND. (umhos)	3610	3710	3780	3820	3920	3950	4040	4070	4140	4070	4160
TEMPERATURE (°F)	49.1	50.2	49.5	49.2	50.0	50.3	51.4	50.8	50.9	51	51.9
TURBIDITY (NTU)	11	9	6	6	5	8	7	7	7	9	4

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-13 D

PROJECT NO.: 05-00035890.04 Page: 4 of 4

STAFF: Scott McCabe

DATE(S): 03/14/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>53.31</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>6.36</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>46.95</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>30.99</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>360</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	330	340	350	360							
pH	7.8	7.7	7.6	7.7							
SPEC. COND. (umhos)	4160	4170	4168	4180							
TEMPERATURE (°F)	51.7	50.3	50.0	50.8							
TURBIDITY (NTU)	3	3	4	6							

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-14

PROJECT NO.: 05-00035890.04 Page: 1 of 2

STAFF: Scott McCabe

DATE(S): 03/12/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.46</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.34</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.12</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>6.02</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>65</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	6.8	7.0	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.9	6.8
SPEC. COND. (umhos)	2140	2280	2210	2200	2230	2230	2250	2250	2270	2290	2310
TEMPERATURE (°F)	49.3	50.5	50.3	50.0	50.2	50.2	49.9	50.3	50.2	50.8	51.0
TURBIDITY (NTU)	>1000	170	165	74	93	44	54	34	23	20	21

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: Chem Core WELL NO.: MW-14

PROJECT NO.: 05-00035890.04 Page: 2 of 2

STAFF: Scott McCabe

DATE(S): 03/12/02

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.46</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.34</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.12</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>6.02</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>65</u>	8"	2.60

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	55	60	65								
pH	7.1	6.7	6.8								
SPEC. COND. (umhos)	2290	2300	2350								
TEMPERATURE (°F)	51.0	50.5	49.3								
TURBIDITY (NTU)	22	22	18								

COMMENTS: Monitoring well developed with Whale submersible pumps using dedicated HDPE tubing.
Well was pumped constantly and did not go dry.

APPENDIX D

HYDRAULIC CONDUCTIVITY TESTING RESULTS

EXHIBIT 5.3-1
URS Greiner
CALCULATION COVER SHEET

Client: NYC/DEL Project Name: Chem Core

Project/Calculation Number: 05 - 000 35 890

Title: Slug Test Analysis

Total number of pages (including cover sheet): 21 (20 + cover)

Total number of computer runs: 9

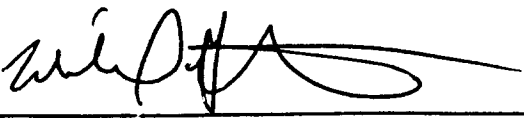
Prepared by: Mark Ostrowski Date: 5/9/2002

Checked by: Michael Gutman Date: 6/11/2002

Description and Purpose: Analysis of slug test performed at the Chem Core site.

Design bases/references/assumptions: Bouwer and Rice method used.

Remarks/conclusions: See summary - section 3

Calculation Approved by:  6/11/2002
Project Manager/Date

Revision No.:	Description of Revision:	Approved by:
_____	_____	_____
_____	_____	_____
_____	_____	_____

Project Manager/Date

PROJECT: Chem Core
SUBJECT: Slug Test AnalysisMADE BY: M.O.
CHKD. BY:DATE: 7/15/02
DATE:

1. PURPOSE

The purpose of this calculation is to present the analysis of two rounds of slug tests performed at the Chem Core site.

2. ANALYSIS

Test wells are installed in the bedrock, with the exception of the overburden well MW-9. Well information is based on boring logs and well construction diagrams. Depth of water column in all wells was measured prior to testing.

Summary of the relevant well data and test results is presented on page 2 (round one tests) and page 3 (round two tests). Details of the analysis are attached as printouts of input/output files.

Note that some of the wells were tested twice. Drawdown curves in these cases were compared and found to be virtually identical. Therefore, only one test was analyzed.

3. SUMMARY

Two types of bedrock wells can be distinguished.

The first group represents wells that most likely intercept bedrock fractures. The hydraulic conductivity is generally on the order of 1×10^{-3} to 5×10^{-3} cm/sec, with two wells providing a result on the order of 1×10^{-4} cm/sec.

The second group likely represents wells that do not intercept fractures, or intercept only dead-end fractures. In these cases, there was no recovery after the introduction of the slug-induced disturbance. For all practical purposes, the results may be interpreted as indicating negligible conductivity.

The test in the overburden well, screened in fill, provided the estimate on the order of 1×10^{-5} cm/sec.

Table D-1
Chem Core
Summary of Results of Slug Tests for Round One

Well	Screened in	Screen Diameter	Sandpack Diameter	Saturated Screen Length	Screen Across Water Table	Test	Slug Type	Test # in Input File	Drawdown Vs Time Curve	Hydraulic Conductivity
		[in]	[in]	[ft]						[cm/sec]
MW-1S	Dol/Sh&ArgDol	5 7/8	Open hole	9	Yes	Falling Falling(2) Rising	Type 1 Type 1 Type 1	1	Rejected - A OK Rejected - A	- 4.60E-03 -
MW-1D	Sh&ArgDol	4	Open hole	10	No	Falling Rising	Type 1 Type 1	2	Rejected - A OK	- 2.90E-03
MW-2	Dol/Sh&ArgDol	5 7/8	Open hole	9	Yes	Falling Rising	Type 1 Type 1	3	OK Rejected - B	4.50E-03 -
MW-3	Dol/Sh&ArgDol	5 7/8	Open hole	8	Yes	Falling Falling(2) Rising	Type 1 Type 1 Type 1		No Recovery No Recovery No Recovery	Negligible Negligible Negligible
MW-4S	Dol	5 7/8	Open hole	7	Yes	Falling Falling(2) Rising Rising(2)	Type 1 Type 1 Type 1 Type 1	4 5 6	Rejected - A OK OK OK	- 5.70E-03 NA 2.00E-03
MW-4D	Sh&ArgDol	4	Open hole	10	No	Falling Rising	Type 1 Type 1		No Recovery No Recovery	Negligible Negligible
MW-5	Dol/Sh&ArgDol	5 7/8	Open hole	10	Yes	Falling Falling(2) Rising	Type 1 Type 1 Type 1	7 8 9	OK OK OK	1.60E-04 NA 1.20E-04
MW-6	Dol/Sh&ArgDol	5 7/8	Open hole	12	No	Falling Rising	Type 1 Type 1		No Recovery Rejected - C	Negligible -
MW-7	Dol/Sh&ArgDol	5 7/8	Open hole	12	Yes	Falling Rising	Type 1 Type 1		No Recovery No Recovery	Negligible Negligible
MW-8	Dol	5 7/8	Open hole	8	Yes	Falling Rising	Type 1 Type 1		Rejected - C No Recovery	- Negligible
MW-9	Fill	2	10	8	Yes	Falling Rising	Type 1 Type 1	10 11	OK OK	6.40E-06 2.20E-05
MW-10	Sh&ArgDol	5 7/8	Open hole	9	No	Falling Rising	Type 1 Type 1		Rejected - C Rejected - C	- -

Notes:

- Dol - Dolomite
- Sh&ArgDol - Shale and argillaceous dolomite
- Fill - Fill
- Type 1 - 2 feet long, 1 inch diameter slug
- A - Recovery significantly past the initial level
- B - Incomplete recovery
- C - Erratic fluctuations
- NA - Not analyzed, drawdown curve similar to that of the other corresponding test.

Table D-1
Chem Core
Summary of Results of Slug Tests for Round Two

Well	Screened in	Screen Diameter	Sandpack Diameter	Saturated Screen Length	Screen Across Water Table	Test	Slug Type	Test # in Input File	Drawdown Vs Time Curve	Hydraulic Conductivity
		[in]	[in]	[ft]						[cm/sec]
MW-8D	Sh&ArgDol	3 7/8	Open hole	12	No	Falling Rising	Type 2 Type 2	1 2	OK OK	5.20E-03 6.80E-03
MW-10	Sh&ArgDol	5 7/8	Open hole	9	No	Falling Rising	Type 2 Type 2		Rejected - C Rejected - A	- -
MW-11	Dol	5 7/8	Open hole	7	Yes	Falling Rising	Type 2 Type 2	3 4	OK OK	1.30E-03 1.80E-03
MW-12	Dol/Sh&ArgDol	5 7/8	Open hole	13	Yes	Falling Rising	Type 2 Type 2	5 6	OK OK	1.30E-03 1.60E-03
MW-13S	Dol	5 7/8	Open hole	10	No	Falling Rising	Type 2 Type 2	7 8	OK OK	2.80E-04 1.50E-04
MW-13D	Sh&ArgDol	3 7/8	Open hole	11	No	Falling Rising	Type 2 Type 2	9	Rejected - A OK	- 1.30E-03
MW-14	Dol	4	Open hole	9	Yes	Falling Rising	Type 2 Type 2	10 11	OK OK	3.40E-03 3.40E-03

Notes:

- Dol - Dolomite
- Sh&ArgDol - Shale and argillaceous dolomite
- Fill - Fill
- Type 2 - 5 feet long, 1 inch diameter slug
 - A - Recovery significantly past the initial level
 - B - Incomplete recovery
 - C - Erratic fluctuations
- NA - Not analyzed, drawdown curve similar to that of the other corresponding test.

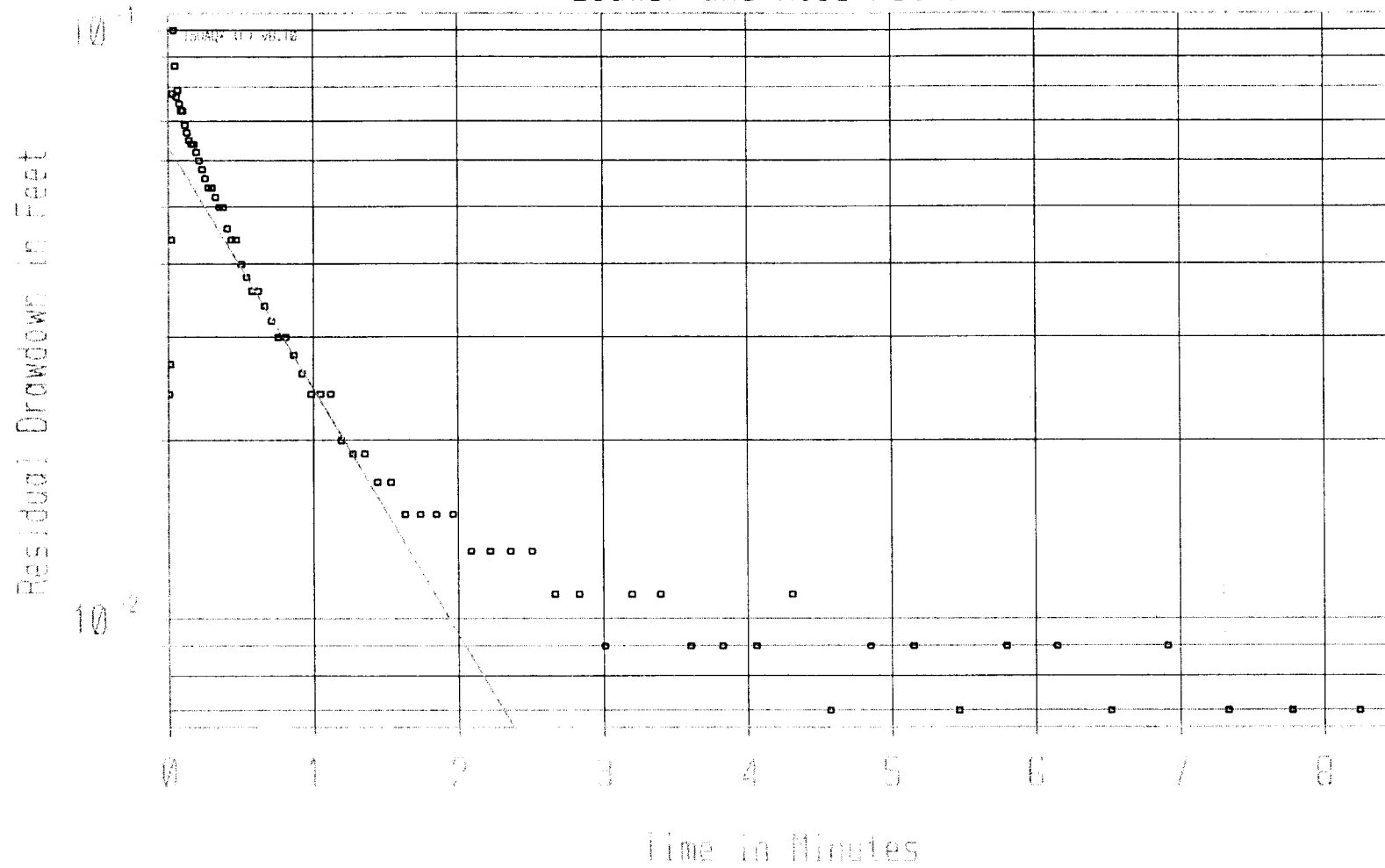
ChemCore.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp
test # comb: 1 *MW - 1, S (F2)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	5.688E-04	
aquifer thickness (ft)	=	9.000	
casing radius (ft)	=	0.250	
screen (effective) radius (ft)	=	0.250	
depth of screen top (ft)	=	0.000	
depth of screen bottom (ft)	=	9.000	
projected displacement Y_0 (ft)	=	0.064	
hydraulic conductivity (ft/day)	=	13.00	→ $4.6 \cdot 10^{-3} \text{ cm/s}$

Chem Core
Falling Head Slug Test in Well MW-1S (test F2)
Bouwer and Rice Method



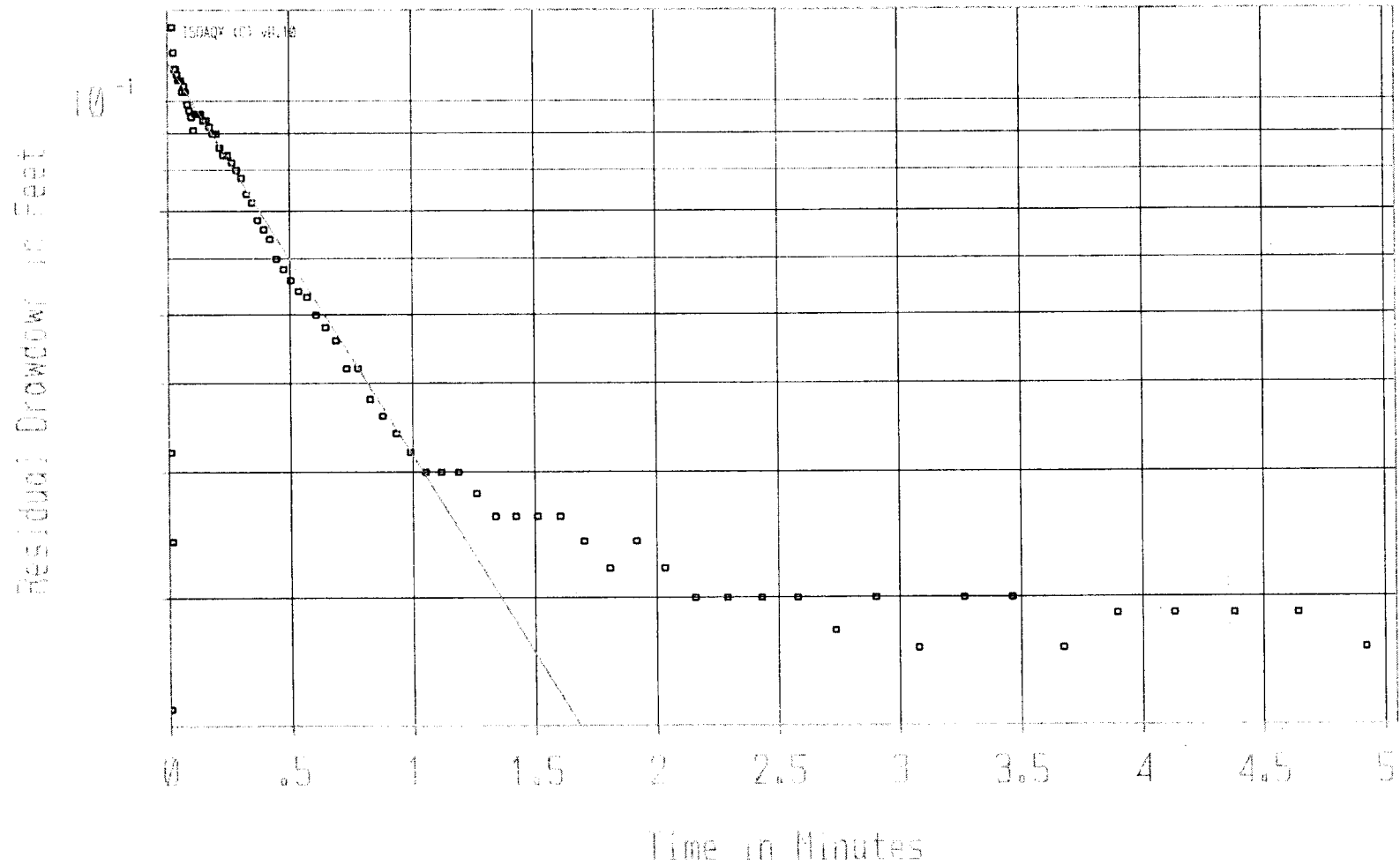
ChemCore.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp
test # comb: 2 *MW-1D (R)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	2.742E-03
aquifer thickness (ft)	=	10.000
casing radius (ft)	=	0.170
screen (effective) radius (ft)	=	0.170
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	10.000
projected displacement Y_0 (ft)	=	0.113
hydraulic conductivity (ft/day)	=	8.34 $\rightarrow 2.9 \cdot 10^{-3}$ cm/s

Chem Core
Rising Head Slug Test in Well MW-1D (test R)
Bouwer and Rice Method



ChemCore.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp

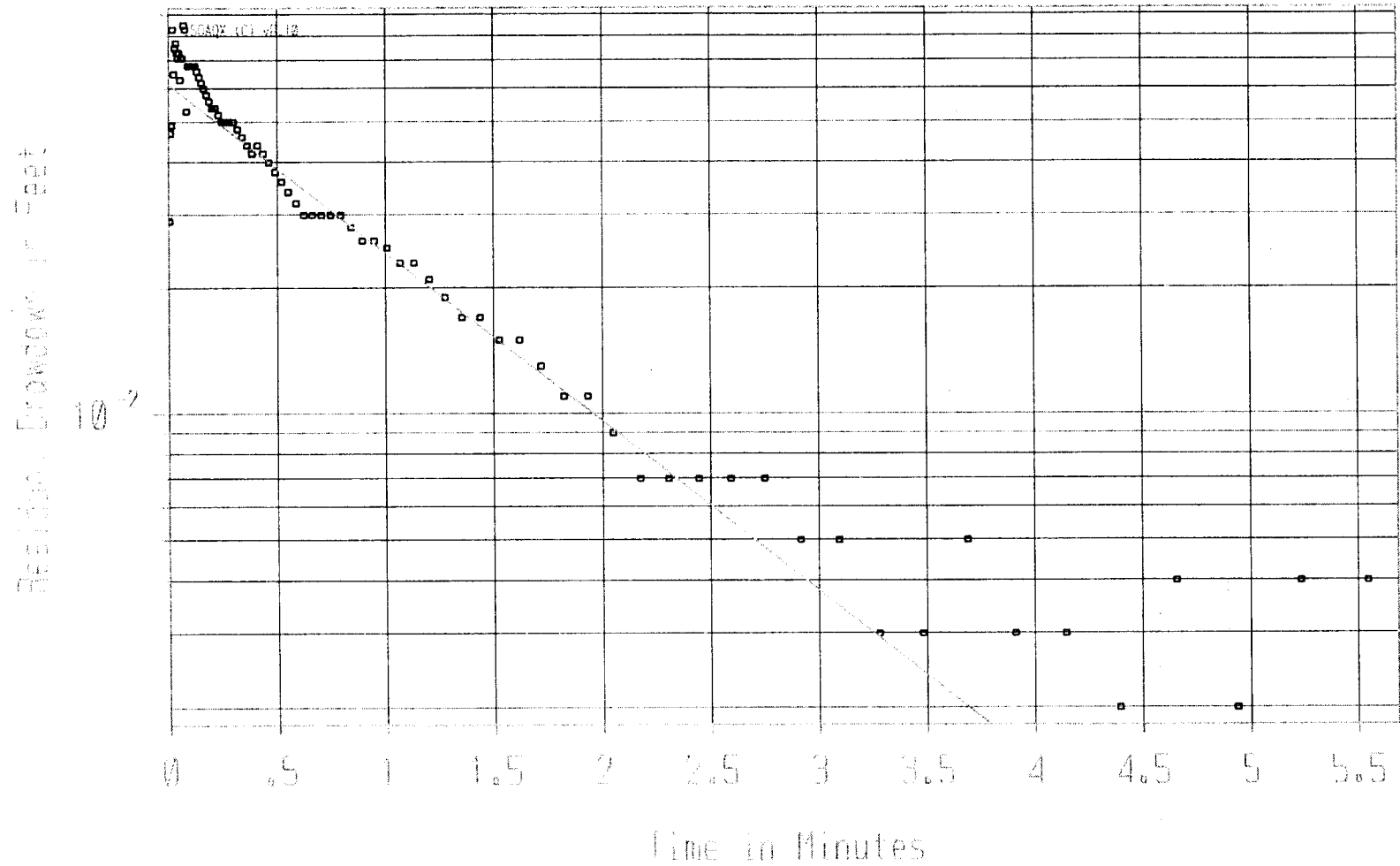
test # comb: 3

MW-2 (F)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.877E-03
aquifer thickness (ft)	=	9.000
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	9.000
projected displacement Y_0 (ft)	=	0.061
hydraulic conductivity (ft/day)	=	12.62 $\rightarrow 4.5 \times 10^{-3}$ cm/s

Chem Core
Falling Head Slug Test in Well MW-2 (test F)
Bouwer and Rice Method

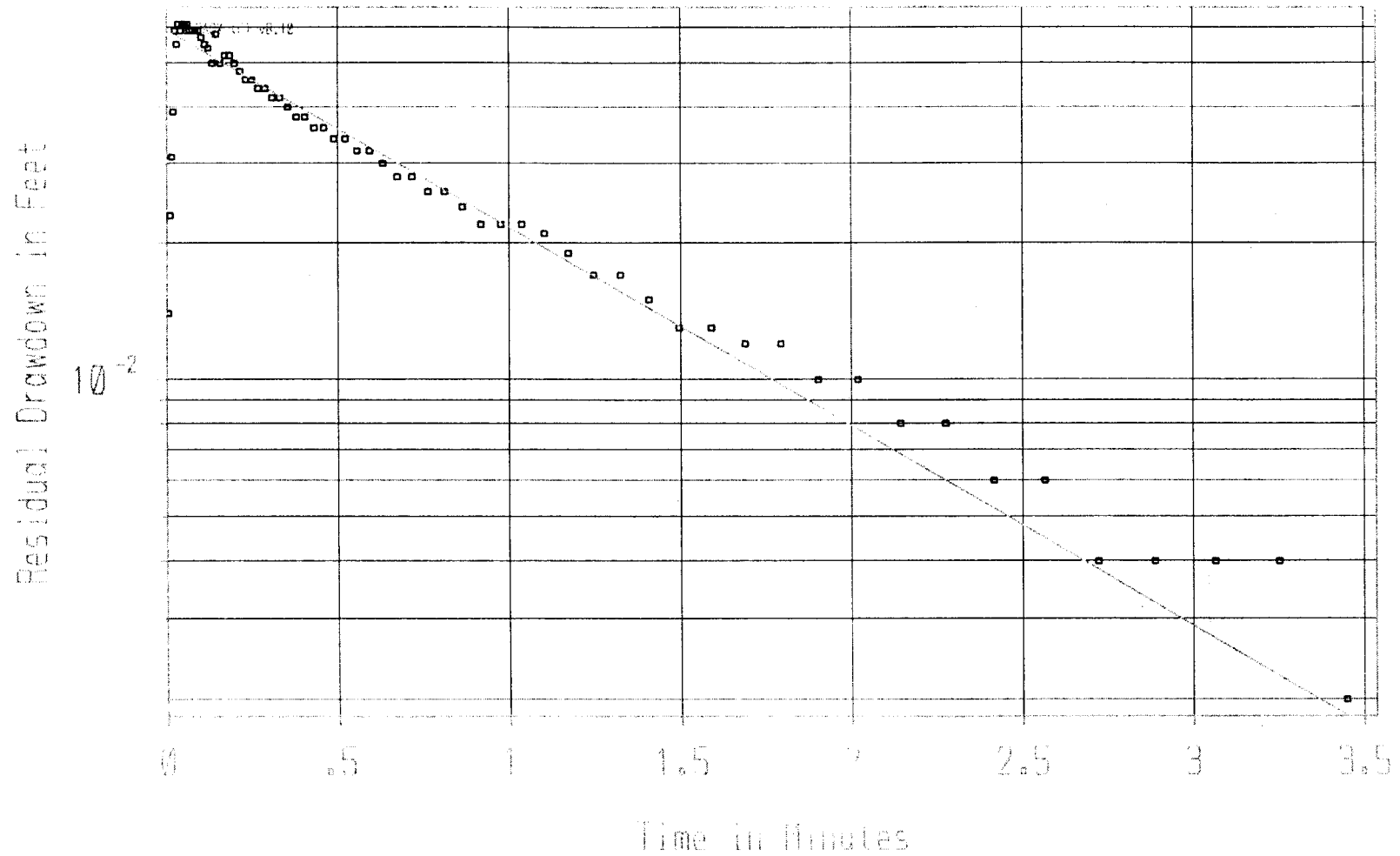


ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp
 test # comb: 4 *MW-4, S' (F2)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.990E-03
aquifer thickness (ft)	=	7.000
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	7.000
projected displacement Y_0 (ft)	=	0.059
hydraulic conductivity (ft/day)	=	16.15 $\rightarrow 5.2 \times 10^{-3}$ cm/s

Chem Core
Falling Head Slug Test in Well MW-4S (test F2)
Bouwer and Rice Method



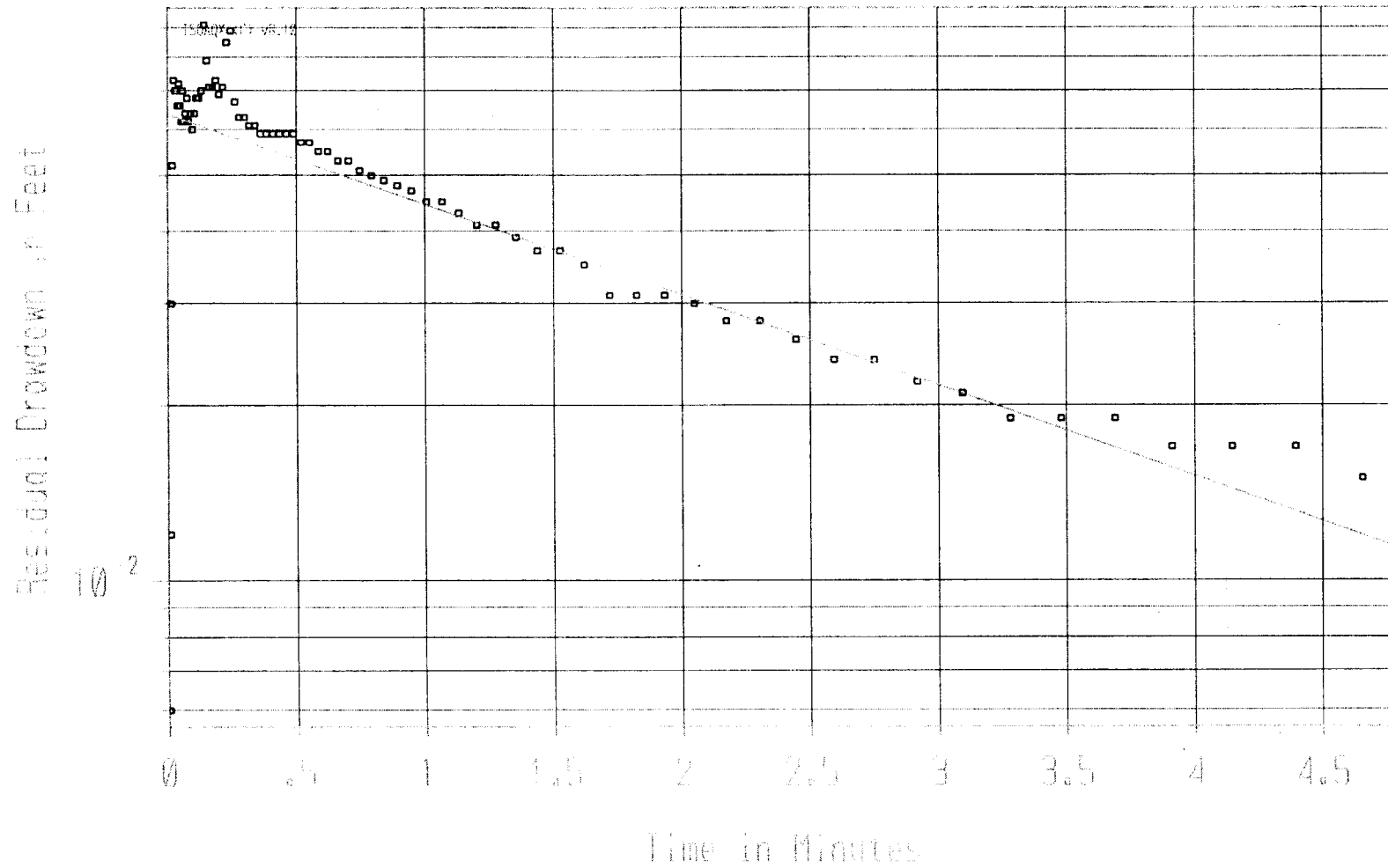
ChemCore.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp
test # comb: 6 *MW - 4S (R2)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.275E-03
aquifer thickness (ft)	=	7.000
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	7.000
projected displacement Y_0 (ft)	=	0.064
hydraulic conductivity (ft/day)	=	5.77 $\rightarrow 2.0 \times 10^{-3}$ cm/s

Chem Core
Rising Head Slug Test in Well MW-4S (test R2)
Bouwer and Rice Method



ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp (modified)

test # comb: 7

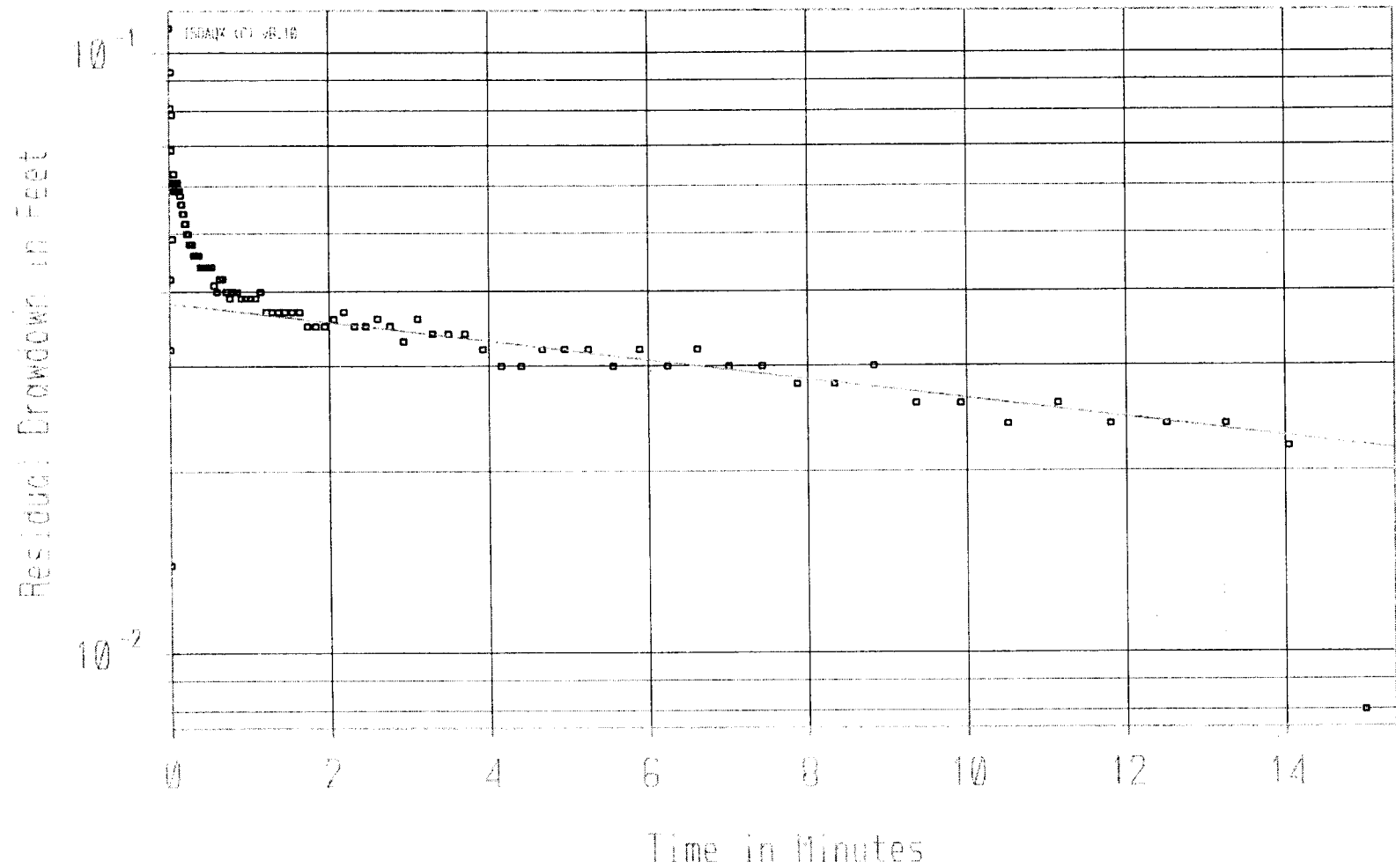
MW-5 (F)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.266E-03
aquifer thickness (ft)	=	10.000
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	10.000
projected displacement Y_0 (ft)	=	0.038
hydraulic conductivity (ft/day)	=	4.650E-01

→ 1.6×10^{-4} cm/s

Chem Core
Falling Head Slug Test in Well MW-5 (test F)
Bouwer and Rice Method



ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp (modified)

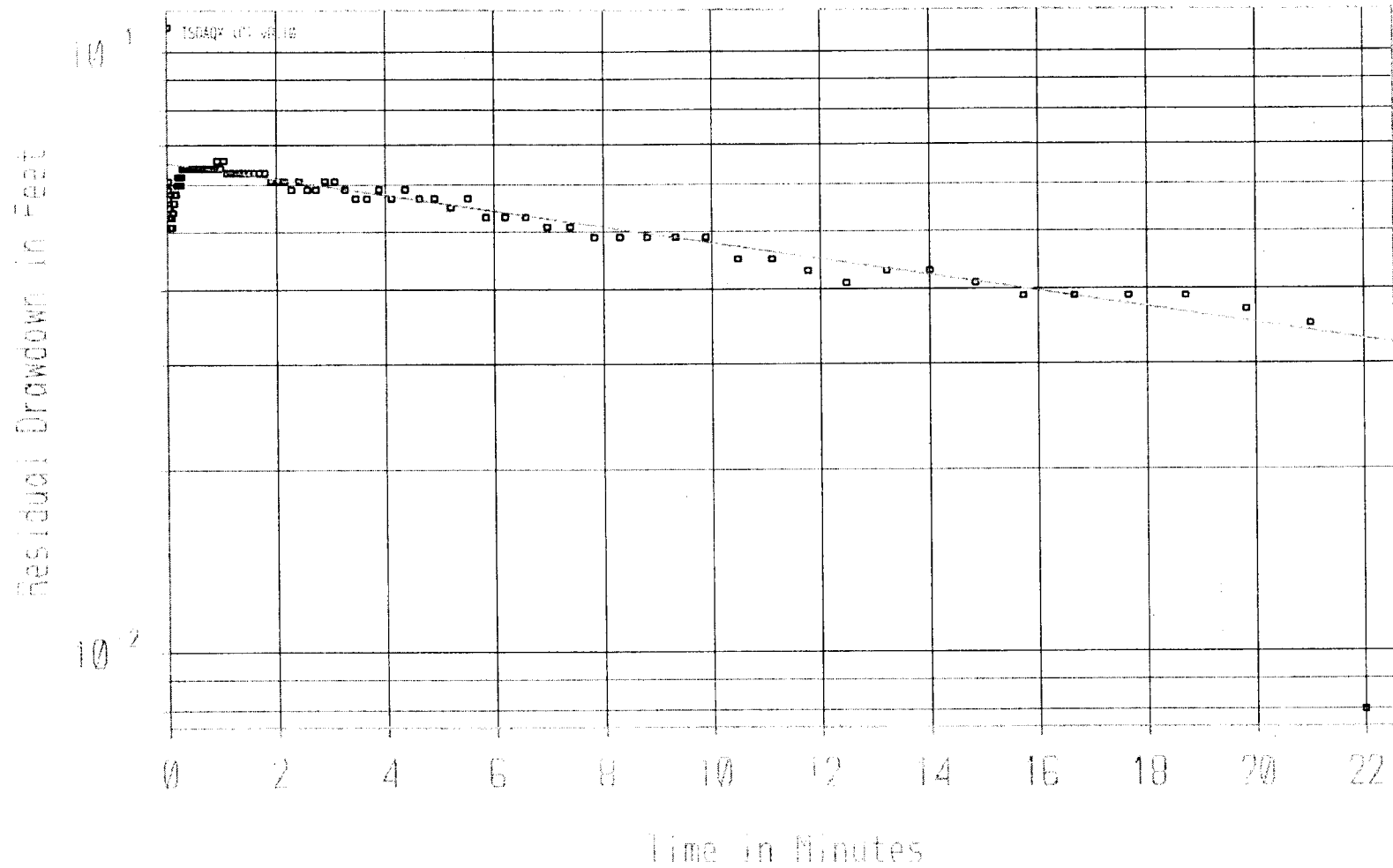
test # comb: 9

MW-5(R)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.257E-03
aquifer thickness (ft)	=	10.000
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	10.000
projected displacement Y_0 (ft)	=	0.065
hydraulic conductivity (ft/day)	=	3.928E-01 $\rightarrow 1.4 \times 10^{-4}$ cm/s

Chem Core
Rising Head Slug Test in Well MW-5 (test R)
Bouwer and Rice Method



ChemCore.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp (modified)
test # comb: 10

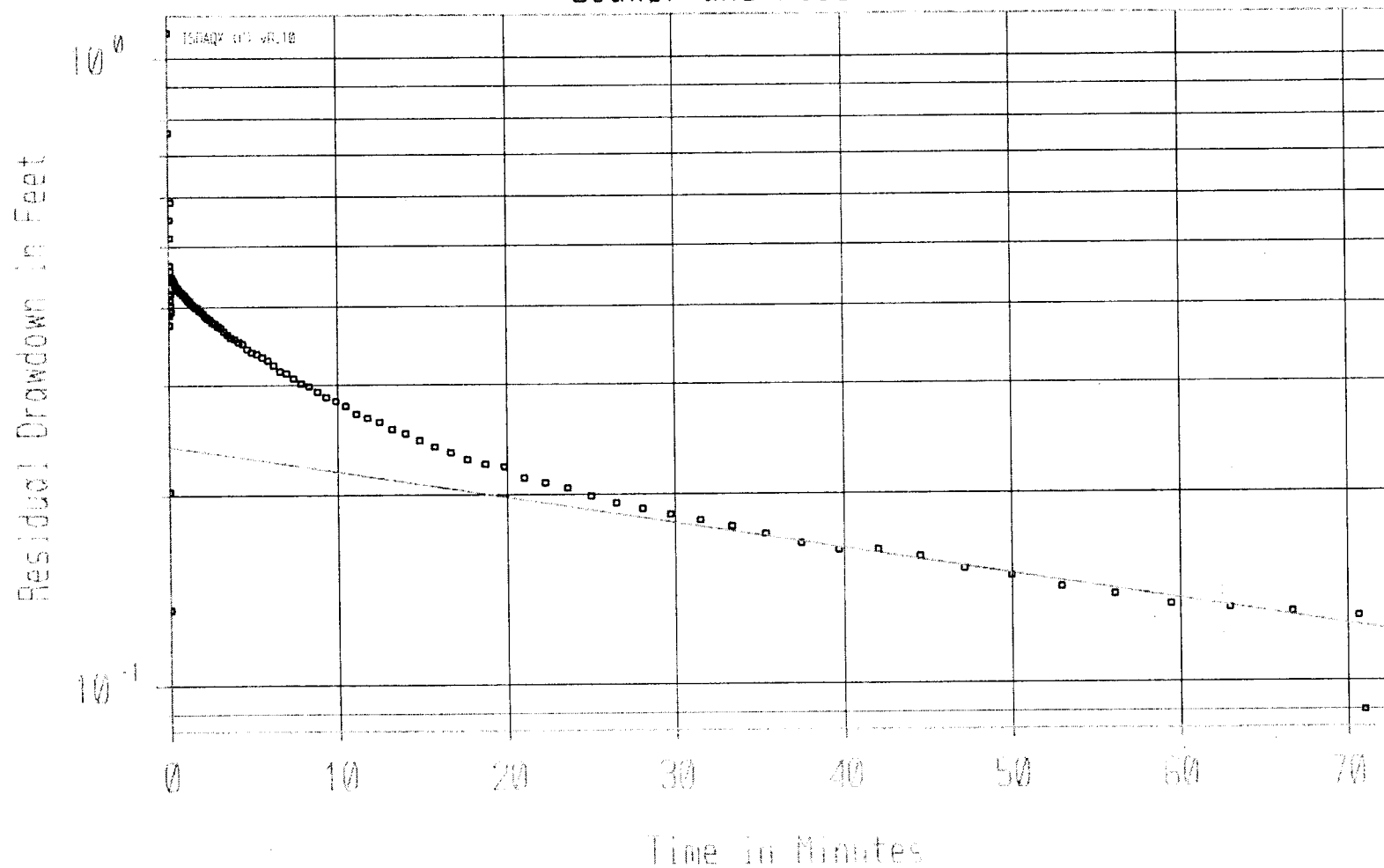
MW-9 (F)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	2.383E-03
aquifer thickness (ft)	=	8.000
casing radius (ft)	=	0.083
screen (effective) radius (ft)	=	0.150
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	8.000
projected displacement Y_0 (ft)	=	0.240
hydraulic conductivity (ft/day)	=	1.799E-02

$\rightarrow 6.4 \times 10^{-6} \text{ cm/s}$

Chem Core
Falling Head Slug Test in Well MW-9 (test F)
Bouwer and Rice Method



ChemCore.out

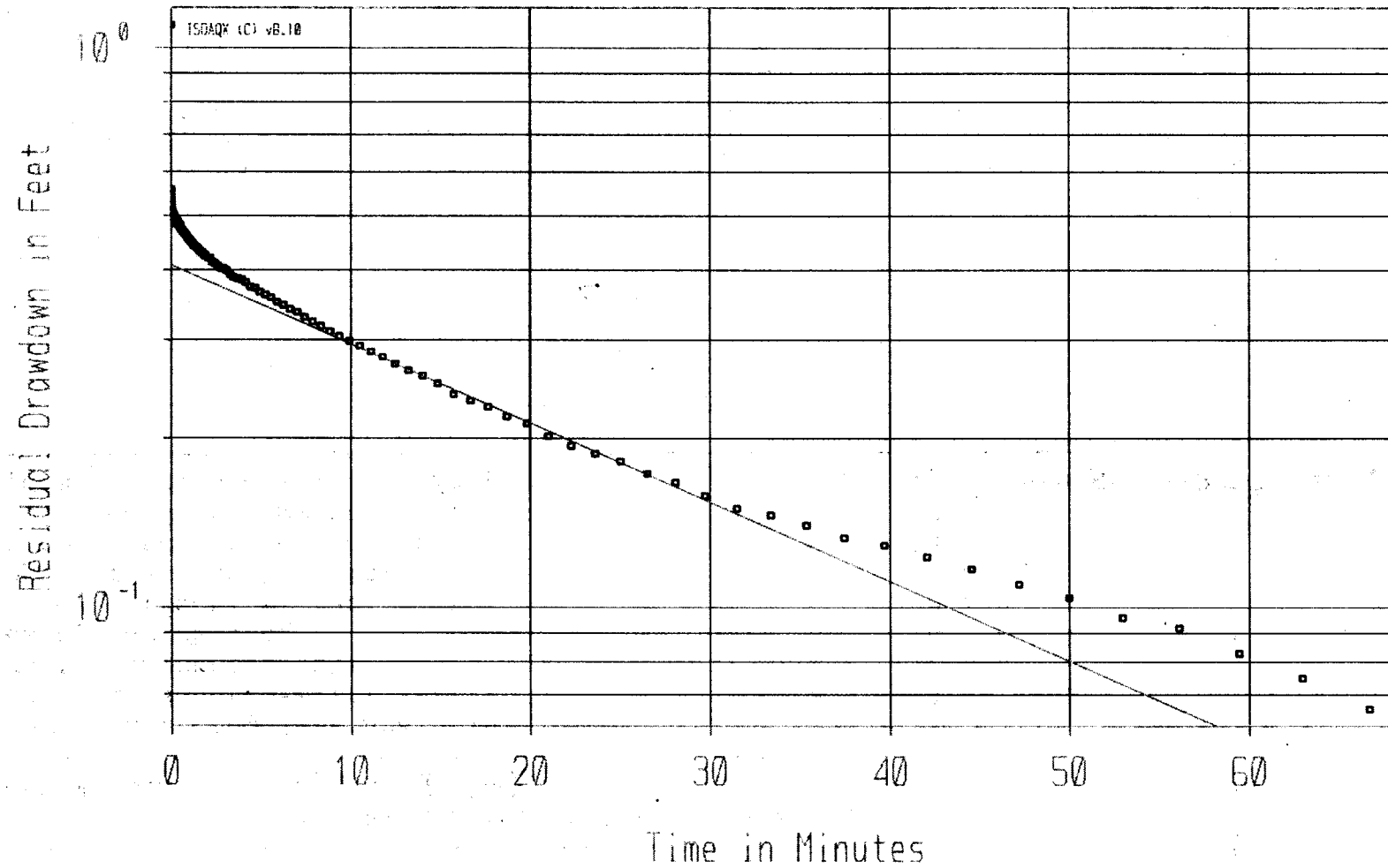
ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore.inp (modified)
test # comb: 11 *MW-3 (R)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	2.549E-03
aquifer thickness (ft)	=	8.000
casing radius (ft)	=	0.083
screen (effective) radius (ft)	=	0.150
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	8.000
projected displacement Y_0 (ft)	=	0.408
hydraulic conductivity (ft/day)	=	6.172E-02

$\rightarrow 2.2 \times 10^{-5} \text{ cm/s}$

Chem Core
Rising Head Slug Test in Well MW-9 (test R)
Bouwer and Rice Method



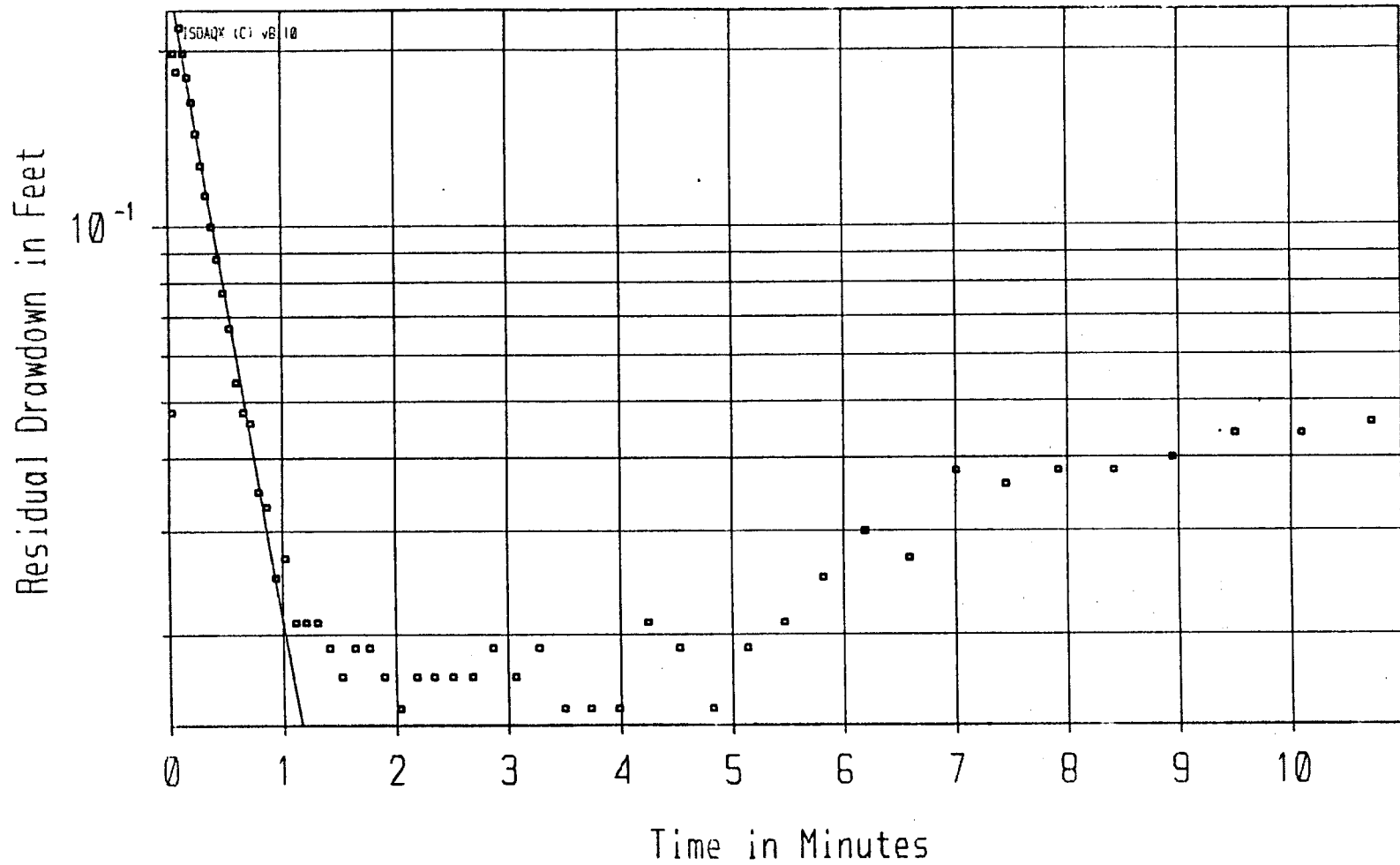
ChemCore2.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 1 *MW -8D (F)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	4.441E-03
aquifer thickness (ft)	=	12.000
casing radius (ft)	=	0.170
screen (effective) radius (ft)	=	0.170
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	12.000
projected displacement Y_0 (ft)	=	0.275
hydraulic conductivity (ft/day)	=	14.62 $\rightarrow 5.2 \times 10^{-3}$ cm/s

Chem Core
Falling Head Slug Test in Well MW-8D
Bouwer and Rice Method



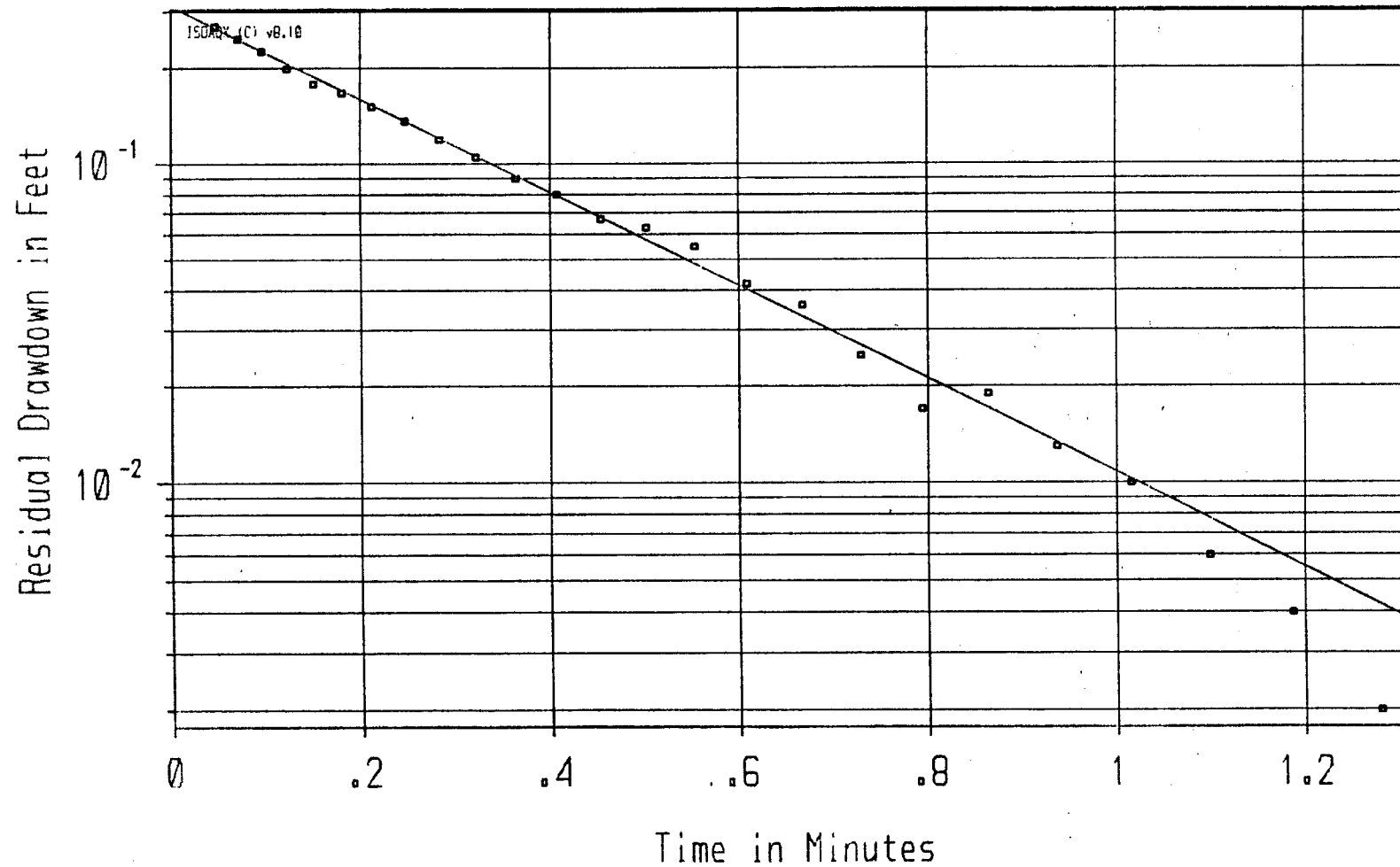
ChemCore2.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 2 MW - y D (R)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	3.667E-03
aquifer thickness (ft)	=	12.000
casing radius (ft)	=	0.170
screen (effective) radius (ft)	=	0.170
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	12.000
projected displacement Yo (ft)	=	0.311
hydraulic conductivity (ft/day)	=	19.16 $\rightarrow 6.8 \times 10^{-3}$ cm/s

Chem Core
Rising Head Slug Test in Well MW-80
Bouwer and Rice Method



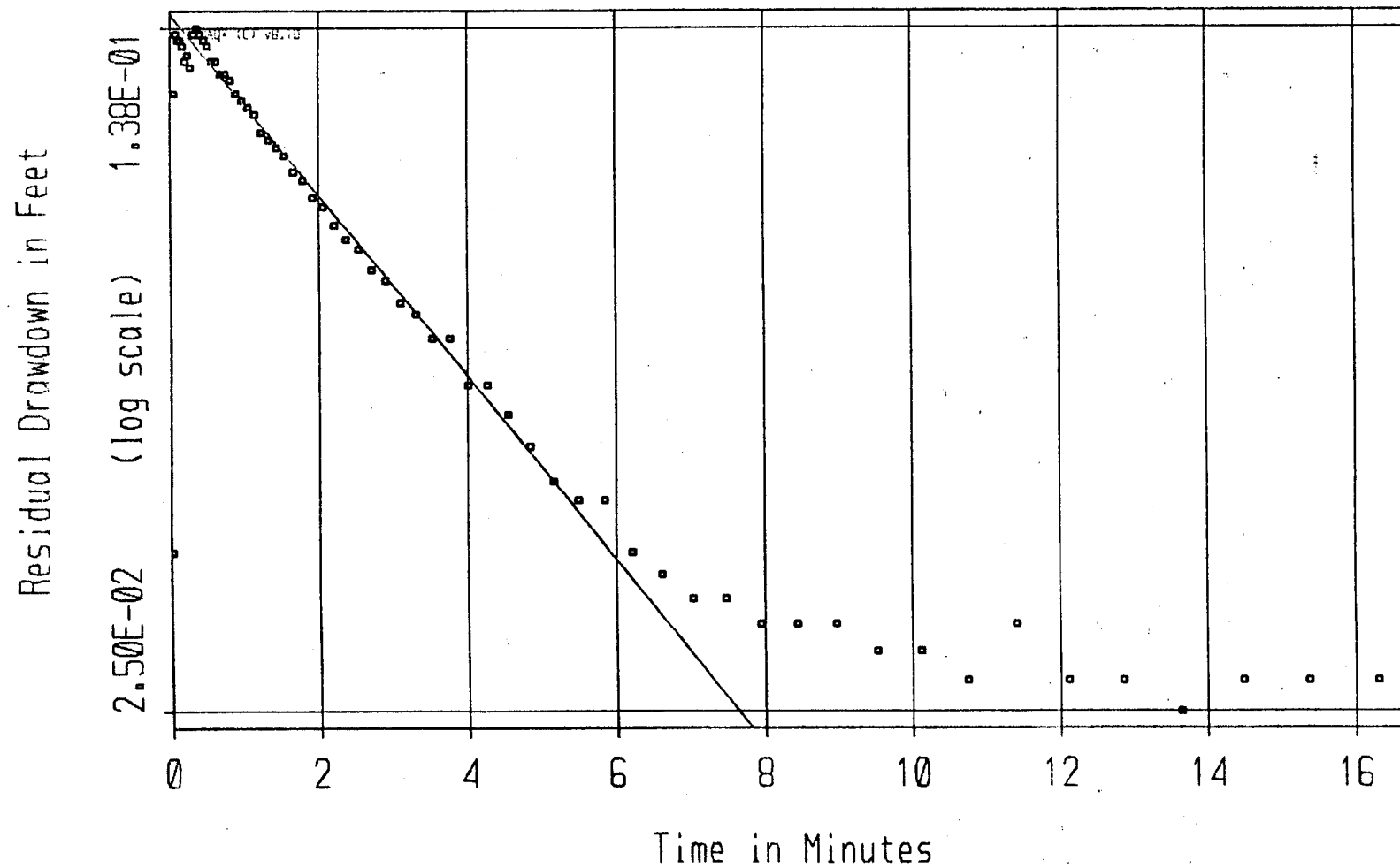
ChemCore2.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 3 MW - 11 (F)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.774E-03
aquifer thickness (ft)	=	6.600
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	6.600
projected displacement Y_0 (ft)	=	0.143
hydraulic conductivity (ft/day)	=	3.81 $\rightarrow 1.3 \times 10^{-3}$ cm/s

Chem Core
Falling Head Slug Test in Well MW-11
Bouwer and Rice Method



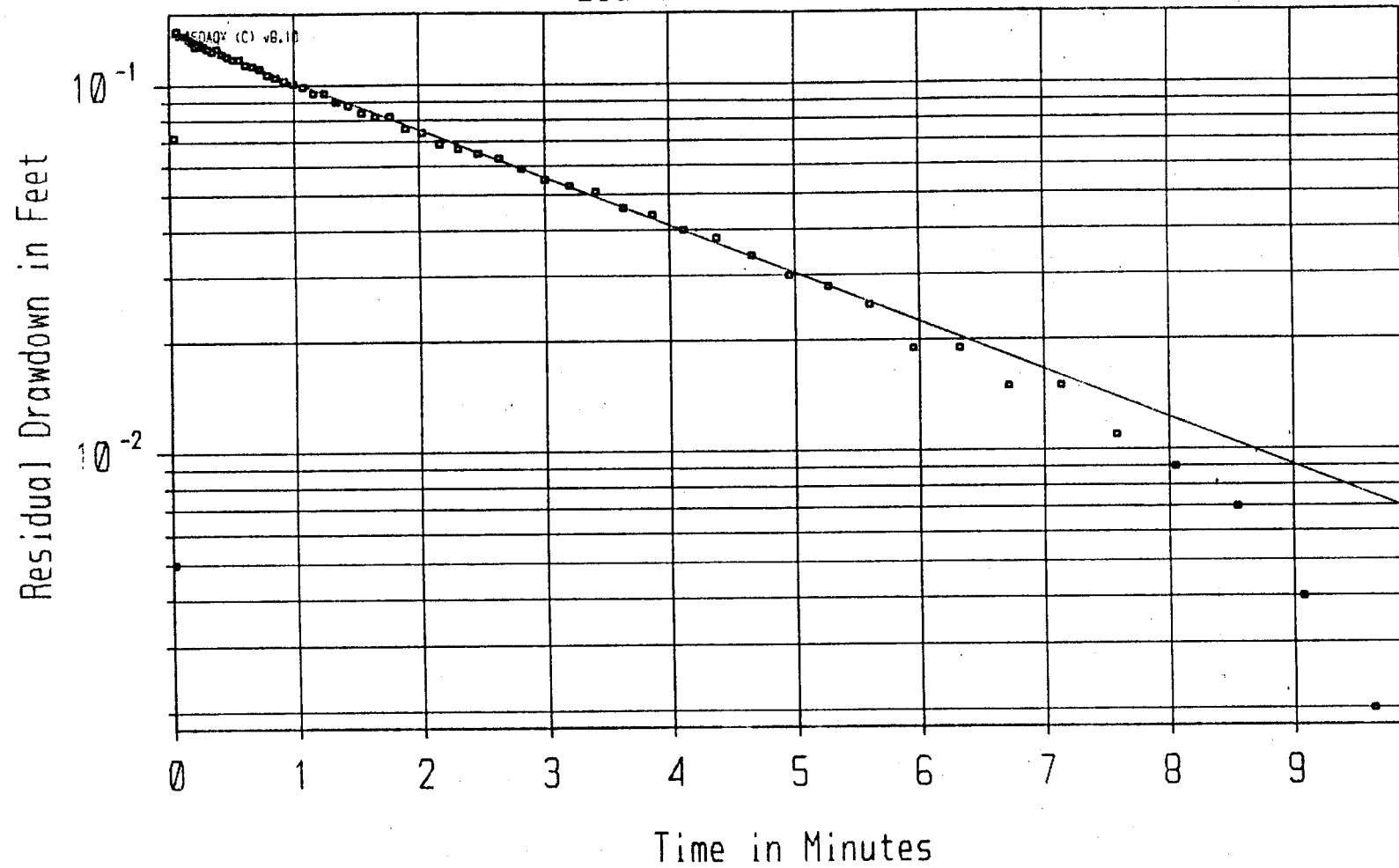
ChemCore2.out

ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 4 *MW - 11(R)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.551E-03	
aquifer thickness (ft)	=	6.600	
casing radius (ft)	=	0.250	
screen (effective) radius (ft)	=	0.250	
depth of screen top (ft)	=	0.000	
depth of screen bottom (ft)	=	6.600	
projected displacement Y_0 (ft)	=	0.138	
hydraulic conductivity (ft/day)	=	5.05	$\rightarrow 1.8 \times 10^{-3} \text{ cm/s}$

Chem Core
Rising Head Slug Test in Well MW-11
Bouwer and Rice Method



ChemCore2.out

1996-10-10 10:07:52

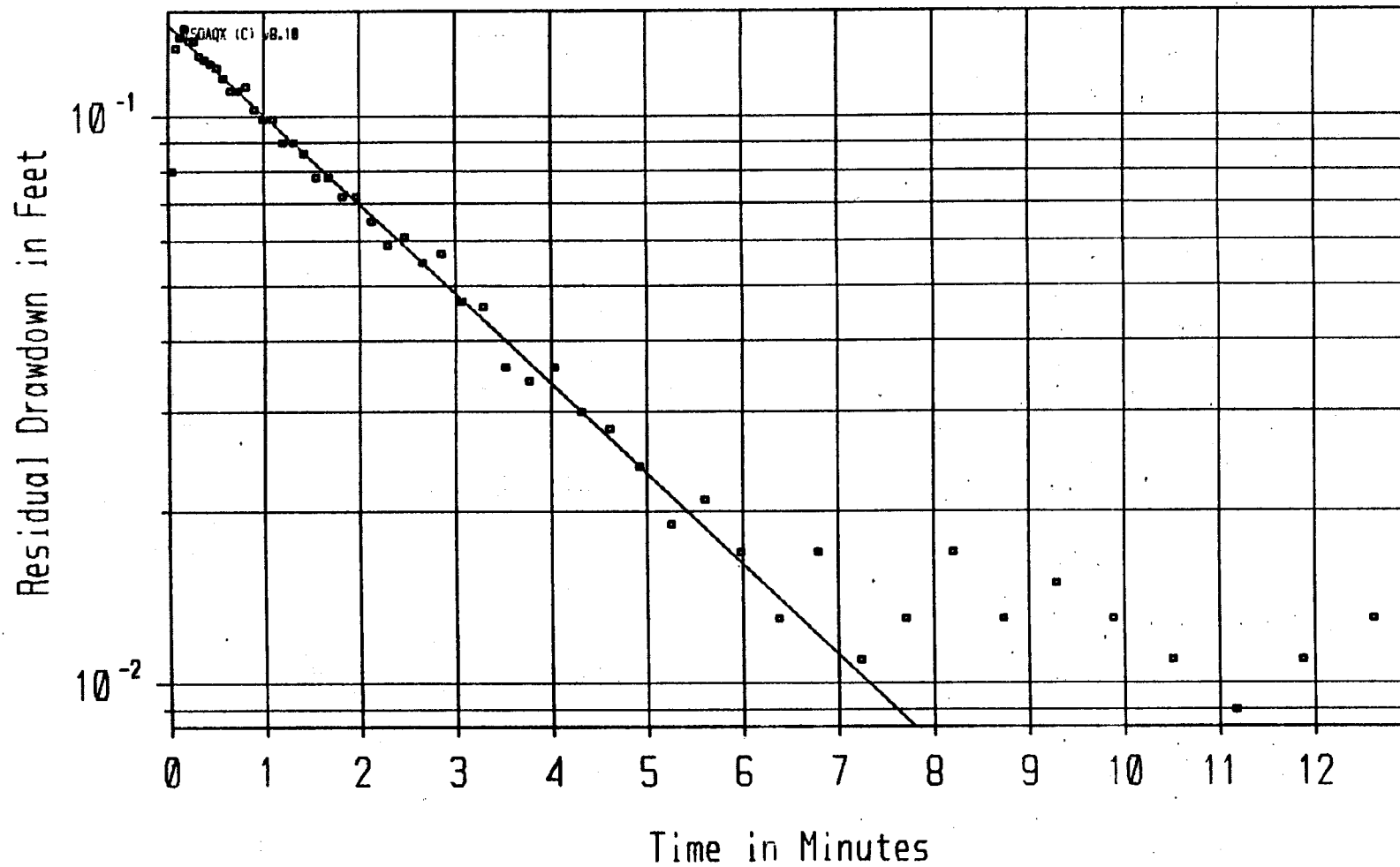
ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 5 MW-12 (A)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	2.611E-03
aquifer thickness (ft)	=	13.200
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	13.200
projected displacement Y_0 (ft)	=	0.145
hydraulic conductivity (ft/day)	=	3.80

→ 1.3×10^{-3} cm/s

Chem Core
Falling Head Slug Test in Well MW-12
Bouwer and Rice Method



ChemCore2.out

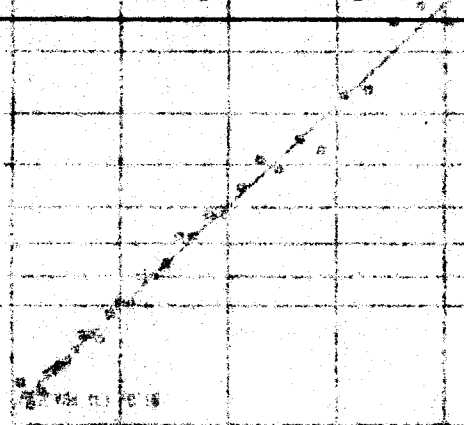
JUN 10 10 40 AM '87

ISOAQU (C) vs. 10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 6 HW-12 (R)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	2.437E-03
aquifer thickness (ft)	=	13.200
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	13.200
projected displacement Y_0 (ft)	=	0.137
hydraulic conductivity (ft/day)	=	4.55

$\rightarrow 1.6 \times 10^{-3} \text{ cm/s}$

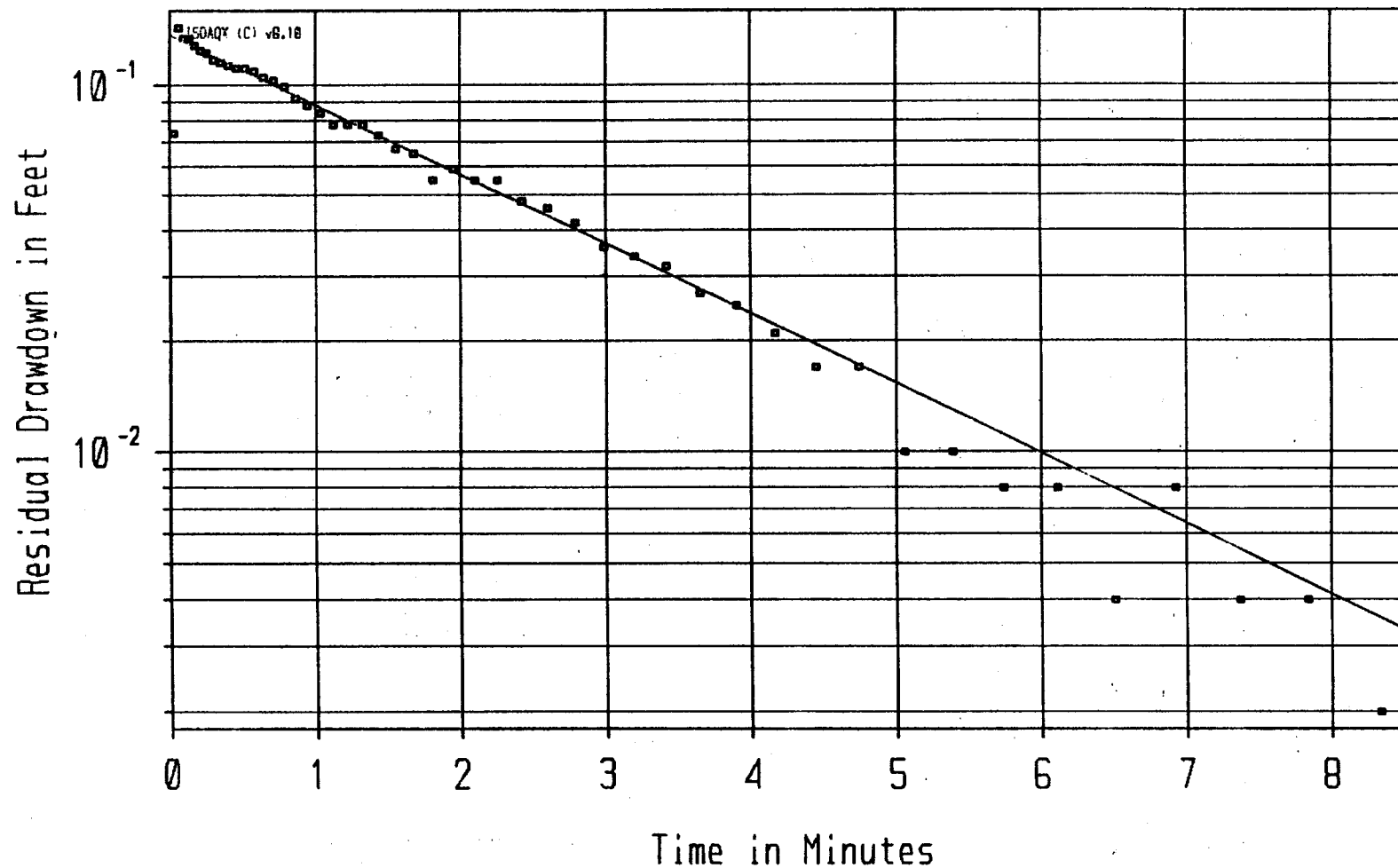


BOUWER-RICE SLUG TEST

TESTING HEAD 2100 1081 10 40 AM '87

CHOW 0010

Chem Core
Rising Head Slug Test in Well MW-12
Bouwer and Rice Method



ChemCore2.out

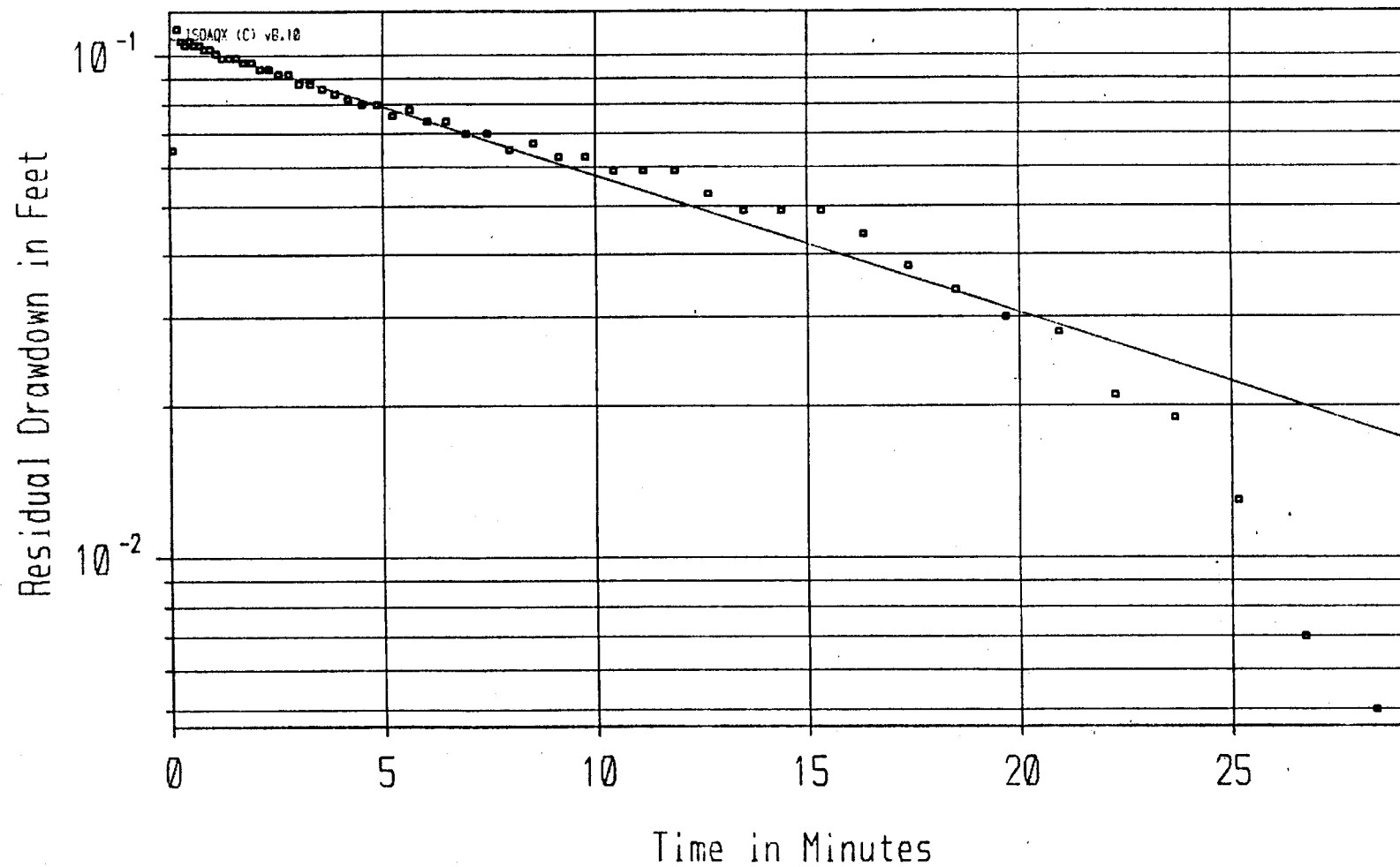
ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 7 MW-135 (P)

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.069E-03
aquifer thickness (ft)	=	10.000
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	10.000
projected displacement Y_0 (ft)	=	0.109
hydraulic conductivity (ft/day)	=	8.011E-01

$\rightarrow 2.8 \times 10^{-4} \text{ cm/s}$

Chem Core
Falling Head Slug Test in Well MW-135.
Bouwer and Rice Method



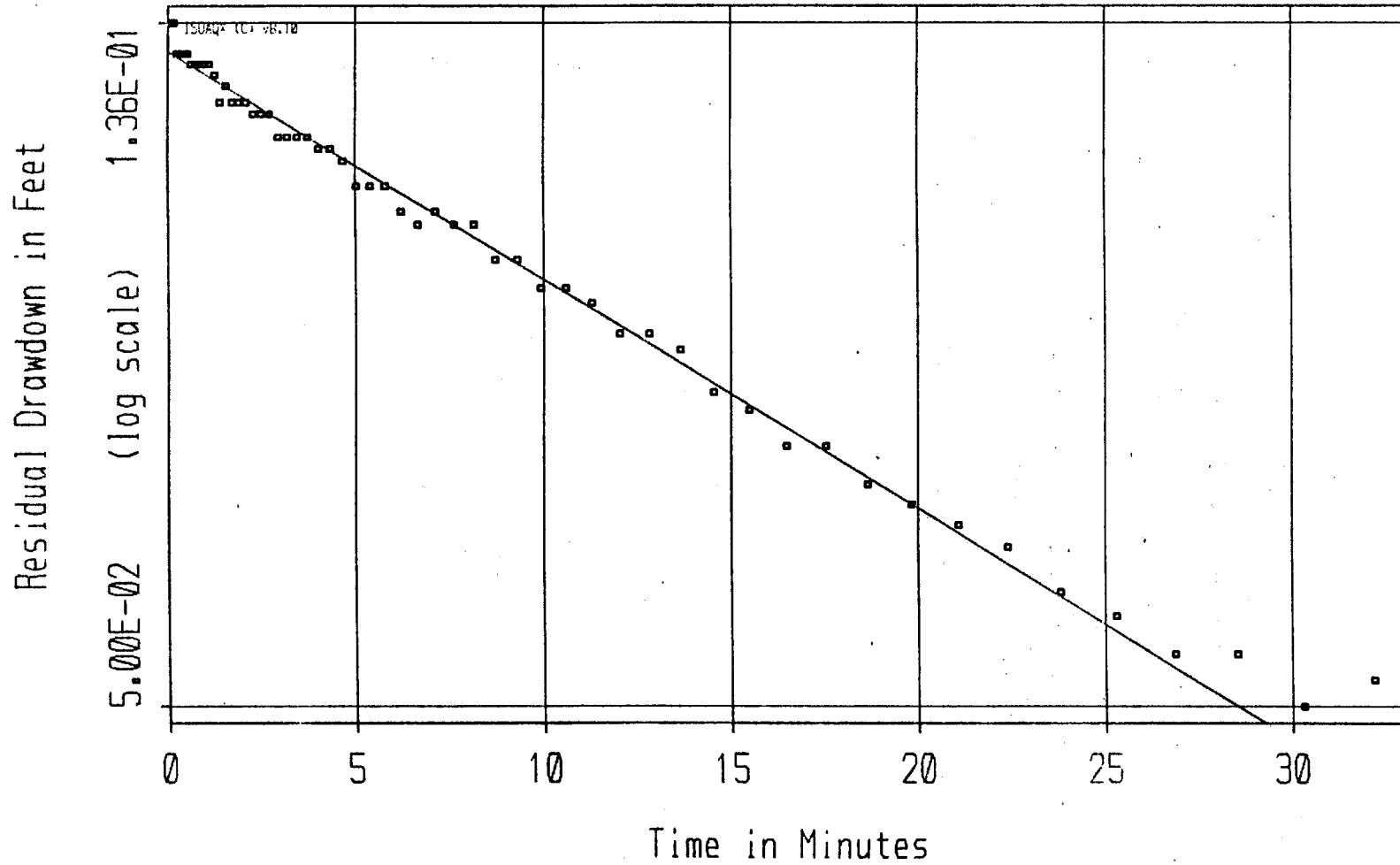
ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 8 *MW-135 (R)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.898E-03
aquifer thickness (ft)	=	10.000
casing radius (ft)	=	0.250
screen (effective) radius (ft)	=	0.250
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	10.000
projected displacement Y_0 (ft)	=	0.130
hydraulic conductivity (ft/day)	=	4.253E-01

$\rightarrow 1.5 \times 10^{-4} \text{ cm/s}$

Chem Core
Rising Head Slug Test in Well MW-135
Bouwer and Rice Method



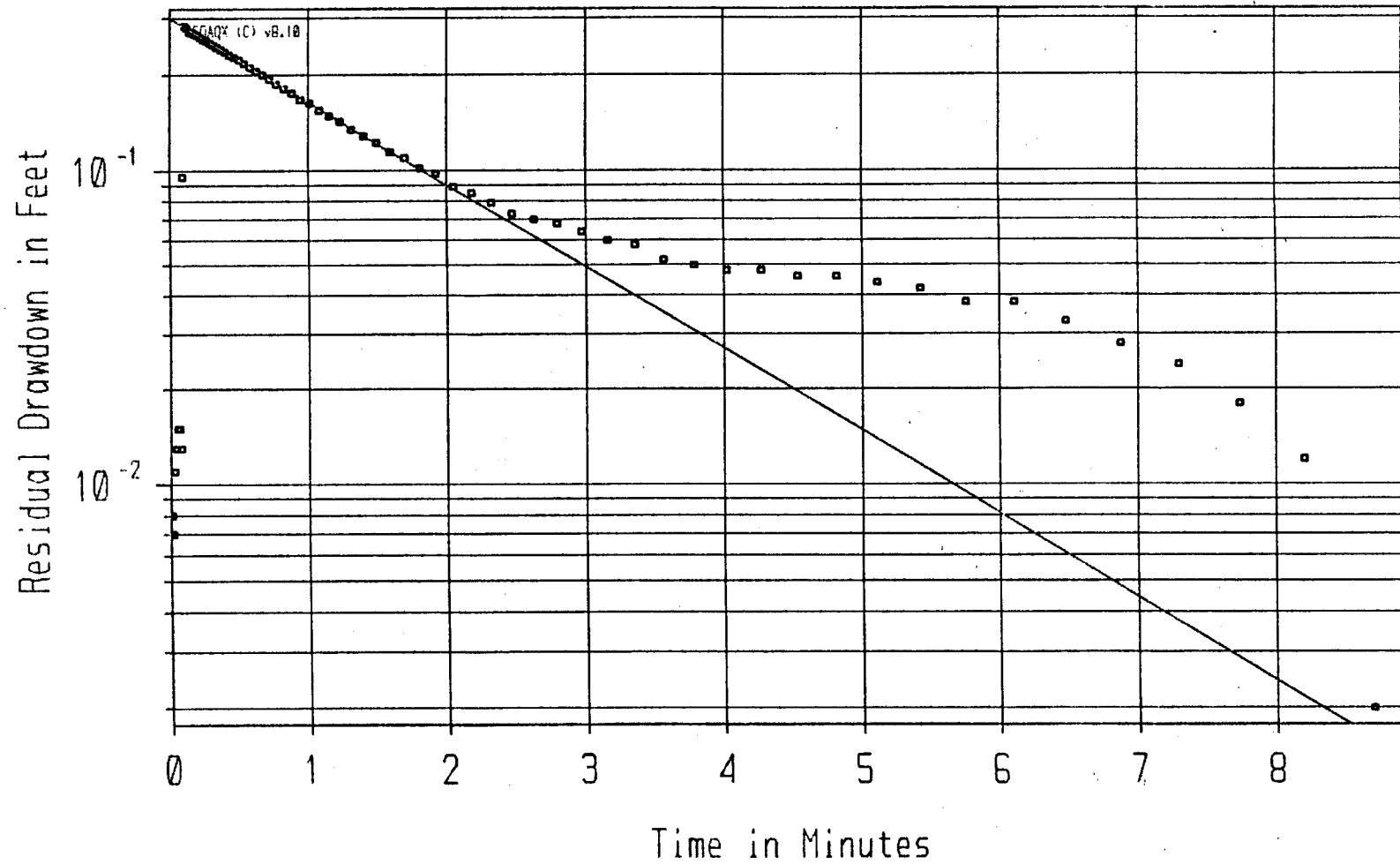
ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 9 *pw-13D(R)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.232E-03
aquifer thickness (ft)	=	10.800
casing radius (ft)	=	0.170
screen (effective) radius (ft)	=	0.170
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	10.800
projected displacement Y_0 (ft)	=	0.299
hydraulic conductivity (ft/day)	=	3.71

$\rightarrow 1.3 \times 10^{-3} \text{ cm/s}$

Chem Core
Rising Head Slug Test in Well MW-13D
Bouwer and Rice Method



ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)

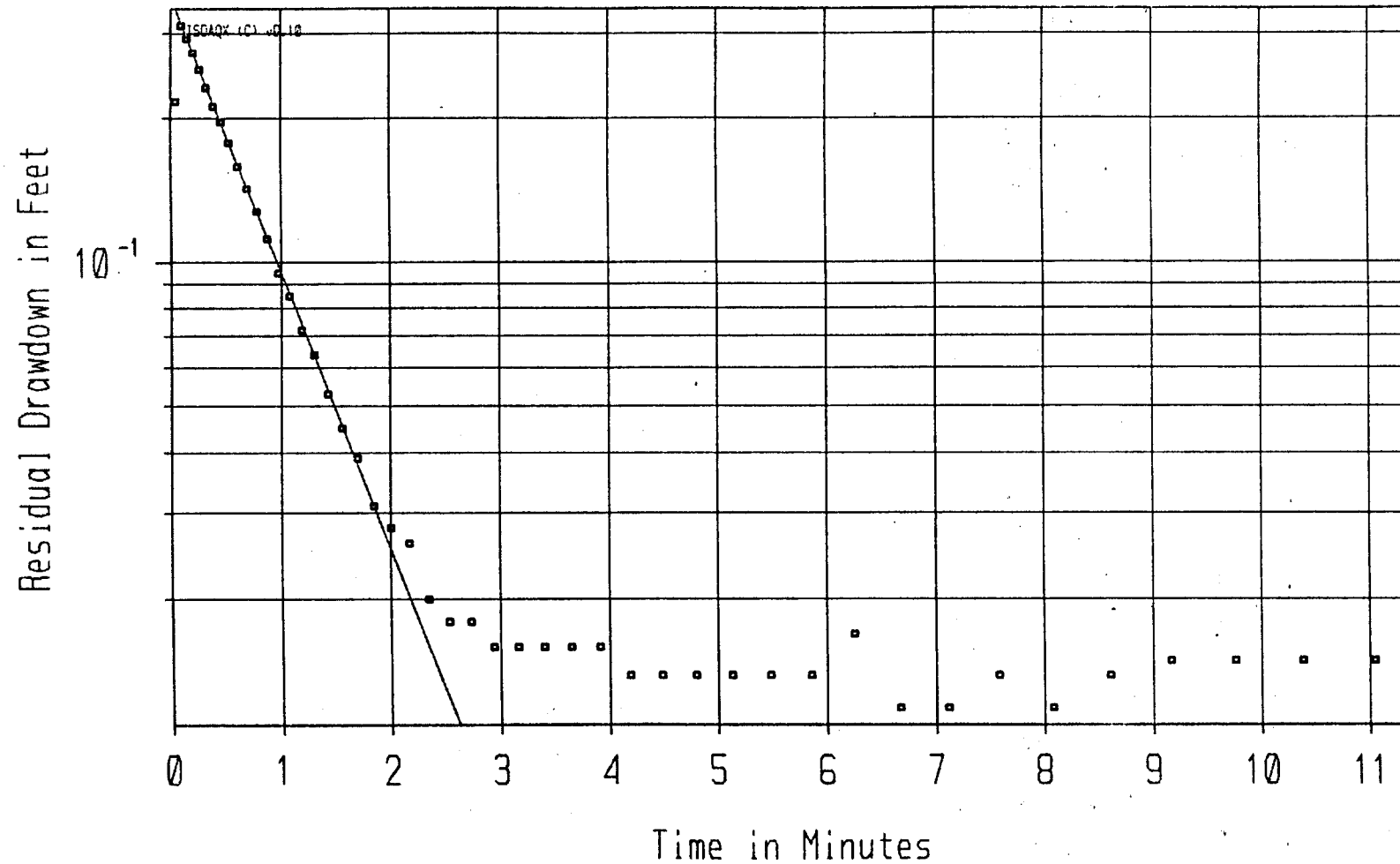
test # comb: 10 *MW-14 (F)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	1.395E-03
aquifer thickness (ft)	=	8.700
casing radius (ft)	=	0.170
screen (effective) radius (ft)	=	0.170
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	8.700
projected displacement Y_0 (ft)	=	0.356
hydraulic conductivity (ft/day)	=	9.57

$\rightarrow 3.4 \times 10^{-3} \text{ cm/s}$

Chem Core
Falling Head Slug Test in Well MW-14
Bouwer and Rice Method

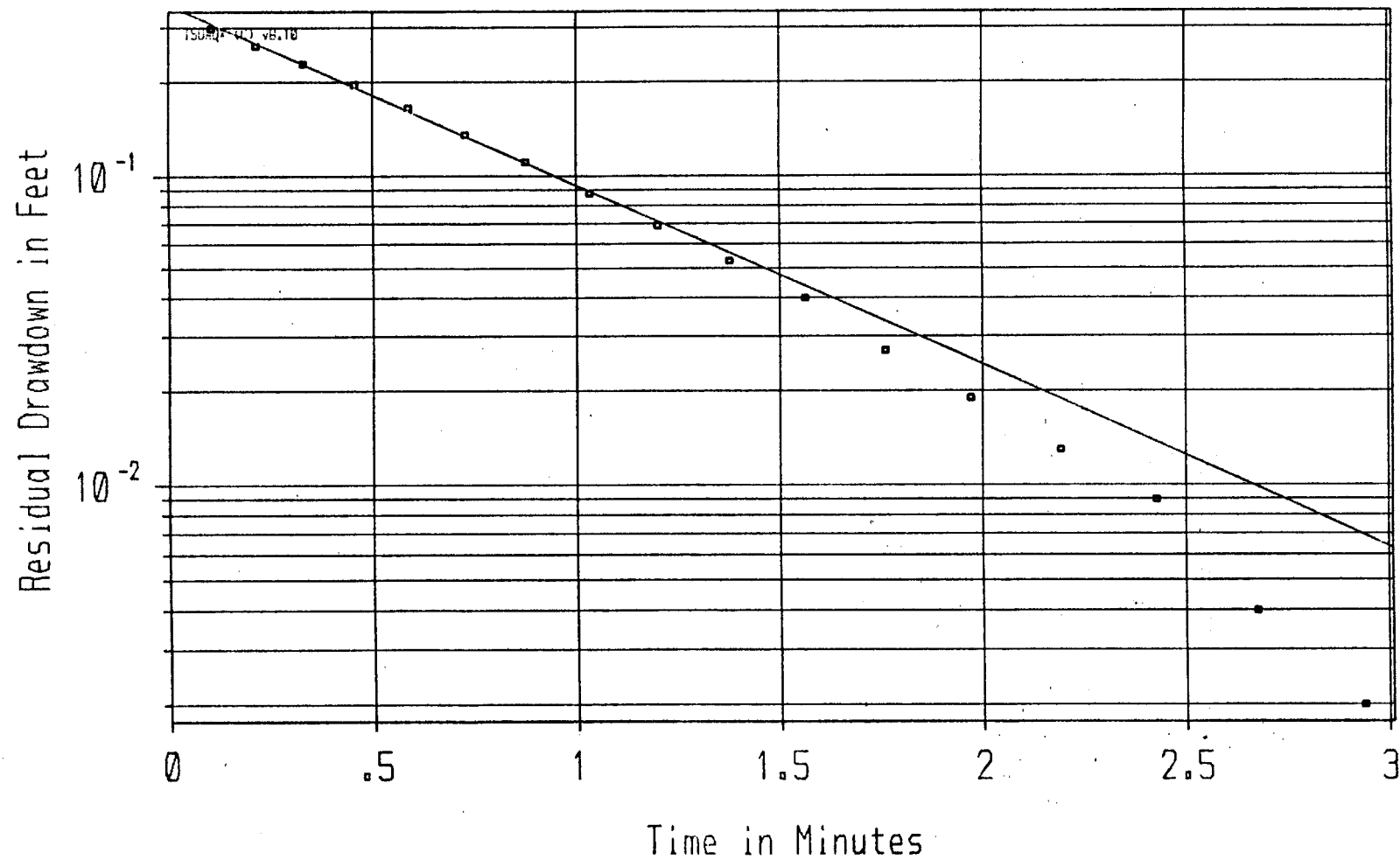


ISOAQX (C) v8.10 FILE C:\HYDRO\ChemCore2.inp (modified)
test # comb: 11 *MW-14(R)*

Bouwer-Rice Slug Test Analysis:

root mean-squared-error (ft)	=	4.414E-03
aquifer thickness (ft)	=	8.700
casing radius (ft)	=	0.170
screen (effective) radius (ft)	=	0.170
depth of screen top (ft)	=	0.000
depth of screen bottom (ft)	=	8.700
projected displacement Y_0 (ft)	=	0.355
hydraulic conductivity (ft/day)	=	9.69 $\rightarrow 3.4 \times 10^{-3}$ cm/s

Chem Core
Rising Head Slug Test in Well MW-14
Bouwer and Rice Method



APPENDIX E

MONITORING WELL PURGE LOGS

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-1S</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>12:30</u>
DATE(S): <u>10/09/2001</u>	Stop: <u>12:55</u>
Sample: <u>13:00</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.30</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.35</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>8.95</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>13.43</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>13</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13
pH	7.1	7.1	7.2	7.1	6.8	6.8	6.7	6.8	6.8	6.8	6.8
SPEC. COND. (umhos)	5159	5095	4930	4031	2628	2603	2591	2583	2587	2594	2591
TEMPERATURE (°C)	12.0	12.0	12.3	12.3	12.1	12.1	12.1	12.2	12.2	12.2	12.2
TURBIDITY (NTU)	95	66	51	23	12	9	9	7	5	7	7
DISSOLVED OXYGEN (ppm)	4.4	4.5	4.7	4.2	4.3	4.1	4.1	4.1	4.0	4.0	3.9
Eh (mV)	-8.2	-8.9	2.1	7.2	6.7	6.9	6.9	7.3	7.3	7.3	7.3

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-1D</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>11:35</u>
DATE(S): <u>10/09/2001</u>	Stop: <u>11:55</u>
Sample: <u>12:00</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.95</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.05</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>24.90</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.43</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>16</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.6	3.2	4.8	6.4	8	9.6	11.2	12.8	14.4	16
pH	7.4	7.5	7.4	7.4	7.4	7.3	7.3	7.3	7.3	7.3	7.4
SPEC. COND. (umhos)	1775	1771	1814	1813	1842	1850	1855	1846	1847	1848	1833
TEMPERATURE (°C)	12.2	12.3	12.6	12.6	12.7	12.6	12.6	12.6	12.5	12.8	12.6
TURBIDITY (NTU)	479	181	262	51	12	9	10	6	7	5	7
DISSOLVED OXYGEN (ppm)	2.3	2.2	2.6	3.1	3.5	3.4	3.8	3.0	3.1	3.6	3.9
Eh (mV)	71.5	6.9	-4.8	-33.5	-59.1	-71.9	-75.8	-99.6	-102.0	-82.3	-98.3

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-2</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>14:00</u>
DATE(S): <u>10/09/2001</u>	Stop: <u>14:30</u>
Sample: <u>14:45</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.50</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.55</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>8.95</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>13.43</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>14</u>	8"	2.6

OR
 $V = 0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	1.4	2.8	4.2	5.6	7	8.4	9.8	11.2	12.6	14
pH	7.1	7.1	7.1	7.0	7.1	7.0	7.1	7.1	7.1	7.1	7.1
SPEC. COND. (umhos)	4109	4097	4049	3629	3122	3276	3211	3309	3291	3293	3294
TEMPERATURE (°C)	14.5	14.2	14.6	14.5	14.2	14.3	14.3	14.3	14.3	14.4	14.4
TURBIDITY (NTU)	21	23	17	12	16	21	11	10	10	10	12
DISSOLVED OXYGEN (ppm)	1.5	1.2	1.8	1.1	1.5	1.6	1.8	2.4	2.2	2.7	2.6
Eh (mV)	-82.4	-91.0	-112.7	-124.5	-131.2	-133.8	-142.1	-144.8	-137.8	-137.9	-137.9

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-3</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>09:45</u>
DATE(S): <u>10/10/2001</u>	Stop: <u>10:15</u>
Sample: <u>10:20</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.52</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>28.08</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>7.44</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>11.16</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>12</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12
pH	7.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SPEC. COND. (umhos)	1505	1504	1504	1502	1501	1500	1495	1498	1444	1437	1444
TEMPERATURE (°C)	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
TURBIDITY (NTU)	>1000	461	21	8	9	11	8	9	8	8	8
DISSOLVED OXYGEN (ppm)	1.1	1.1	1.1	1.1	1.6	1.3	1.8	1.8	2.2	2.0	2.2
Eh (mV)	70.9	70.2	70.6	70.0	70.1	70.1	69.5	67.9	67.5	67.6	67.7

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-4S</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>08:00</u>
DATE(S): <u>10/10/2001</u>	Stop: <u>08:25</u>
Sample: <u>08:30</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>33.84</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>27.32</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>6.52</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.78</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>10</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1	2	3	4	5	6	7	8	9	10
pH	8.1	8.0	7.9	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6
SPEC. COND. (umhos)	1349	1312	1329	1256	1247	1248	1247	1248	1250	1251	1249
TEMPERATURE (°C)	14.9	14.8	14.4	14.3	13.9	14.0	14.0	14.1	14.1	14.1	14.1
TURBIDITY (NTU)	47	31	21	11	17	9	12	15	17	9	8
DISSOLVED OXYGEN (ppm)	3.4	4.5	3.9	1.7	1.8	1.6	1.7	1.8	1.8	1.8	1.8
Eh (mV)	17.6	24.5	-10.5	-23.8	-20.7	-21.8	-28.7	-25.4	-24.3	-26.1	-25.8

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-4D</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>08:45</u>
DATE(S): <u>10/10/2001</u>	Stop: <u>09:15</u>
Sample: <u>09:20</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.52</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>30.90</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>19.62</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>12.95</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>13</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13
pH	8.0	7.8	7.6	7.7	7.6	7.5	7.6	7.7	7.7	7.6	7.6
SPEC. COND. (umhos)	3818	3701	3633	3451	3326	3156	3089	3247	3211	3315	3276
TEMPERATURE (°C)	16.0	15.0	14.2	14.0	14.1	14.1	14.2	14.4	14.5	14.2	14.2
TURBIDITY (NTU)	296	121	71	54	46	49	37	34	30	28	24
DISSOLVED OXYGEN (ppm)	1.5	1.2	1.5	1.9	1.5	1.5	1.5	1.9	1.6	1.3	1.5
Eh (mV)	-11.1	-11.8	-12.8	-18.4	-25.4	-36.8	-51.4	-46.2	-62.1	-75.2	-74.5

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-5</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>06:50</u>
DATE(S): <u>10/10/2001</u>	Stop: <u>07:25</u>
Sample: <u>07:30</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.40</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>24.55</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.85</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>14.78</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>15</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
pH	11.3	11.7	11.8	11.8	11.9	11.9	11.8	11.4	11.4	11.4	11.4
SPEC. COND. (umhos)	3512	3951	3969	3973	3974	3953	2701	2497	1358	1364	1409
TEMPERATURE (°C)	14.4	14.1	14.7	15.1	15.2	14.8	14.7	15.0	15.2	15.3	15.5
TURBIDITY (NTU)	268	464	311	276	94	74	38	30	28	24	22
DISSOLVED OXYGEN (ppm)	1.0	1.1	1.1	1.4	1.5	2.0	1.8	2.8	1.5	1.1	2.0
Eh (mV)	-8.8	-40.7	-50.8	-55.7	-56.5	-59.6	-67.0	-61.5	-51.8	-49.3	-48.8

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-6</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>11:40</u>
DATE(S): <u>10/10/2001</u>	Stop: <u>12:40</u>
Sample: <u>12:45</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.29</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>22.52</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>11.77</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>17.66</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>18</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.8	3.6	5.4	7.2	9	10.8	12.6	14.4	16.2	18
pH	7.3	7.2	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
SPEC. COND. (umhos)	2783	2801	2800	2799	2798	2797	2795	2796	2795	2795	2794
TEMPERATURE (°C)	12.5	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
TURBIDITY (NTU)	126	21	12	6	6	6	6	6	3	4	5
DISSOLVED OXYGEN (ppm)	4.2	2.1	1.6	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8
Eh (mV)	-23.7	-50.0	-60.7	-68.2	-70.2	-77.7	-78.4	-78.6	-78.8	-79.2	-79.4

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-7</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>13:00</u>
DATE(S): <u>10/10/2001</u>	Stop: <u>13:55</u>
Sample: <u>14:00</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>33.86</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>22.20</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>11.66</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>17.49</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>18</u>	8"	2.6
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.8	3.6	5.4	7.2	9	10.8	12.6	14.4	16.2	18
pH	7.2	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7.1
SPEC. COND. (umhos)	2413	2426	2424	2367	2289	2181	2041	1976	1963	1954	1947
TEMPERATURE (°C)	12.0	11.9	11.8	12.0	12.0	12.0	13.1	12.2	12.2	12.3	12.3
TURBIDITY (NTU)	96	42	22	11	7	6	5	4	7	4	3
DISSOLVED OXYGEN (ppm)	3.6	2.2	1.9	1.8	2.0	1.5	1.9	1.7	1.9	1.7	2.0
Eh (mV)	-49.9	-67.1	-73.4	-93.3	-94.2	-91.5	-86.5	-83.6	-81.5	-82.4	-80.3

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-8</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Dan Tobin</u>	Start: <u>10:40</u>
DATE(S): <u>10/10/2001</u>	Stop: <u>11:25</u>
Sample: <u>11:30</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>24.40</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>16.45</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>7.95</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>11.93</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>12</u>	8"	2.6

OR
 $V = 0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12
pH	7.5	7.5	7.5	7.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4
SPEC. COND. (umhos)	1938	1942	1944	1942	1940	1940	1939	1938	1938	1938	1938
TEMPERATURE (°C)	16.3	15.3	15.3	15.4	15.4	15.4	15.4	15.5	15.5	15.5	15.5
TURBIDITY (NTU)	131	56	21	10	8	7	5	5	6	5	5
DISSOLVED OXYGEN (ppm)	3.6	2.2	1.5	1.7	1.4	1.4	1.6	1.6	2.1	1.9	1.9
Eh (mV)	84.9	80.4	76.2	74.5	73.5	73.6	73.2	73.1	73.3	73.3	73.3

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-9</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and John Doerr</u>	Start: <u>08:40</u>
DATE(S): <u>10/08/2001</u>	Stop: _____
Sample: <u>13:58</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>19.86</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>11.81</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>8.05</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.17</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>1.37</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>1.5</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	0.25	0.5	0.75	1	1.25	1.5				
pH	7.9	8.0	8.1	8.2	8.1	8.1	8.0				
SPEC. COND. (umhos)	2427	2438	2400	2391	2375	2341	2315				
TEMPERATURE (°C)	15.5	15.6	15.8	15.7	15.9	16.0	16.3				
TURBIDITY (NTU)	269	37	713	365	125	96	71				
DISSOLVED OXYGEN (ppm)	5.6	4.2	3.2	4.6	4.9	5.7	6.3				
Eh (mV)	-86.9	-104.9	-128.8	-146.5	-157.2	-176.3	-171.4				

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.
 Well dry after 1.5 gallons removed, returned to sample.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-10</u>
PROJECT NO.: <u>05-00035890.02</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and John Doerr</u>	Start: <u>12:40</u>
DATE(S): <u>10/08/2001</u>	Stop: <u>13:37</u>
Sample: <u>13:41</u>	

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>42.35</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>13.26</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>29.09</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>43.64</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>---</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>45</u>	8"	2.6

OR
 $V=0.0408 \times (\text{CASING DIAMETER})^2$

ACCUMULATED VOLUME PURGED (GALLONS)

PARAMETERS	0	4.5	9	13.5	18	22.5	27	31.5	36	40.5	45
pH	7.5	7.1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
SPEC. COND. (umhos)	1243	2063	1534	1392	1316	1285	1269	1264	1267	1263	1265
TEMPERATURE (°C)	13.4	13.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
TURBIDITY (NTU)	77	68	21	8	8	4	4	3	3	2	3
DISSOLVED OXYGEN (ppm)	2.9	3.4	5.6	0.4	3.0	2.8	2.9	2.3	2.3	2.4	2.6
Eh (mV)	-45.9	-44.7	-117.2	-151.0	-182.7	-195.2	-206.9	-216.4	-222.6	-231.5	-241.0

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-1S</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>8:15</u>
DATE(S): <u>1/23/02</u>	Stop: <u>9:00</u>
	Sample: <u>9:06</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.30</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>25.52</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>8.75</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>13.17</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>13.17</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>14.6</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.4	2.8	4.2	5.6	7	8.4	9.8	11.2	12.6	14.6
pH	7.1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
SPEC. COND. (umhos)	2568	2511	2445	2372	2357	2343	2343	2342	2341	2338	2335
TEMPERATURE (°C)	12.2	12.3	12.5	12.7	12.8	12.8	12.8	12.8	12.8	12.8	12.8
TURBIDITY (NTU)	17	12	9	4	4	6	6	6	4	3	5
DISSOLVED OXYGEN (ppm)	1.0	0.7	0.7	0.8	1.0	0.8	0.8	0.8	0.7	0.7	0.7
Eh (mV)	-54.0	-52.8	-51.4	-49.7	-49.9	-52.2	-53.6	-53.1	-56.0	-56.9	-58.9

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-1D</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>7:05</u>
DATE(S): <u>1/23/02</u>	Stop: <u>8:00</u>
	Sample: <u>8:03</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>51.00</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.00</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>25.00</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>16.50</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>16.5</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>17</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.7	3.4	5.1	6.8	8.5	10.2	11.9	13.6	15.3	17
pH	6.5	6.7	6.9	6.9	6.9	7.0	7.0	7.0	7.0	7.0	7.0
SPEC. COND. (umhos)	2254	2287	2284	2273	2259	2245	2223	2217	2215	2210	2207
TEMPERATURE (°C)	12.4	12.7	13.0	13.1	13.2	13.2	13.3	13.3	13.2	13.3	13.3
TURBIDITY (NTU)	7	5	3	4	10	11	6	4	5	6	4
DISSOLVED OXYGEN (ppm)	0.4	0.4	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Eh (mV)	233.0	213.0	7.3	-39.3	-59.6	-69.7	-92.2	-98.0	-102.9	-108.8	-115.1

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-2</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Robert Fabion</u>	Start: <u>9:05</u>
DATE(S): <u>1/24/02</u>	Stop: <u>9:40</u>
	Sample: <u>9:45</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.60</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.45</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.15</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>13.75</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>13.75</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>14</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.4	2.8	4.2	5.6	7	8.4	9.8	11.2	12.6	14
pH	7.2	7.2	7.2	7.2	7.0	7.3	7.3	7.3	7.3	7.2	7.2
SPEC. COND. (umhos)	4396	4399	4373	4173	3437	2291	2316	2372	2374	2415	2444
TEMPERATURE (°C)	12.0	12.3	12.5	12.7	12.8	12.7	12.8	12.9	12.9	12.9	13.0
TURBIDITY (NTU)	63	57	43	32	24	18	11	9	14	10	6
DISSOLVED OXYGEN (ppm)	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Eh (mV)	-116.9	-126.3	-133.2	-143.4	-162.9	-166.3	-177.0	-178.7	-179.1	182.3	187.2

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-3</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>16:30</u>
DATE(S): <u>1/22/02</u>	Stop: <u>17:00</u>
	Sample: <u>17:07</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.50</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>28.20</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>7.30</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>10.95</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>11</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>11</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.1	2.2	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11
pH	7.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.5
SPEC. COND. (umhos)	1990	1981	1971	1896	1816	1728	1623	1535	1532	1491	1482
TEMPERATURE (°C)	13.0	13.6	14.0	14.1	14.1	14.0	14.1	14.1	14.2	14.2	14.1
TURBIDITY (NTU)	56	41	37	30	29	35	37	34	27	25	26
DISSOLVED OXYGEN (ppm)	0.4	0.5	0.6	0.6	0.6	0.6	0.5	0.7	0.7	0.7	0.6
Eh (mV)	1.6	-16.8	-23.3	-70.9	-73.1	-76.3	82.3	-79.5	-71.4	-72.3	-74.1

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-4S</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>9:30</u>
DATE(S): <u>1/22/02</u>	Stop: <u>10:00</u>
	Sample: <u>10:05</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>33.90</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>27.32</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>6.58</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.87</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>10</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>10</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1	2	3	4	5	6	7	8	9	10
pH	6.7	7.3	7.4	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6
SPEC. COND. (umhos)	1494	1489	1480	1447	1420	1383	1333	1308	1271	1257	1262
TEMPERATURE (°C)	12.8	13.7	14.0	14.0	14.2	14.1	14.2	14.2	14.3	14.2	14.2
TURBIDITY (NTU)	17	13	9	15	11	10	7	6	5	4	4
DISSOLVED OXYGEN (ppm)	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Eh (mV)	15.2	-10.1	-17.6	-27.4	-35.7	-44.5	-51.3	-57.9	-68.0	-67.5	-68.2

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-4D</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>10:30</u>
DATE(S): <u>01/23/2002</u>	Stop: <u>11:15</u>
	Sample: <u>11:15</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>50.55</u>	1"	0.0
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>29.45</u>	2"	0.2
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>21.10</u>	3"	0.4
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.7
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>13.92</u>	5"	1.0
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>14</u>	6"	1.5
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>27</u>	8"	2.6
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.4	2.8	4.2	5.6	7	8.4	9.8	11.2	12.6	14
pH	8.3	8.2	8.1	8.1	8.0	7.3	7.9	7.9	7.8	7.8	7.8
SPEC. COND. (umhos)	4224	4247	4010	3950	3830	3610	3600	3530	3420	3380	3250
TEMPERATURE (°C)	13.1	13.5	13.6	13.6	13.7	13.7	13.8	13.9	14.0	14.0	14.0
TURBIDITY (NTU)	59	26	22	18	16	14	14	12	10	10	9
DISSOLVED OXYGEN (ppm)	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5
Eh (mV)	-105.6	-117.6	-126.7	-125.3	-118.2	-112.3	-106.5	-109.3	-115.3	-118.3	-121.5

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-5</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Robert Fabion</u>	Start: <u>10:15</u>
DATE(S): <u>1/24/02</u>	Stop: <u>10:55</u>
	Sample: <u>10:57</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.45</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>24.19</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.96</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>14.94</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>15</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>15</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
pH	11.5	11.8	11.5	10.9	9.9	9.4	9.2	9.1	9.2	9.3	9.3
SPEC. COND. (umhos)	2231	2233	2075	1753	1551	1458	1454	1467	1509	1654	1671
TEMPERATURE (°C)	11.1	11.9	12.1	12.0	12.1	12.0	12.0	12.0	12.0	12.0	12.1
TURBIDITY (NTU)	73	63	41	37	21	18	11	9	6	12	15
DISSOLVED OXYGEN (ppm)	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Eh (mV)	-212.4	-236.2	-292.3	217.4	-197.6	-186.3	-181.3	178.4	-173.9	-161.0	-159.9

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-6</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>13:00</u>
DATE(S): <u>1/24/02</u>	Stop: <u>13:50</u>
	Sample: <u>13:55</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>34.40</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>22.45</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>11.95</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>17.90</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>18</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>18</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.8	3.6	5.4	7.2	9	10.8	12.6	14.4	16.2	18
pH	7,025.0	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.1
SPEC. COND. (umhos)	2835	2836	2836	2836	2830	2826	2810	2781	2775	2771	2765
TEMPERATURE (°C)	11.7	12.1	12.2	12.3	12.4	12.6	12.6	12.7	12.7	12.8	12.9
TURBIDITY (NTU)	62	22	19	16	14	11	10	9	9	6	6
DISSOLVED OXYGEN (ppm)	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Eh (mV)	-110.9	-127.9	-130.5	-136.2	-145.6	-154.2	-161.3	-163.0	-164.3	-165.2	-166.3

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-7</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Robert Fabion</u>	Start: <u>11:35</u>
DATE(S): <u>1/24/02</u>	Stop: <u>12:40</u>
	Sample: <u>12:41</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>33.95</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>22.18</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>11.77</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>17.65</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>18</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>18</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.8	3.6	5.4	7.2	9	10.8	12.6	14.4	16.2	18
pH	7.5	7.4	7.3	7.3	7.2	7.2	7.2	7.2	7.2	7.2	7.2
SPEC. COND. (umhos)	2480	2483	2481	2480	2481	2479	2471	2473	7456	2449	2431
TEMPERATURE (°C)	11.7	12.1	12.3	12.4	12.5	12.6	12.6	12.6	12.6	12.7	12.9
TURBIDITY (NTU)	43	26	13	11	10	6	5	4	10	6	5
DISSOLVED OXYGEN (ppm)	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Eh (mV)	-49.3	-58.4	-67.2	-72.6	-74.4	76.6	-75.5	-75.3	-75.4	-76.7	-76.9

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-8S</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>13:50</u>
DATE(S): <u>1/22/02</u>	Stop: <u>14:20</u>
	Sample: <u>14:23</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>24.45</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>16.31</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>8.14</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>12.21</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>13</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>13</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13
pH	7.8	7.7	7.7	7.8	7.8	7.8	7.8	7.7	7.6	7.6	7.5
SPEC. COND. (umhos)	1491	1495	1505	1508	1516	1538	1544	1547	1553	1560	1562
TEMPERATURE (°C)	13.8	14.2	14.4	14.4	14.5	14.6	14.5	14.6	14.5	14.6	14.6
TURBIDITY (NTU)	14	10	9	8	5	4	2	4	5	5	5
DISSOLVED OXYGEN (ppm)	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Eh (mV)	-114.8	-119.2	-121.3	-121.6	-120.5	-108.5	-97.4	-90.1	-81.1	-87.5	-88.7

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-8D</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>13:00</u>
DATE(S): <u>1/22/02</u>	Stop: <u>13:40</u>
	Sample: <u>13:45</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>44.55</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>18.45</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>26.10</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>17.22</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>18</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>18</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1.8	3.6	5.4	7.2	9	10.8	12.6	14.4	16.2	18
pH	7.6	7.5	7.5	7.5	7.4	7.4	7.4	7.3	7.3	7.3	7.3
SPEC. COND. (umhos)	2132	2131	2132	2131	2080	2063	2066	2069	2075	2079	2081
TEMPERATURE (°C)	13.7	14.0	14.1	14.2	14.3	14.3	14.3	14.3	14.3	14.4	14.3
TURBIDITY (NTU)	10	4	4	1	2	3	4	2	4	1	3
DISSOLVED OXYGEN (ppm)	0.8	0.7	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
Eh (mV)	-145.8	-147.6	-148.0	-148.7	-147.6	-151.8	-143.4	-146.5	-152.4	-159.6	160.5

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-9</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>12:45</u>
DATE(S): <u>1/23/02</u>	Stop: <u>13:05</u>
	Sample: <u>13:10</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>19.90</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>11.12</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>0.17</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>8.78</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>1.49</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>3</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>3</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3
pH	8.1	8.1	8.1	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2
SPEC. COND. (umhos)	2787	2752	2748	2692	2655	2643	2650	2672	2680	2684	2633
TEMPERATURE (°C)	10.9	11.1	11.1	11.2	11.3	11.3	11.4	11.5	11.5	11.6	11.3
TURBIDITY (NTU)	26	22	20	18	15	13	12	10	10	9	8
DISSOLVED OXYGEN (ppm)	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Eh (mV)	-117.4	-119.6	-121.6	-122.2	-123.1	-124.2	-124.0	-124.5	-124.7	-124.8	-119.7

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-10</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>10:25</u>
DATE(S): <u>1/23/02</u>	Stop: <u>12:25</u>
	Sample: <u>12:30</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>42.38</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>13.13</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>29.25</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>43.87</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>50</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>50</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	5	10	15	20	25	30	35	40	45	50
pH	7.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
SPEC. COND. (umhos)	1625	1599	1588	1606	1619	1609	1627	1638	1647	1648	1663
TEMPERATURE (°C)	13.6	13.8	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.8	13.9
TURBIDITY (NTU)	51	29	22	19	18	23	27	22	19	24	23
DISSOLVED OXYGEN (ppm)	1.2	1.7	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Eh (mV)	-169.4	-253.8	-257.3	-261.5	-261.3	-260.5	-263.1	-264.2	-264.5	-264.9	-262.5

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-11</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>14:45</u>
DATE(S): <u>1/22/02</u>	Stop: <u>16:10</u>
	Sample: <u>16:15</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>33.93</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>27.78</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>6.15</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>9.20</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>10</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>10</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	1	2	3	4	5	6	7	8	9	10
pH	7.0	7.2	7.3	7.2	7.1	7.1	7.1	7.0	7.1	7.1	7.1
SPEC. COND. (umhos)	1340	1331	1337	1544	1567	1582	1602	1618	1568	1590	1599
TEMPERATURE (°C)	13.9	14.4	14.6	14.8	14.8	14.9	14.9	15.0	14.8	14.8	14.8
TURBIDITY (NTU)	38	47	41	29	21	19	15	11	9	6	3
DISSOLVED OXYGEN (ppm)	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6
Eh (mV)	-38.6	-47.2	-47.1	-58.4	-53.4	-53.3	-54.1	-54.9	-52.0	-50.3	-50.3

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-12</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Kevin Kearney</u>	Start: <u>11:40</u>
DATE(S): <u>1/22/02</u>	Stop: <u>12:40</u>
	Sample: <u>12:45</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>37.47</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>24.48</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>12.99</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>19.49</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>20</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>20</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	2	4	6	8	10	12	14	16	18	20
pH	8.2	7.6	7.5	7.3	7.2	7.0	6.9	6.9	6.9	6.8	6.9
SPEC. COND. (umhos)	1003	896	870	782	762	768	773	785	796	784	782
TEMPERATURE (°C)	12.4	13.0	13.0	13.2	13.2	13.3	13.4	13.4	13.4	13.4	13.4
TURBIDITY (NTU)	24	19	13	11	19	21	18	14	11	9	9
DISSOLVED OXYGEN (ppm)	0.4	0.3	0.5	0.3	0.3	0.3	0.5	0.6	0.6	0.6	0.5
Eh (mV)	-154.2	-160.4	-154.4	-88.3	-60.3	-31.4	-33.6	-28.4	-25.4	-23.9	-24.2

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>PZ-1</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Robert Fabian</u>	Start: <u>8:10</u>
DATE(S): <u>1/24/02</u>	Stop: <u>8:45</u>
	Sample: <u>8:50</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>14.25</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>4.39</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>9.86</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.02</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>0.20</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>2</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>2</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	0.5	1	1.5	2	sample					
pH	7.5	7.3	7.3	7.2	7.2	7.3					
SPEC. COND. (umhos)	1390	1400	884	817	742	743					
TEMPERATURE (°C)	8.9	9.5	8.6	8.4	8.0	8.0					
TURBIDITY (NTU)	>100	>100	>100	>100	>100	>100					
DISSOLVED OXYGEN (ppm)	0.4	0.4	0.4	0.5	0.4	0.5					
Eh (mV)	-69.0	-61.9	-47.3	-35.9	-20.9	2.4					

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-13 S</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Mike Gutmann</u>	Start: <u>12:30</u>
DATE(S): <u>3/25/02</u>	Stop: <u>13:45</u>
	Sample: <u>13:45</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>36.35</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>23.05</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>13.30</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>1.5</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>19.95</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>19.95</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>20</u>	8"	2.60
OR				
$V=0.0408 \times (\text{CASING DIAMETER})^2$				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	2	4	6	8	10	12	14	16	18	20
pH	8.4	8.1	8.0	7.9	7.9	7.8	7.8	7.7	7.4	7.4	7.5
SPEC. COND. (umhos)	1258	1254	1253	1247	1227	1221	1218	1220	1226	1226	1227
TEMPERATURE (°C)	11.3	11.4	11.9	12.2	12.2	12.3	12.4	12.5	12.6	12.4	12.5
TURBIDITY (NTU)	63	47	23	19	15	11	13	9	6	5	3
DISSOLVED OXYGEN (ppm)	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Eh (mV)	-69.3	-75.0	-86.0	-95.0	-100.0	-104.0	-108.3	-110.2	-115.6	-116.5	-117.6

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-13 D</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Mike Gutmann</u>	Start: <u>11:00</u>
DATE(S): <u>3/25/02</u>	Stop: <u>12:15</u>
	Sample: <u>12:15</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>53.32</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>26.53</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>26.79</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>17.68</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>17.68</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>20</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	2	4	6	8	10	12	14	16	18	20
pH	8.0	7.9	8.2	8.4	8.2	8.1	7.9	7.9	7.8	7.7	7.7
SPEC. COND. (umhos)	5602	5511	4416	4574	4862	5032	5233	5320	5351	5400	5420
TEMPERATURE (°C)	11.6	11.7	11.8	12.0	12.1	12.1	12.1	12.2	12.2	12.2	12.2
TURBIDITY (NTU)	56	41	23	21	19	14	11	6	4	3	5
DISSOLVED OXYGEN (ppm)	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Eh (mV)	-83.1	-89.2	-88.3	-101.5	-107.3	-112.7	-121.5	-128.1	-133.1	-139.0	-145.3

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: <u>Chem Core</u>	WELL NO.: <u>MW-14</u>
PROJECT NO.: <u>05-00035890.03</u>	Page: 1 of 1
STAFF: <u>Scott McCabe and Mike Gutmann</u>	Start: <u>14:00</u>
DATE(S): <u>3/25/02</u>	Stop: <u>14:25</u>
	Sample: <u>14:25</u>

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	<u>35.45</u>	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	<u>27.23</u>	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	<u>8.22</u>	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	<u>0.66</u>	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	<u>5.43</u>	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ____)	=	<u>5.43</u>	6"	1.50
7. VOLUME OF WATER REMOVED (GAL.)	=	<u>6</u>	8"	2.60
OR V=0.0408 x (CASING DIAMETER) ²				
ACCUMULATED VOLUME PURGED (GALLONS)				

PARAMETERS	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
pH	7.5	7.4	7.3	7.3	7.2	7.2	7.2	7.2	7.1	7.1	7.1
SPEC. COND. (umhos)	2846	2844	2860	2884	2892	2901	2916	2925	2927	2931	2933
TEMPERATURE (°C)	12.4	12.4	12.7	12.7	12.8	12.8	12.9	12.8	12.9	13.0	13.0
TURBIDITY (NTU)	39	21	14	11	9	6	5	4	4	5	6
DISSOLVED OXYGEN (ppm)	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Eh (mV)	39.0	21.0	14.0	11.0	9.0	6.0	2.0	-1.0	-5.0	-21.0	-23.0

COMMENTS: Monitoring well purged with Grundfos submersible pumps using dedicated HDPE tubing and flow-thru cell.

APPENDIX F

SURVEY DATA

Job Chem Core

Project No. 35890.02

Description MW-4 sketch

Computed by Wate

Checked by VL

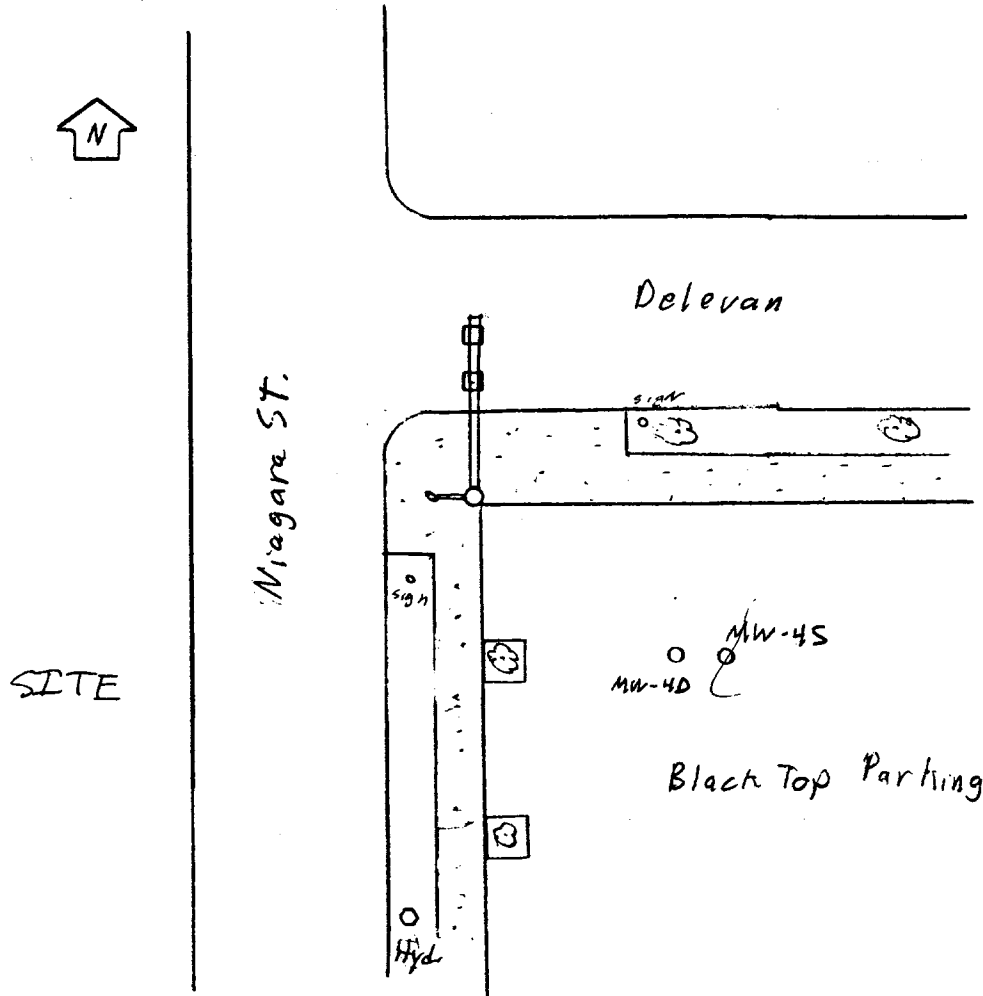
Page ____ of ____

Sheet ____ of ____

Date 10/2/01

Date 10/8/01

Reference



MONITORING WELL INFORMATION

::

CHEM CORE FACILITY GROUND COORDINATES

10/08/2001

WELL No.	NORTHING	EASTING	ELEVATION OF		
			GROUND	CASING	RISER
MW-1D	1064872.175	1063785.482	595.67	595.67	595.39
MW-4D	1064882.864	1064042.039	598.67	598.67	598.20
MW-4S	1064882.016	1064046.794	598.88	598.88	598.62
MW-5	1064926.553	1063864.570	594.79	594.79	594.58
MW-6	1064832.232	1063752.372	592.55	592.77	592.42
MW-7	1064762.937	1063737.645	592.53	592.85	591.86
MW-8	1064443.284	1063740.854	587.82	587.82	587.45
MW-9	1064781.803	1063597.075	582.60	582.60	582.26
MW-10	1064868.721	1063624.929	582.87	582.87	582.51
GB-5	1064841.887	1063916.929	596.57		
GB-6	1064808.896	1063913.401	596.19		
GB-7	1064771.020	1063909.986	596.93		
GB-8	1064737.137	1063906.469	596.77		
GB-15	1064766.058	1063812.631	596.82		
GB-16	1064771.548	1063772.603	596.72		
GB-21	1064838.825	1063782.991	596.71		
GB-22	1064837.909	1063819.647	596.75		
SED-SW1	1065174.593	1063669.484			
SED-SW-2	1065077.897	1063649.008			
SED-SW-3	1064978.595	1063637.137			
SED-SW-4	1064883.631	1063607.620			
SED-SW-5	1064787.682	1063578.594			
SED-SW-6	1064692.454	1063549.924			
GAUGE POINT	1064963.722	1063633.892	578.82		

DATUMS:

HORIZONTAL: NAD83/92

VERTICAL: NGVD 29

MONITORING WELL INFORMATION

::

CHEM CORE FACILITY

GROUND COORDINATES: NAD83/ NGVD29

03-26-02

WELL No.	NORTHING	EASTING	ELEVATION OF		
			CASING	RISER	GROUND
MW-8D	1064444.677	1063735.802	587.50	587.06	587.50
MW-11	1064661.210	1063819.423	597.99	597.50	597.99
MW-12	1064350.540	1063660.962	596.11	595.71	596.11
MW-13D	1063773.952	1063514.833	593.95	593.45	593.95
MW-13S	1063778.308	1063516.029	593.97	593.50	593.97
MW-14	1064770.374	1063871.202	597.17	596.71	597.17
SVE-1	1064770.781	1063874.837	597.20	597.26	597.20
VO-1	1064775.517	1063875.753	597.26	596.99	597.26
VO-2	1064756.230	1063872.268	597.30	596.96	597.30
VO-3	1064771.392	1063865.448	597.11	596.57	597.11
VO-4	1064773.395	1063854.911	597.06	596.73	597.06

CORE 10-1. AS C

NAD 83/1460029

10-8-01

9,1064443.563477,1063740.846555,587.819216,MW-8 GR/CA
10,1064443.284036,1063740.854335,587.451969,MW-8 RI
20,1064763.051455,1063736.075252,592.526528,MW-7 GR
21,1064762.705247,1063737.380388,592.847738,MW-7 CA
22,1064762.936532,1063737.644678,591.857707,MW-7 RI
23,1064831.195605,1063752.227049,592.554705,MW-6 GR
24,1064832.052342,1063752.467887,592.773707,MW-6 CA
25,1064832.231678,1063752.372153,592.414985,MW-6 RI
26,1064926.672233,1063864.126348,594.788286,MW-5 GR/CA
27,1064926.553383,1063864.569772,594.581693,MW-5 RI
28,1064883.137545,1064042.287724,598.668969,MW-4D GR/CA
29,1064882.863928,1064042.039348,598.195532,MW-4D RI
30,1064881.654032,1064046.537648,598.881611,MW-4S GR/CA
31,1064882.016326,1064046.793520,598.623223,MW-4S RI
32,1064841.887392,1063916.928682,596.569958,GB-5
33,1064808.896368,1063913.400612,596.188388,GB-6
34,1064771.020312,1063909.985774,596.926775,GB-7
35,1064737.136706,1063906.468588,596.765901,GB-8
36,1064872.190350,1063784.998063,595.667729,MW-1D GR/CA
37,1064872.174635,1063785.482348,595.387240,MW-1D RI
38,1064837.909052,1063819.647414,596.745218,GB-22
39,1064838.825231,1063782.990741,596.714314,GB-21
40,1064771.547921,1063772.603395,596.719175,GB-16
41,1064766.058416,1063812.630453,596.821942,GB-15
42,1064692.454342,1063549.923476,583.090051,SED-SW6
43,1064787.682006,1063578.594354,582.684978,SED-SW5
44,1064883.630868,1063607.619990,580.953681,SED-SW4
45,1064978.595320,1063637.136648,578.869228,SED-SW3
46,1064963.721656,1063633.891892,578.815012,GAUGEPOINT
47,1065077.896628,1063649.007788,570.790856,SED-SW2
48,1065174.592712,1063669.483700,570.813675,SED-SW1
49,1064868.257807,1063624.948982,582.866720,MW-10 GR/CA
50,1064868.721357,1063624.928718,582.514408,MW-10 RI
51,1064781.557254,1063596.964209,582.600436,MW-9 GR/CA
52,1064781.802803,1063597.074948,582.259249,MW-9 RI

POINT	NORTHING	EASTING	ELEVATION	NOTE
1	1064913.3417	1063930.1820	595.7543	TRAV1
2	1064376.1570	1063873.3660	599.9800	TRAV2
3	1064692.6240	1063909.3320	597.9500	TRAV3
4	1064854.5822	1063923.8874	596.4294	TRAV4
5	1064930.8915	1063768.0773	592.8778	TRAV5
6	1064836.6247	1063771.9528	596.6716	TRAV6
7	1064776.8986	1063759.9543	596.6636	TRAV7
8	1064436.5769	1063881.9454	599.3055	TRAV
9	1064443.5635	1063740.8466	587.8192	MW-8 GR/CA
10	1064443.2840	1063740.8543	587.4520	MW-8 RI
20	1064763.0515	1063736.0753	592.5265	MW-7 GR
21	1064762.7052	1063737.3804	592.8477	MW-7 CA
22	1064762.9365	1063737.6447	591.8577	MW-7 RI
23	1064831.1956	1063752.2270	592.5547	MW-6 GR
24	1064832.0523	1063752.4679	592.7737	MW-6 CA
25	1064832.2317	1063752.3722	592.4150	MW-6 RI
26	1064926.6722	1063864.1263	594.7883	MW-5 GR/CA
27	1064926.5534	1063864.5698	594.5817	MW-5 RI
28	1064883.1375	1064042.2877	598.6690	MW-4D GR/CA
29	1064882.8639	1064042.0393	598.1955	MW-4D RI
30	1064881.6540	1064046.5376	598.8816	MW-4S GR/CA
31	1064882.0163	1064046.7935	598.6232	MW-4S RI
32	1064841.8874	1063916.9287	596.5700	GB-5
33	1064808.8964	1063913.4006	596.1884	GB-6
34	1064771.0203	1063909.9858	596.9268	GB-7
35	1064737.1367	1063906.4686	596.7659	GB-8
36	1064872.1904	1063784.9981	595.6677	MW-1D GR/CA
37	1064872.1746	1063785.4823	595.3872	MW-1D RI
38	1064837.9091	1063819.6474	596.7452	GB-22
39	1064838.8252	1063782.9907	596.7143	GB-21
40	1064771.5479	1063772.6034	596.7192	GB-16
41	1064766.0584	1063812.6305	596.8219	GB-15

APPENDIX G

FISH AND WILDLIFE IMPACT ANALYSIS

CHEM-CORE FISH AND WILDLIFE IMPACT ANALYSIS

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Table 1 Chem-Core Site Potential Exposure Pathways.

FIGURES
(Following Tables)

Figure 1	Chem-Core Site Location
Figure 2	Chem-Core Study Area/Topographic Map
Figure 3	Covertime Map
Figure 4	Drainage Map
Figure 5	Sediment Analytical Results – Benthic Chronic Protection Standards (2001)
Figure 6	Sediment Analytical Results – Wildlife Bioaccumulation Protection Standards (2001)
Figure 7	Surface Water Analytical Results (2001)

Photographs

1.0 INTRODUCTION

The State of New York lists Chem-Core as an inactive hazardous waste site. Chemical analyses of media collected from the site and a visual inspection of the surrounding area indicate that there is a potential for ecological impact from site-related chemicals. The New York State Department of Environmental Conservation (NYSDEC) has determined that a Fish and Wildlife Impact Analysis for Hazardous Inactive Waste Sites (FWIA) (NYSDEC, 1994) is the best approach to pursue for assessing potential ecological impacts at inactive hazardous waste sites.

The FWIA is a stepwise process that was developed for the state superfund program to determine the nature and extent of ecological danger from hazardous waste sites in New York. The FWIA is applied to inactive hazardous waste sites on a case by case basis.

The objectives of Step I of the FWIA process are to identify the fish and wildlife resources that exist at the site, and to provide information necessary for the design of a remedial investigation. If, following Step I it is determined that fish and wildlife resources are present and could be affected by hazardous waste released from the site, then Step II, a contaminant specific impact assessment, is warranted. The objective of Step II is to determine the impacts of site-related contaminants on the fish and wildlife resources identified during Step I. These impacts are dependent upon analyses of the contaminants of concern, the concentration of contaminants in the affected media, the exposure of biota to the contaminants, and the toxic effects of the exposures. The purpose of this report is to present the findings of the Step I FWIA for the site and to determine whether or not a Step II analysis is required.

2.0 STEP I: SITE DESCRIPTION

The former Chem-Core site is located in Buffalo (Erie County), New York (Figure 1). It is located at 1382 Niagara Street which is accessible from Interstate 190.

The primary habitats found on the Chem-Core site consist of various types of pavement or man-made surfaces: impervious; semi-pervious; and pervious. Each pavement type is subdivided into groups based upon the material from which it is made. Active traffic areas do not support ecological communities.

In general, impervious pavement, either asphalt or concrete, provides the least potential for supporting ecological resources. Living organisms are limited to lichens and mosses, and only occur when the pavement is deserted. There may be a few macroinvertebrates associated with these vegetation types.

Semi-pervious pavement is either hard-packed material such as limestone or gravel, or is a formerly impervious surface that has crumbled and cracked. These types of surfaces may support the same types of lichens and mosses as previously mentioned, plus a few hardy pioneer species of grasses, herbs and occasional woody plants. There may be invertebrates and occasional vertebrates associated with vegetated areas.

Pervious pavement consists of loose gravel, sand or slag. The source of the material may be temporary roads, waste piles, or debris from crumbled surfaces or buildings. Vegetation that covers these areas is a function of the depth of material over the soil and the age of the surface. Thin coverings may only partially limit vegetative cover, while deeper material may completely inhibit establishment and growth of plants.

2.1 Step I.A – Site Maps

2.1.1 Topographic Map

A topographic map was made with a 2-mile radius centered on the Chem-Core site (Figure 2).

Within the circumference of the indicated 2-mile radius there are no listed:

- NYSDEC Significant Habitats,
- wild, scenic, or recreational rivers, or
- significant coastal zone areas.

However, as included in the attached New York Natural Heritage Program Report, species or plants or animals that may be endangered, threatened or rare, or of special concern, may occur within two miles of the Chem-Core site. No state-listed animals and plants were identified within the project area during the site visit.

Other land usage near the site includes industrial, municipal, transportation, general business and residential, none of which are expected to support important ecological resources.

2.1.2 Covertypes Map

Figure 3 is a map of the habitat covertypes within 0.5 mile radius of the project site. The completion of this habitat coertype map followed the descriptions and classifications of the natural communities detailed in the Ecological Communities of New York State (NYSDEC, 1990).

Information included in the following coertype descriptions was collected through secondary sources, including a review of published and unpublished literature, and during field investigations. The objectives of the field investigation, conducted on October 2, 2001, were to confirm the covertypes present and identify the various habitats that occur within each coertype on the site. An inventory of the dominant plant species that occur in each habitat is included with the coertype descriptions.

2.1.2.1 Riverine System – Riverine Cultural

Canal – This coverytype exists just west of the site in the form of the Black Rock Canal and effectively the Niagara River. These systems have been modified and maintained over the years and will continue to receive human influences which modify the stream flow, channel morphology, water chemistry and biological composition. Common species of aquatic vertebrates and invertebrates are expected to occupy these habitats.

2.1.2.2 Terrestrial Systems – Terrestrial Cultural

Three terrestrial vegetative habitats were identified within the project area. These three habitats consist of mowed lawn with trees, unpaved road/path, and paved road/path as described by Reschke (1990).

Mowed Lawn with Trees – This habitat type occupies most of the land adjacent to the subject site. Properties located to the east of Interstate Route 190 have been mapped as mowed lawn with trees. Species associated with this habitat typically consists of common tree species such as basswood (*Tilia americana*), sugar maple (*Acer saccharum*), sweet gum (*Liquidambar styraciflua*) and ornamental shrubs such as privet (*Ligustrum vulgare*) and forsythia (*Forsythia* sp.). Additionally, common forb and grass species such as clovers (*Trifolium* sp.), fescue (*Festuca* sp.), and bluegrass (*Poa* sp.) comprise the mowed lawn portion of this habitat type. Additional mowed lawn with trees habitat has been mapped on Squaw Island located west of Black Rock Canal and the project site.

Unpaved Road/Path – This cover type includes a multitude of situations in which vegetation has been removed, but the surface has not been paved or sealed. Examples include the gravel parking areas and the railroad bed at the site. Vascular plants are only minor, incidental components of this cover type. Species noted at the project site in association with this habitat type consisted of butter-and-eggs (*Linaria vulgaris*), field goldenrod (*Solidago canadensis*), waterleaf (*Hydrophyllum appendiculatum*), and teasel (*Dipsacus fullonum*).

Paved Road/Path – This cover type includes paved surfaces such as roads, parking lots, concrete pads and building exteriors. These surfaces are impervious to precipitation and possess artificial drainage systems such as gutters and storm sewers. Vascular plants are minor, incidental components of this cover type.

2.1.3 Drainage Map

A drainage map was also prepared using the Phase I base map (Figure 4). Drainage for the site is mainly conveyed through a curb and gutter system along Niagara Street and Interstate Route 190 which in turn feeds a subsurface stormwater system.

2.2 Step I.B – Description of Fish and Wildlife Resources

In general, most of the information on fish and wildlife was collected from secondary information, while information on vegetation and signs of stress were field collected. The presence of wildlife was limited to urban species such as striped skunk (*Mephitis mephitis*) and raccoons (*Procyon lotor*). Bird species included rock dove (*Columbina livia*), house sparrows (*Passer domesticus*), American robins (*Turdus migratorius*), European starling (*Sturnus vulgaris*) and occasional transient migratory birds as well as terns and gulls associated with the nearby Black Rock Canal and Niagara River.

2.3 Step I.C – Description of Fish and Wildlife Resource Values

There are no fish or wildlife resources on the Chem-Core site that have significant ecological or social value. The presence of wildlife was limited to urban species such as striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*). Bird species included rock dove (*Columbina livia*), house sparrows (*Passer domesticus*), American robins (*Turdus migratorius*), European starling (*Sturnus vulgaris*) and occasional transient migratory birds as well as terns and gulls associated with the nearby Black Rock Canal and Niagara River. All of these would be considered common species with no great ecological value.

2.4 **Step I.D – Identification of Applicable Fish and Wildlife Regulatory Criteria**

No New York State laws, rules, regulations or criteria apply to terrestrial resources on the Chem-Core site. The aquatic resources of the Black Rock Canal that is adjacent to the site are protected by the following New York State laws, rules, regulations or criteria that apply to surface waters and fish.

a. Environmental Conservation Law - Chapter 43-B of the Consolidated Laws

Article 11, Fish and Wildlife

§ 11-0503. Polluting streams prohibited

Article 15, Water Resources

Title 5 Protection of Water

b. New York Codes, Rules and Regulations

Part 608 Use and Protection of Waters

Part 701 Classifications - Surface Waters and Groundwaters

Part 702 Derivation and Use of Standards and Guidance Values

Part 703 Surface Water and Groundwater Quality Standards

c. Criteria and Guidelines

Technical Guidance for Screening Contaminated Sediment, November 1993
(Updated January 1999), NYSDEC Division of Fish and Wildlife.

Division Of Water Technical And Operational Guidance Series 1.1.5
Procedures For Deriving Ambient Water Quality Standards And Guidance
Values For Protection Of Wildlife, NYSDEC. January, 1999.

3.0 STEP II – CONTAMINANT SPECIFIC IMPACT ANALYSIS

During the field investigation particular attention was paid to identification of any visible signs of stress that might be related to chemical releases from the site, however none were identified. Additionally, potential toxic ecological effects from site-related chemicals were qualitatively assessed.

3.1 Step II.A – Pathway Analysis

Potential transport pathways of site related chemicals to important off-site ecological resources were noted during the field investigation. The potential pathways that were considered are listed in Table 1.

There were no important ecological resources identified on the site. The presence of wildlife was limited to urban species such as the striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*). Bird species included rock dove (*Columbina livia*), house sparrow (*Passer domesticus*), American robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*) and occasional transient migratory birds as well as terns and gulls associated with the nearby Black Rock Canal and Niagara River. Therefore, contaminant pathways resulting from direct contact of plants or animals with chemicals in soil were not considered to be significant.

Black Rock Canal, separated from the site by Interstate Route 190, is a possible receptor for subsurface contaminants. The Black Rock Canal, a Class C waterbody, does have the potential to support fish and wildlife resources. Within the boundary of the Chem Core site, permanent aquatic resources (ditches or streams), were not present. Due to the location of Interstate Route 190 to the west of the site, it does not appear that overland flow from the Chem-Core site directly drains to the Black Rock Canal. The FWIA Step IIA analysis did not show that surface water or contaminated shallow groundwater are discharging directly to the Black Rock Canal.

3.2 Step II.B – Criteria Specific Analysis

The results of the Pathway Analysis for the Chem-Core site indicate that there may be a potential for risk to the ecological resources of the Black Rock Canal. In that regard, fish of the Black Rock Canal have been identified as the toxicological endpoint for the potential exposure from the Chem-Core site. Maximum site concentrations for sediment collected from the Black Rock Canal was compared to NYSDEC published sediment quality criteria. Groundwater and surface water were compared to USEPA and NYSDEC ambient water quality criteria for protection of aquatic life. Results of the sampling are revealed in Figures 5, 6 and 7.

Based on the sediment analytical results compared to the benthic chronic protection standards (Figure 5) chemical levels which exceed the current standards were found in samples of the Black Rock Canal. However, chemicals found to exceed standards were PAHs and PCBs, and the Chem-Core site was not known to handle these types of chemicals. Therefore, the Chem-Core site history does not appear to associate these chemicals with past site activities.

Additionally the sediment analytical results compared to the wildlife bioaccumulation protection standards (Figure 6) found one sample which exceeded the wildlife bioaccumulation standard. The chemical found to exceed current standards is a PCB class chemical which does not coincide with the documented use and distribution of chemicals attributed to the Chem-Core site. Therefore, it is unlikely that the PCBs detected in the sediment sample is attributable to the Chem-Core site.

The results of the surface water analytical analysis revealed that no compounds were found to exceed current standards (Figure 7).

4.0 SUMMARY AND RECOMMENDATIONS

The results of the FWIA Step I analysis indicate that the only apparent ecological resources in close association to the Chem-Core site are the fish resources of the Black Rock Canal. These resources, located within approximately 200 feet of the Chem-Core site, have the

potential to provide recreational value. The FWIA Step II.A analysis did not show that surface water or contaminated shallow groundwater are discharging directly to the Black Rock Canal.

In a preliminary FWIA II.B analysis, it was determined that some chemicals were reported at concentrations above sediment quality standards. However, it does not appear that chemicals, known to have been handled at the Chem-Core site, have migrated to the Black Rock Canal, and the chemicals reported above sediment quality standards are attributable to other unknown industrial sources.

Based on the findings of this stepwise assessment, it does not seem necessary to complete additional analysis at the Chem-Core site. It does not appear impacts to fish and wildlife resources are occurring as a result of activities associated with the Chem-Core property.

5.0 LITERATURE CITED

NYSDEC. 1994. Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites. New York State Department of Environmental Conservation. Albany, New York.

NYSDEC. 1993 (with 1999 update). Technical Guidance for Screening Contaminated Sediments. New York State Department of Environmental Conservation. Albany, New York.

Reschke, C. 1990. Ecological Communities of New York State. New York Natural Heritage Program. New York State Department of Environmental Conservation. Albany, New York.

USEPA. 1986. Ambient Water Quality Criteria for Protection of Aquatic Life. U.S. Environmental Protection Agency. EPA/440/5-86.

USEPA. 1999. Ambient Water Quality Criteria Updates. U.S. Environmental Protection Agency.

TABLE 1
CHEM-CORE SITE
POTENTIAL ECOLOGICAL EXPOSURE PATHWAYS

Exposure/Contact Medium	Transporting/Source Medium	Route of Exposure	Pathway	Complete?
Soil	Direct Contact	Ingestion	Ingestion of soils containing chemicals of concern by mammals, birds, or soil fauna on-property.	No. Important ecological resources not present in terrestrial habitats.
Soil	Direct Contact	Dermal	Dermal contact with soil containing chemicals of concern by mammals, birds or soil fauna on-property.	No. Important ecological resources not present in terrestrial habitats.
Surface Water	Direct Contact	Ingestion	Ingestion of surface water containing chemicals of concern by on/off site mammals, birds, fish, or macroinvertebrates.	No. No important ecological resources on site and no apparent surface flow off site.
Surface Water	Direct Contact	Dermal	Dermal contact with surface water containing chemicals of concern by on/off site mammals, birds, fish, or macroinvertebrates.	No. No important ecological resources on site and no apparent surface flow off site.
Surface Water	Soil to Surface Water	Ingestion	Ingestion of surface water containing chemicals of concern by on/off site mammals, birds, fish, or macroinvertebrates.	No. No important ecological resources on site and no apparent surface flow off site.

TABLE 1 (CON'T)
CHEM-CORE SITE
POTENTIAL ECOLOGICAL EXPOSURE PATHWAYS

Exposure/Contact Medium	Transporting/Source Medium	Route of Exposure	Pathway	Complete?
Surface Water	Soil to Surface Water	Dermal	Dermal contact with surface water containing chemicals of concern by on/off site mammals, birds, fish, or macroinvertebrates.	No. No important ecological resources on site and no apparent surface flow off site.
Surface Water	Sediments to Surface Water	Ingestion	Ingestion of surface water containing chemicals of concern from sediments by on/off site mammals, birds, fish, or macro- invertebrates.	No. No important ecological resources on site and no apparent surface flow off site.
Surface Water	Groundwater to Surface Water	Ingestion	Ingestion of surface water containing chemicals of concern from groundwater by off site mammals, birds, fish, or macro- invertebrates sediments	No. No important ecological resources on site and no apparent surface flow off site.
Surface Water	Groundwater to Surface Water	Dermal	Dermal exposure of off site mammals, birds, fish, or macro- invertebrates to surface water containing chemicals of concern transported via groundwater.	No. No important ecological resources on site and no apparent surface flow off site.
Surface Water	Sediments to Surface Water	Dermal	Dermal contact with surface water containing chemicals of concern from sediments by on/off site mammals, birds, fish, or macro- invertebrates.	No. No important ecological resources on site and no apparent surface flow off site.

TABLE 1 (CON'T)
CHEM-CORE SITE
POTENTIAL ECOLOGICAL EXPOSURE PATHWAYS

Exposure/Contact Medium	Transporting/Source Medium	Route of Exposure	Pathway	Complete?
Air	Soil to Air	Inhalation	Volatile emissions emanating from soil containing chemicals of concern are inhaled by mammals or birds on/off site.	No. No exposed contaminated surface soil on site.
Air	Soil to Air	Inhalation	Airborne particulate emissions from soil containing chemicals of concern are inhaled by mammals or birds on/off site.	No. No exposed contaminated surface soil on site.
Air	Surface Water to Air	Inhalation	Volatile emissions from surface water containing chemicals of concern are inhaled by mammals or birds on/off site.	No. No permanent surface water on site.
Sediments	Direct Contact	Ingestion	Coincidental ingestion of sediments containing chemicals of concern by on-property mammals, birds, fish or macroinvertebrates.	No. No important ecological resources present on site.
Sediments	Direct Contact	Dermal	Dermal contact with sediments containing chemicals of concern by on-property mammals, birds, fish or macroinvertebrates.	No. No sediment on site.

TABLE 1 (CON'T)
CHEM-CORE SITE
POTENTIAL ECOLOGICAL EXPOSURE PATHWAYS

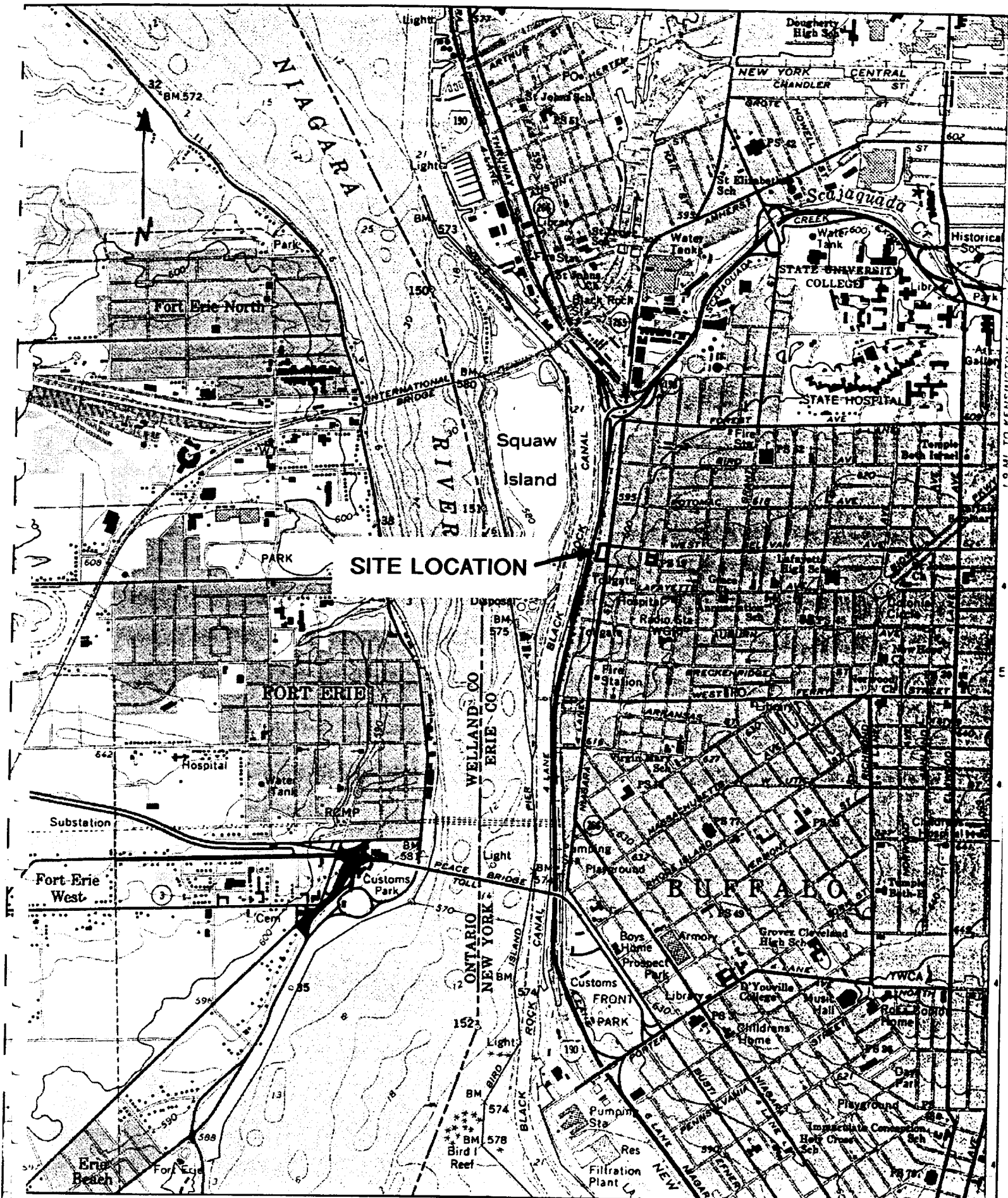
Exposure/Contact Medium	Transporting/Source Medium	Route of Exposure	Pathway	Complete?
Plants	Soil to Plants (Bio-concentration)	Ingestion	Plants which have incorporated chemicals of concern from soil are ingested by mammals, birds or soil fauna on-property.	No. No important ecological resources on site.
Plants	Surface Water to Plants (Bio-concentration)	Ingestion	Plants which have incorporated chemicals of concern from surface water are ingested by mammals, birds, or macroinvertebrates on-property.	No. No important ecological resources on site.
Soil Fauna	Soil to Soil Fauna (Bio-concentration)	Ingestion	Soil fauna (e.g., insects, earth- worms) which have incorporated chemicals of concern from soil are consumed by mammals and birds on/off-property.	No. No important ecological resources on site.
Sediment Fauna	Sediment to Sediment Fauna (Bio-concentration)	Ingestion	Sediment fauna which have incorporated chemicals of concern from sediment are consumed by mammals, birds, and fish on/off-property.	No. No important ecological resources present on site.
Sediment Flora	Sediment to Sediment Flora (Bio-concentration)	Ingestion	Sediment flora which have incorporated chemicals of concern from sediment are consumed by mammals, birds, fish and macro invertebrates on/off-property.	No. No sediment flora on site.

TABLE 1 (CON'T)
CHEM-CORE SITE
POTENTIAL ECOLOGICAL EXPOSURE PATHWAYS

Exposure/Contact Medium	Transporting/Source Medium	Route of Exposure	Pathway	Complete?
Prey Animals	Plants to Prey Animals (Bio-magnification)	Ingestion	Prey animals which have ingested chemicals of concern from land and aquatic plants are consumed by on/off-property predators.	No. No important ecological resources on site.
Prey Animals	Soil to Prey Animals (Bio-concentration)	Ingestion	Prey animals which have incorporated chemicals of concern from soil are consumed by on/off-property predators.	No. No important ecological resources on site.
Prey Animals	Soil Fauna to Prey Animals (Bio-magnification)	Ingestion	Prey animals which have ingested soil fauna containing chemicals of concern are consumed by on /off-property predators.	No. No important ecological resources on site.
Prey Animals	Surface Water to Prey Animals (Bio-concentration)	Ingestion	Prey animals which have incorporated chemicals of concern from surface water are consumed by on/off-property predators.	No. No important ecological resources on site.
Prey Animals	Sediment to Prey Animals (Bio-concentration)	Ingestion	Prey animals which have incorporated chemicals of concern from sediments are consumed by on/off-property predators.	No. No important ecological resources on-site.

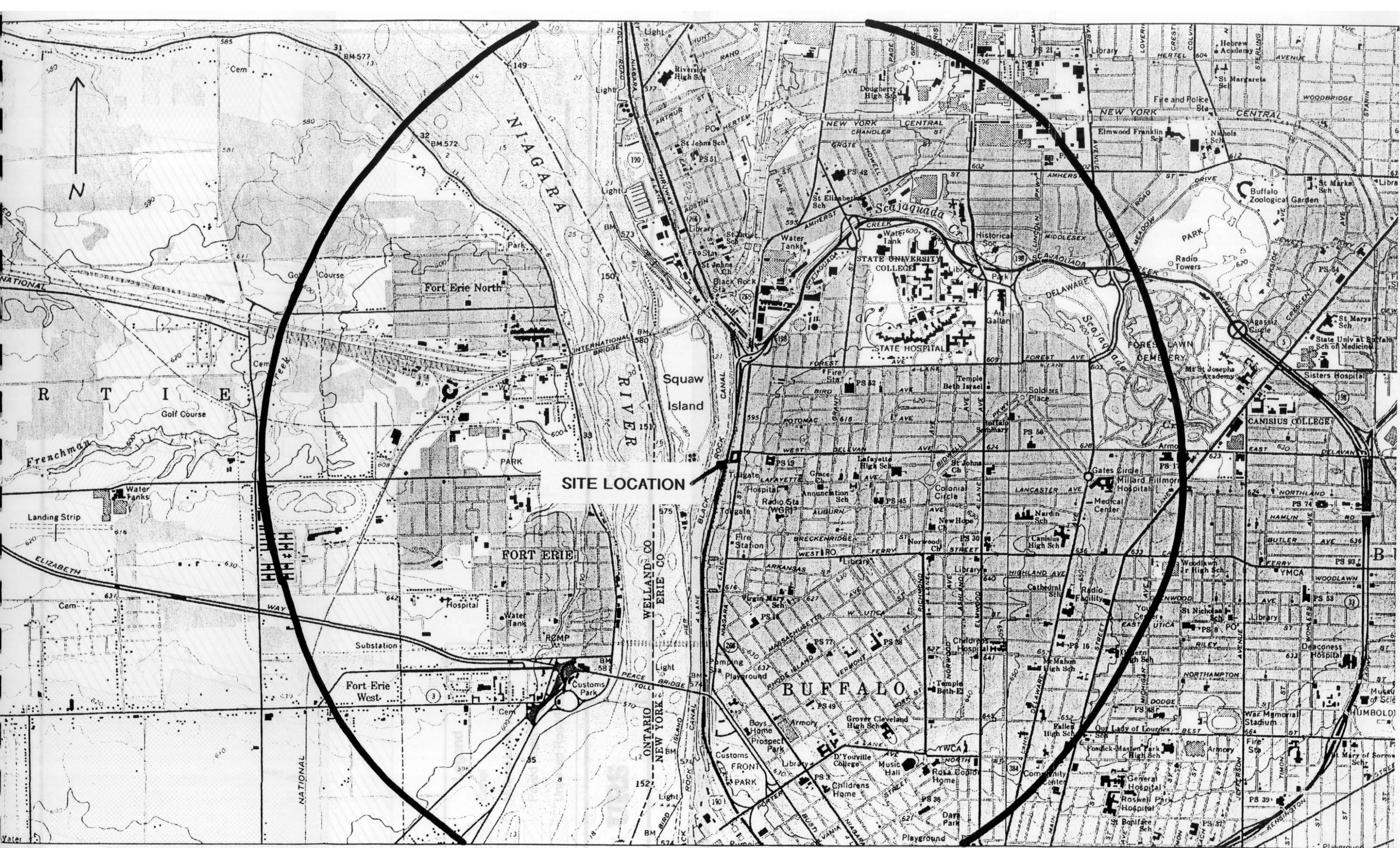
TABLE 1 (CON'T)
CHEM-CORE SITE
POTENTIAL ECOLOGICAL EXPOSURE PATHWAYS

Exposure/Contact Medium	Transporting/Source Medium	Route of Exposure	Pathway	Complete?
Prey Animals	Sediment Fauna to Prey Animals (Bio-magnification)	Ingestion	Prey animals which have ingested sediment fauna containing chemicals of concern are consumed by on/off-property predators.	No. No important ecological resources on-site.
Prey Animals	Sediment Flora to Prey Animals (Bio-magnification)	Ingestion	Prey animals which have ingested sediment flora containing chemicals of concern are consumed by on/off-property predators.	No. No important ecological resources on-site.



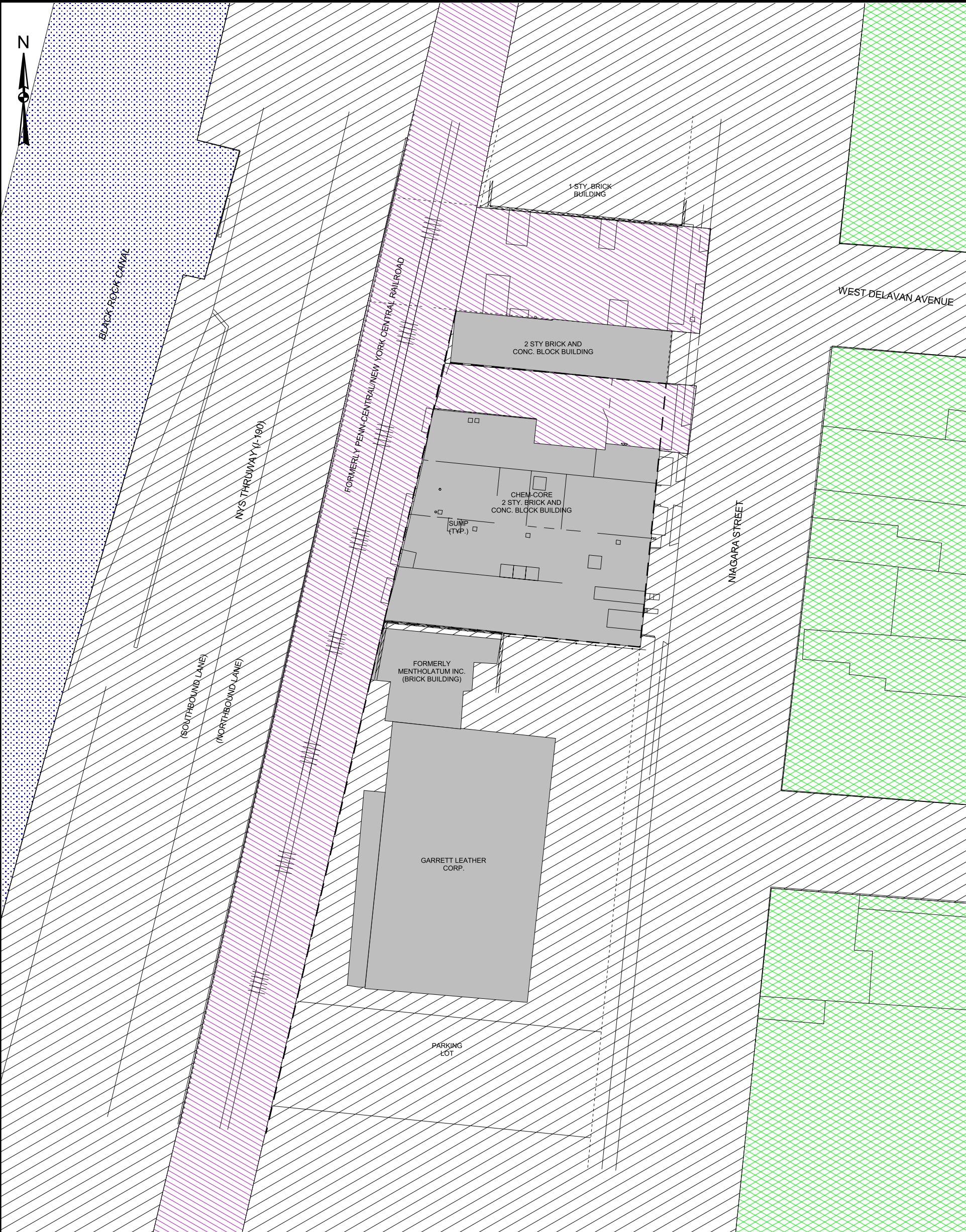
Name: BUFFALO NW
 Date: 11/27/2001
 Scale: 1 inch equals 2000 feet

Location: 042° 55' 10.1" N 078° 54' 16.1" W
 Caption: Figure 1



Name: BUFFALO NW
 Date: 11/28/2001
 Scale: 1 inch equals 2000 feet

Location: 042° 55' 23.8" N 078° 54' 08.5" W
 Caption: FIGURE 2



Legend

Canal

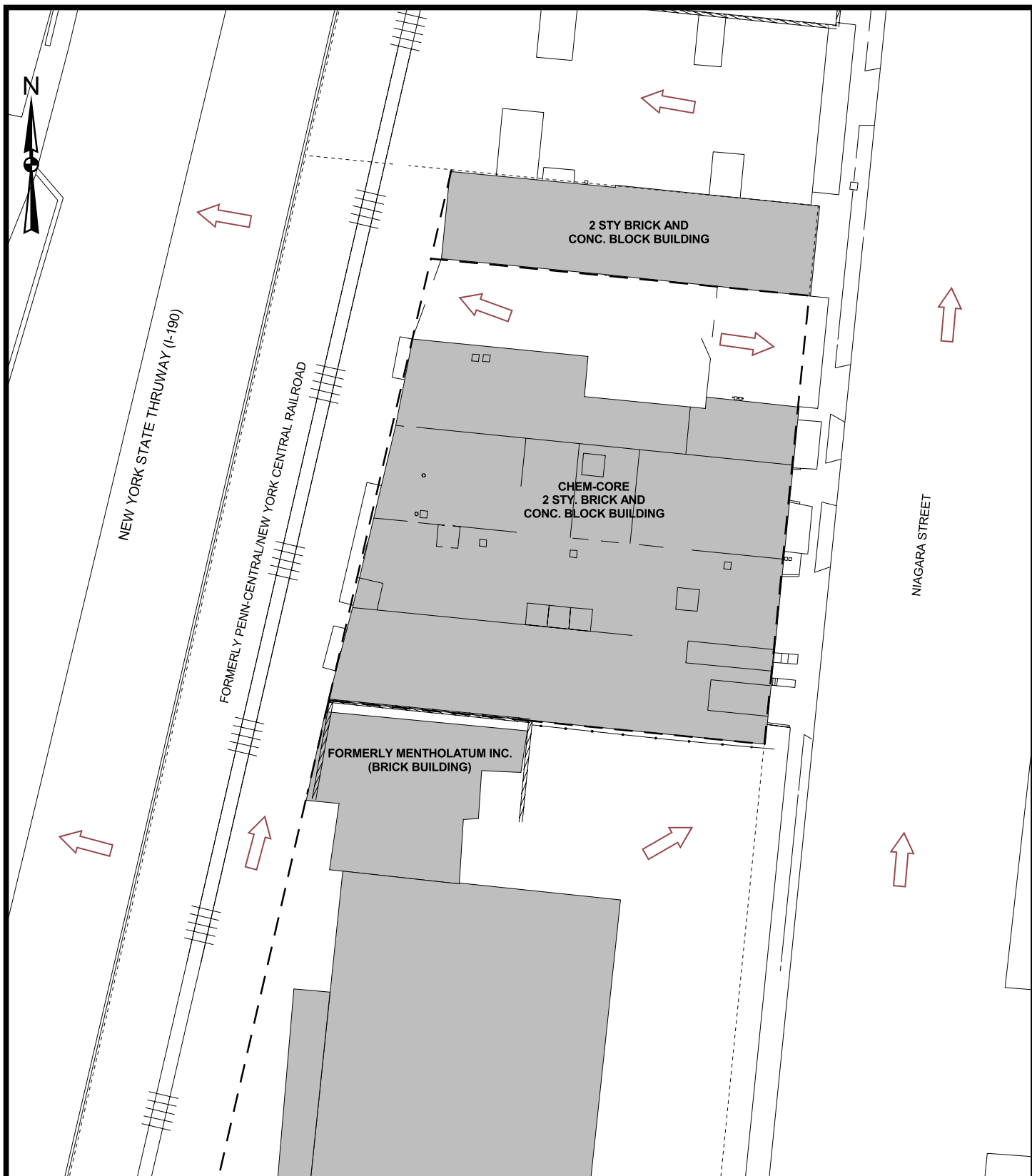
Mowed Lawn w/Trees

Paved Road/Path

Unpaved Road/Path

CHEM CORE
COVER TYPE

FIGURE 3



Legend

 Direction of Drainage

50 0 50 Feet



URS

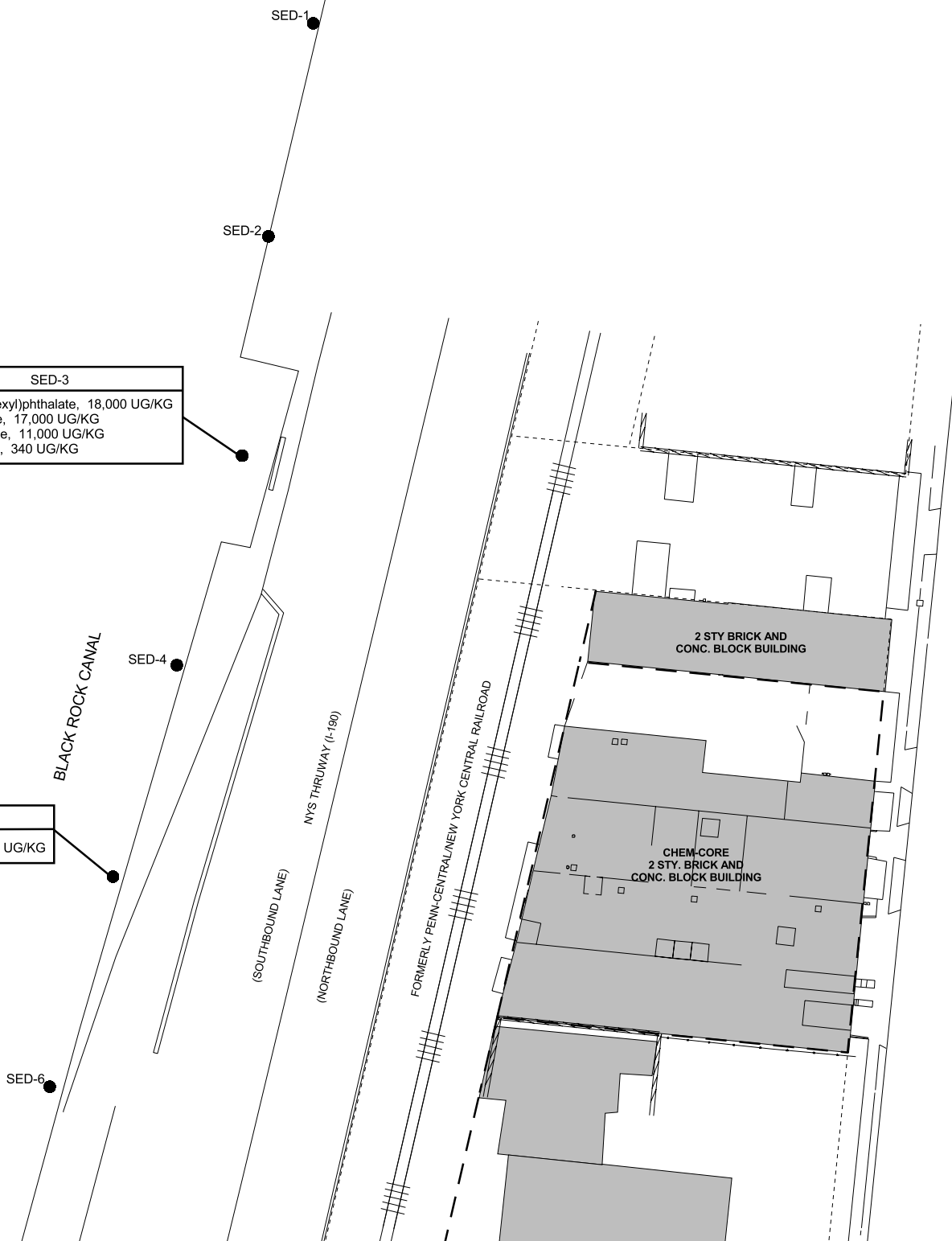
CHEM CORE
DRAINAGE MAP

FIGURE 4



SED-3
bis(2-Ethylhexyl)phthalate, 18,000 UG/KG
Fluoranthene, 17,000 UG/KG
Phenanthrene, 11,000 UG/KG
Aroclor 1260, 340 UG/KG

SED-5
Chlorobenzene, 53 UG/KG



Legend

- Sediment Sample Location
- SED-03
Aroclor 1260, 340 UG/KG
Location ID Compound Exceeding Criteria Concentration Units

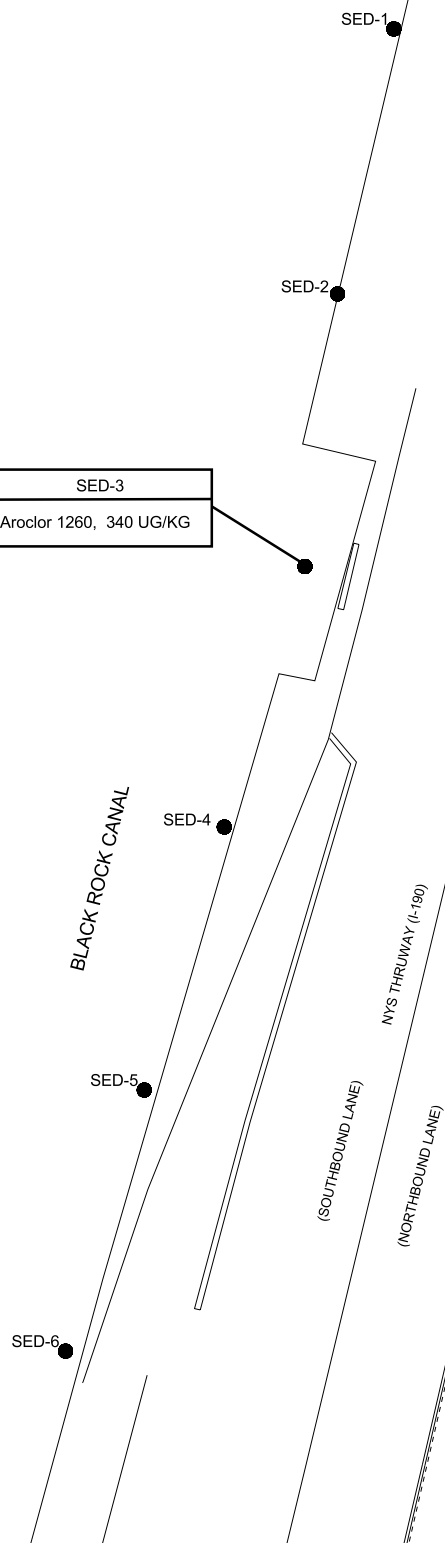


CHEM CORE
SEDIMENT ANALYTICAL RESULTS COMPARED TO
BENTHIC CHRONIC PROTECTION STANDARDS (2001)

FIGURE 5



SED-3
Aroclor 1260, 340 UG/KG



Legend

- Sediment Sample Location

SED-03
Aroclor 1260, 340 UG/KG
Compound Exceeding Criteria

Location ID	Compound Exceeding Criteria	Concentration	Units



CHEM CORE
SEDIMENT ANALYTICAL RESULTS COMPARED TO
WILDLIFE BIOACCUMULATION PROTECTION
STANDARDS (2001)

FIGURE 6



NOTE: No compounds detected or exceed criteria.

70 0 70 Feet

Legend

- Surface Water Sample Location



CHEM CORE
SURFACE WATER ANALYTICAL RESULTS (2001)

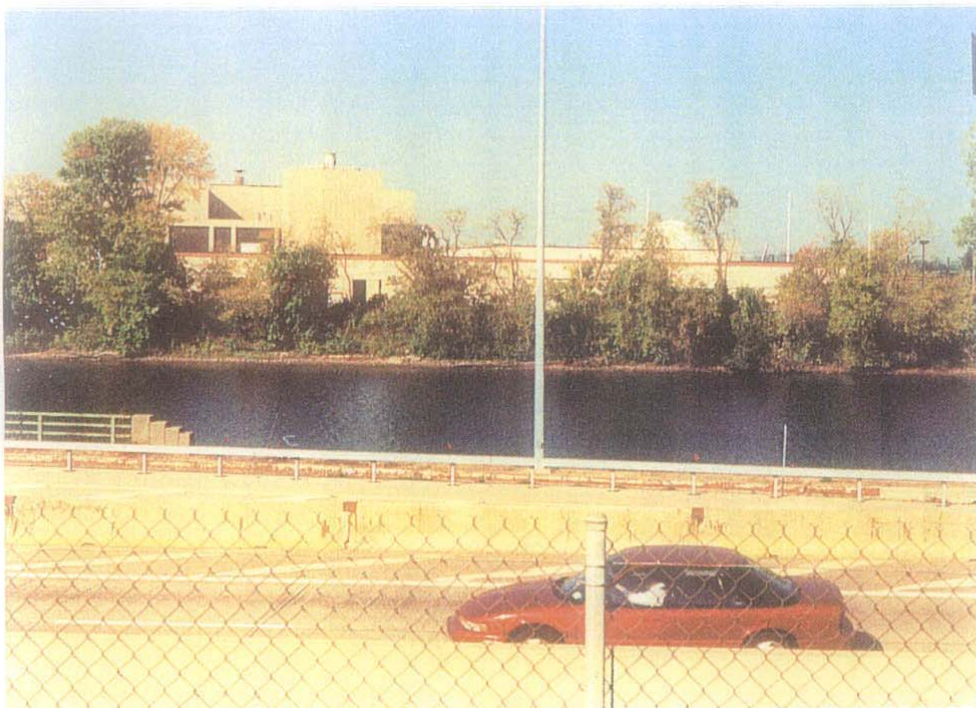
FIGURE 7



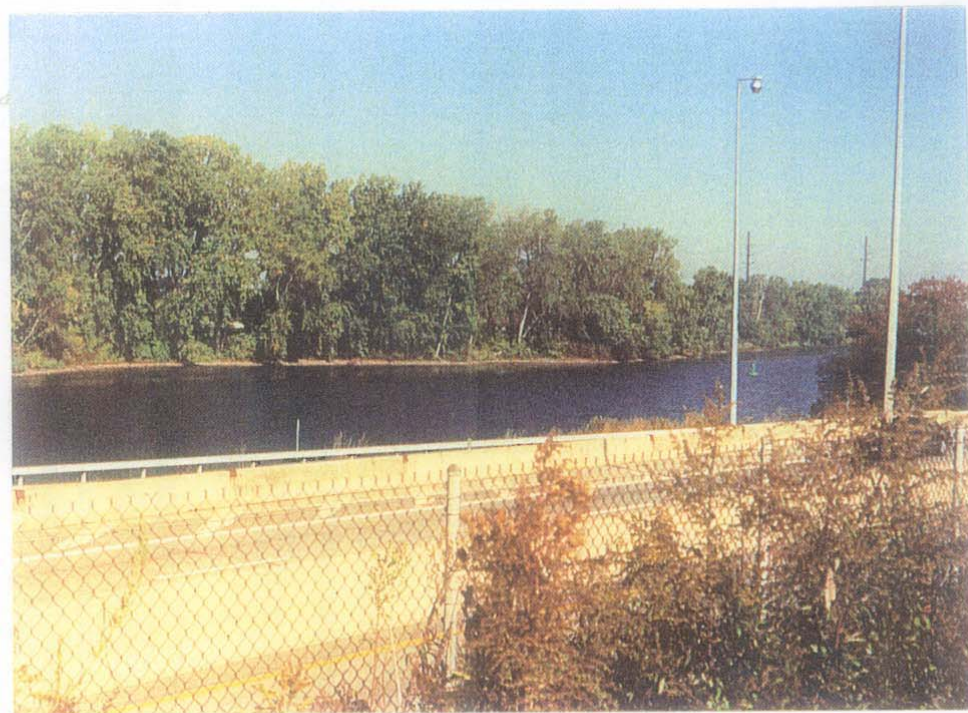
1. Looking south at the front of the Chem-Core building.



2. Looking northeast at the back of the Chem-Core building with railroad in foreground.



3. Looking west across I-190 at Black Rock Canal and Squaw Island.



4. Looking northwest across I-190 at Black Rock Canal and Squaw Island.

New York State Department of Environmental Conservation

Division of Fish, Wildlife & Marine Resources

New York Natural Heritage Program

625 Broadway, 5th floor, Albany, New York 12233-4757

Phone: (518) 402-8935 • FAX: (518) 402-8925

Website: www.dec.state.ny.us



Erin M. Crotty
Commissioner

November 9, 2001

Tracy L. Engle
URS Corporation
800 West St. Clair Avenue, Suite 500
Cleveland, OH 44113

Dear Ms. Engle::

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the proposed Fish and Wildlife Impact Analysis for the Inactive Hazardous Waste Site, sites indicated on the map you provided, including a 2 mile radius, located in the City of Buffalo, Erie County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

The presence of rare species may result in your project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted, the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,


Teresa Mackey, Information Services
NY Natural Heritage Program

Encs.

cc: Reg. 9, Wildlife Mgr.
Reg. 9, Fisheries Mgr.
Peter Nye, Endangered Species Unit, 518-402-8859

***** PLEASE NOTE THE ABOVE NEW ADDRESS *****

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 8 November 2001 by NY Natural Heritage Program, NYS DEC, Albany, New York

This report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields.
We do not always provide maps for locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

Page 1

* County

** Town

Scientific Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
ERIE				
CITY OF BUFFALO				
<i>Buchnera americana</i> BLUE-HEARTS Vascular Plant	ENDANGERED G5?, SH	H NO DATE	BUFFALO	4207888
<i>Carex sartwellii</i> SARTWELL'S SEDGE Vascular Plant	THREATENED G4G5; S1S2	H NO DATE	BUFFALO	4207877
<i>Crataegus compacta</i> COMPACT HAWTHORN Vascular Plant	ENDANGERED G5; SH	H 1908-09-17	BUFFALO	4207877
<i>Gentianopsis procera</i> LESSER FRINGED GENTIAN Vascular Plant	ENDANGERED G5; S1	H NO DATE	BUFFALO	4207877

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Page 2

* County

** Town

Scientific Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
ERIE				
CITY OF BUFFALO				
<i>Nicrophorus americanus</i> AMERICAN BURYING BEETLE Beetle	ENDANGERED G2G3; SH LE	H NO DATE	BUFFALO	4207877 ESU
<i>Rumex maritimus var fueginus</i> GOLDEN DOCK Vascular Plant	ENDANGERED G5T5; S1	H 1898-08	BUFFALO	4207877
<i>Lysimachia quadriflora</i> FOUR-FLOWERED LOOSESTRIFE Vascular Plant	ENDANGERED G5?; S1	H 1924-07-26	LAKE ERIE SHORE BUFFALO	4207888
<i>Equisetum palustre</i> MARSH HORSETAIL Vascular Plant	THREATENED G5; S2	H 1861	SQUAW ISLAND	4207888

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Page 3

* County

** Town

Scientific Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
ERIE				
CITY OF BUFFALO				
<i>Lysimachia quadriflora</i> FOUR-FLOWERED LOOSESTRIFE Vascular Plant	ENDANGERED G5?; S1	H 1888-07-27	SQUAW ISLAND	4207888
<i>Physocarpus opulifolius</i> var <i>intermedius</i> NINEBARK Vascular Plant	ENDANGERED G5T?; S1	H 1923-07-07	SQUAW ISLAND	4207888
<i>Prenanthes crepidinea</i> NODDING RATTLESNAKE-ROOT Vascular Plant	ENDANGERED G3G4; SH	H 1844	WHEELBARROW POINT	4207888

ERIE, NIAGARA
GRAND ISLAND, CITY OF
BUFFALO, TONAWANDA,
CITY OF TONAWANDA,
CITY OF NORTH
TONAWANDA,
WHEATFIELD, CI

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 8 November 2001 by NY Natural Heritage Program, NYS DEC, Albany, New York

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Page 4

* County

** Town

Scientific Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Location	Office Use
ERIE, NIAGARA GRAND ISLAND, CITY OF BUFFALO, TONAWANDA, CITY OF TONAWANDA, CITY OF NORTH TONAWANDA, WHEATFIELD, CI				
WATERFOWL CONCENTRATION AREA Other	UNPROTECTED ; S3S4	A 1994-01-25	UPPER NIAGARA RIVER	4207888 S

12 Records Processed

DIVISION OF ENVIRONMENTAL PERMITS

June 2001

REGION	COUNTIES	REGIONAL PERMIT ADMINISTRATORS
1	Nassau & Suffolk Telephone: (631) 444-0365	John Pavacic NYS-DEC BLDG. 40 SUNY at Stony Brook Stony Brook, NY 11790-2356
2	New York City (Boroughs of Manhattan, Brooklyn, Bronx, Queens, & Staten Island) Telephone: (718) 482-4997	John Cryan NYS-DEC One Hunters Point Plaza 47-40 21st Street Long Island City, NY 11101-5407
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster & Westchester Telephone: (845) 256-3054	Margaret Duke (Peg) NYS-DEC 21 South Putt Corners Road New Paltz, NY 12561-1696
4	Albany, Columbia, Greene, Montgomery, Rensselaer & Schenectady Telephone: (518) 357-2069	William Clarke NYS-DEC 1150 North Wescott Road Schenectady, NY 12306-2014
4 (sub-office)	Delaware, Otsego & Schoharie Telephone: (607) 652-7741	John Feltman NYS-DEC Route 10 HCR#1, Box 3A Stamford, NY 12167-9503
5	Clinton, Essex, Franklin & Hamilton Telephone: (518) 897-1234	Richard Wild NYS-DEC Route 86, PO Box 296 Ray Brook, NY 12977-0296
5 (sub-office)	Fulton, Saratoga, Warren & Washington Telephone: (518) 623-3671	Thomas Hall* NYS-DEC County Route 40 PO Box 220 Warrensburg, NY 12885-0220
6	Jefferson, Lewis & St. Lawrence Telephone: (315) 785-2245	Brian Fenlon NYS-DEC State Office Building 317 Washington Street Watertown, NY 13601-3787
6 (sub-office)	Herkimer & Oneida Telephone: (315) 793-2555	J. Joseph Homburger* NYS-DEC State Office Building 207 Genesee Street Utica, NY 13501-2885

USERS GUIDE TO NY NATURAL HERITAGE DATA

New York Natural Heritage Program, 700 Troy-Schenectady Road, Latham NY 12110-2400 phone: (518) 783-3932

NATURAL HERITAGE PROGRAM: The Natural Heritage Program is an ongoing, systematic, scientific inventory whose goal is to compile and maintain data on the rare plants and animals native to New York State, and significant ecological communities. The data provided in the report facilitate sound planning, conservation, and natural resource management and help to conserve the plants, animals and ecological communities that represent New York's natural heritage.

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-house use and should not be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

NATURAL HERITAGE REPORTS (may contain any of the following types of data):

COUNTY NAME: County where the occurrence of a rare species or significant ecological community is located.

TOWN NAME: Town where the occurrence of a rare species or significant ecological community is located.

USGS 7 1/2' TOPOGRAPHIC MAP: Name of 7.5 minute US Geological Survey (USGS) quadrangle map (scale 1:24,000).

SIZE (acres): Approximate acres occupied by the rare species or significant ecological community at this location. A blank indicates unknown size.

SCIENTIFIC NAME: Scientific name of the occurrence of a rare species or significant ecological community.

COMMON NAME: Common name of the occurrence of a rare species or significant ecological community.

ELEMENT TYPE: Type of element (i.e. plant, animal, significant ecological community, other, etc.)

LAST SEEN: Year rare species or significant ecological community last observed extant at this location.

EO RANK: Comparative evaluation summarizing the quality, condition, viability and defensibility of this occurrence. Use with LAST SEEN.

A-E = Extant: A=excellent, B=good, C=marginal, D=poor, E=extant but with insufficient data to assign a rank of A - D.

F = Failed to find. Did not locate species, but habitat is still there and further field work is justified.

H = Historical. Historical occurrence without any recent field information.

X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.

? = Unknown.

Blank = Not assigned.

NEW YORK STATE STATUS (animals): Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

E = Endangered Species: any species which meet one of the following criteria:

1) Any native species in imminent danger of extirpation or extinction in New York.

2) Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

T = Threatened Species: any species which meet one of the following criteria:

1) Any native species likely to become an endangered species within the foreseeable future in NY.

2) Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.

SC = Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).

P = Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.

U = Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license to take may be required.

G = Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NEW YORK STATE STATUS (plants): The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservation Law section 9-1503.

E = Endangered Species: listed species are those with:

1) 5 or fewer extant sites, or

2) fewer than 1,000 individuals, or

3) restricted to fewer than 4 U.S.G.S. 7 1/2 minute topographical maps, or

4) species listed as endangered by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

T = Threatened: listed species are those with:

1) 6 to fewer than 20 extant sites, or

2) 1,000 to fewer than 3,000 individuals, or

3) restricted to not less than 4 or more than 7 U.S.G.S. 7 and 1/2 minute topographical maps, or

4) listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

R = Rare: listed species have:

1) 20 to 35 extant sites, or

2) 3,000 to 5,000 individuals statewide.

APPENDIX H

DATA VALIDATION TABLES

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID		CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled		07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	32 U	230	1,600 UJ	200 J	9 J
1,1,2,2-Tetrachloroethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,1,2-Trichloroethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,1-Dichloroethane	UG/KG	32 U	52	1,600 UJ	1,500 UJ	24 J
1,1-Dichloroethene	UG/KG	32 U	12 J	1,600 UJ	1,500 UJ	2 J
1,2,4-Trichlorobenzene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,2-Dibromo-3-chloropropane	UG/KG	32 U	12 U	R	R	11 UJ
1,2-Dibromoethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,2-Dichlorobenzene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,2-Dichloroethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,2-Dichloropropane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,3-Dichlorobenzene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
1,4-Dichlorobenzene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
2-Butanone	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
2-Hexanone	UG/KG	24 J	12 U	1,600 UJ	1,500 UJ	11 UJ
4-Methyl-2-pentanone	UG/KG	42	12 U	1,600 UJ	1,500 UJ	11 UJ
Acetone	UG/KG	600 J	24 J	1,600 UJ	2,400 J	140 J
Benzene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Bromodichloromethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Bromoform	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Bromomethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Carbon disulfide	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	12 J
Carbon tetrachloride	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-01	GB-01	GB-02	GB-02	GB-03
Sample ID		CC-GB1-5-6	CC-GB1-15-16	CC-GB2-7-8	CC-GB2-17-18	CC-GB3-4-5
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		5.0-6.0	15.0-16.0	7.0-8.0	17.0-18.0	4.0-5.0
Date Sampled		07/09/01	07/09/01	07/09/01	07/09/01	07/09/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Chloroethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Chloroform	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Chloromethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
cis-1,2-Dichloroethene	UG/KG	89	740 J	3,200 J	1,400 J	520 DJ
cis-1,3-Dichloropropene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Cyclohexane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	2 J
Dibromochloromethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Dichlorodifluoromethane	UG/KG	32 UJ	12 UJ	1,600 UJ	1,500 UJ	11 UJ
Ethylbenzene	UG/KG	32 U	3 J	1,600 UJ	1,500 UJ	55 J
Isopropylbenzene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	19 J
Methyl acetate	UG/KG	32 U	5 J	1,600 UJ	1,500 UJ	6 J
Methyl tert-butyl ether	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Methylcyclohexane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	17 J
Methylene chloride	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	21 J
Styrene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Tetrachloroethene	UG/KG	38	480 J	6,600 J	1,500 UJ	46 J
Toluene	UG/KG	32 U	2 J	1,600 UJ	750 J	42 J
trans-1,2-Dichloroethene	UG/KG	32 U	3 J	1,600 UJ	1,500 UJ	26 J
trans-1,3-Dichloropropene	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Trichloroethene	UG/KG	15 J	110	2,300 J	1,500 UJ	4 J
Trichlorofluoromethane	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	11 UJ
Vinyl chloride	UG/KG	32 U	12 U	1,600 UJ	1,500 UJ	100 J
Xylene (Total)	UG/KG	32 U	35	1,600 UJ	1,500 UJ	400 J

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID		CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled		07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	11 UJ	11 U	12 U	10 U	45
1,1,2,2-Tetrachloroethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
1,1,2-Trichloroethane	UG/KG	11 UJ	11 U	12 U	10 U	2 J
1,1-Dichloroethane	UG/KG	8 J	11 U	32	1 J	24
1,1-Dichloroethene	UG/KG	11 UJ	11 U	12 U	10 U	11 J
1,2,4-Trichlorobenzene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
1,2-Dibromo-3-chloropropane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
1,2-Dibromoethane	UG/KG	11 UJ	11 U	12 U	10 U	11 J
1,2-Dichlorobenzene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
1,2-Dichloroethane	UG/KG	11 UJ	11 U	12 U	10 U	6 J
1,2-Dichloropropane	UG/KG	11 UJ	11 U	12 U	10 U	23
1,3-Dichlorobenzene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
1,4-Dichlorobenzene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
2-Butanone	UG/KG	11 UJ	11 U	12 U	10 U	13 U
2-Hexanone	UG/KG	11 UJ	11 U	12 U	10 U	13 U
4-Methyl-2-pentanone	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Acetone	UG/KG	11 UJ	4 J	22 J	7 J	16 J
Benzene	UG/KG	11 UJ	11 U	18	5 J	2 J
Bromodichloromethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Bromoform	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Bromomethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Carbon disulfide	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Carbon tetrachloride	UG/KG	11 UJ	11 U	12 U	10 U	13 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-03	GB-04	GB-05	GB-05	GB-06
Sample ID		CC-GB3-15-16	CC-GB4-14-15	CC-GB5-4-6	CC-GB5-12-13	CC-GB6-8-10
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		15.0-16.0	14.0-15.0	4.0-6.0	12.0-13.0	8.0-10.0
Date Sampled		07/09/01	07/10/01	07/10/01	07/10/01	07/10/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Chloroethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Chloroform	UG/KG	11 UJ	11 U	12 U	10 U	4 J
Chloromethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
cis-1,2-Dichloroethene	UG/KG	6 J	55	310 J	7 J	16
cis-1,3-Dichloropropene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Cyclohexane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Dibromochloromethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Dichlorodifluoromethane	UG/KG	11 UJ	11 UJ	12 UJ	10 UJ	13 UJ
Ethylbenzene	UG/KG	11 UJ	11 U	2 J	10 U	13 U
Isopropylbenzene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Methyl acetate	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Methyl tert-butyl ether	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Methylcyclohexane	UG/KG	11 UJ	11 U	2 J	10 U	13 U
Methylene chloride	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Styrene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Tetrachloroethene	UG/KG	11 UJ	1 J	27	1 J	37
Toluene	UG/KG	19 J	11 U	4 J	10 U	13 U
trans-1,2-Dichloroethene	UG/KG	11 UJ	11 U	1 J	10 U	13 U
trans-1,3-Dichloropropene	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Trichloroethene	UG/KG	11 UJ	11 U	9 J	10 U	400 J
Trichlorofluoromethane	UG/KG	11 UJ	11 U	12 U	10 U	13 U
Vinyl chloride	UG/KG	2 J	11 U	3 J	10 U	13 U
Xylene (Total)	UG/KG	11 UJ	11 U	9 J	10 U	13 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID		CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled		07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,1,2,2-Tetrachloroethane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,1,2-Trichloroethane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,1-Dichloroethane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,1-Dichloroethene	UG/KG	12 U	11 U	11 U	11 U	12 U
1,2,4-Trichlorobenzene	UG/KG	12 U	11 U	11 U	11 U	12 U
1,2-Dibromo-3-chloropropane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,2-Dibromoethane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,2-Dichlorobenzene	UG/KG	12 U	11 U	11 U	11 U	12 U
1,2-Dichloroethane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,2-Dichloropropane	UG/KG	12 U	11 U	11 U	11 U	12 U
1,3-Dichlorobenzene	UG/KG	12 U	11 U	11 U	11 U	12 U
1,4-Dichlorobenzene	UG/KG	12 U	11 U	11 U	11 U	12 U
2-Butanone	UG/KG	12 U	11 U	11 U	11 U	12 U
2-Hexanone	UG/KG	12 U	11 U	11 U	11 U	12 U
4-Methyl-2-pentanone	UG/KG	12 U	11 U	11 U	11 U	12 U
Acetone	UG/KG	18 J	5 J	11 J	7 J	12 U
Benzene	UG/KG	12 U	11 U	11 U	11 U	12 U
Bromodichloromethane	UG/KG	12 U	11 U	11 U	11 U	12 U
Bromoform	UG/KG	12 U	11 U	11 U	11 U	12 U
Bromomethane	UG/KG	12 U	11 U	11 U	11 U	12 U
Carbon disulfide	UG/KG	2 J	11 U	11 U	11 U	12 U
Carbon tetrachloride	UG/KG	12 U	11 U	11 U	11 U	12 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-07	GB-08	GB-09	GB-09	GB-10
Sample ID		CC-GB7-11-12	CC-GB8-10-11	CC-GB9-9-10	CC-GB9-11-12	CC-GB10-4-5
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		11.0-12.0	10.0-11.0	9.0-10.0	11.0-12.0	4.0-5.0
Date Sampled		07/10/01	07/10/01	07/10/01	07/10/01	07/11/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	12 U	11 U	11 U	11 U	12 U
Chloroethane	UG/KG	12 U	11 U	11 U	11 U	12 U
Chloroform	UG/KG	12 U	11 U	11 U	11 U	12 U
Chloromethane	UG/KG	12 U	11 U	11 U	11 U	12 U
cis-1,2-Dichloroethene	UG/KG	3 J	11 U	11 U	11 U	12 U
cis-1,3-Dichloropropene	UG/KG	12 U	11 U	11 U	11 U	12 U
Cyclohexane	UG/KG	12 U	11 U	11 U	11 U	12 U
Dibromochloromethane	UG/KG	12 U	11 U	11 U	11 U	12 U
Dichlorodifluoromethane	UG/KG	12 UJ	11 UJ	11 UJ	11 UJ	12 UJ
Ethylbenzene	UG/KG	12 U	11 U	11 U	11 U	12 U
Isopropylbenzene	UG/KG	12 U	11 U	11 U	11 U	12 U
Methyl acetate	UG/KG	12 U	11 U	11 U	11 U	12 U
Methyl tert-butyl ether	UG/KG	12 U	11 U	11 U	11 U	12 U
Methylcyclohexane	UG/KG	12 U	11 U	11 U	11 U	12 U
Methylene chloride	UG/KG	12 U	11 U	11 U	11 U	12 U
Styrene	UG/KG	12 U	11 U	11 U	11 U	12 U
Tetrachloroethene	UG/KG	440 J	2 J	32	65	3 J
Toluene	UG/KG	3 J	11 U	11 U	11 U	12 U
trans-1,2-Dichloroethene	UG/KG	12 U	11 U	11 U	11 U	12 U
trans-1,3-Dichloropropene	UG/KG	12 U	11 U	11 U	11 U	12 U
Trichloroethene	UG/KG	23	11 U	21	70	12 U
Trichlorofluoromethane	UG/KG	12 U	11 U	11 U	11 U	12 U
Vinyl chloride	UG/KG	12 U	11 U	11 U	11 U	12 U
Xylene (Total)	UG/KG	5 J	11 U	11 U	11 U	12 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID		CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled		07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	2 J	12 U	5 J	2 J	11 U
1,1,2,2-Tetrachloroethane	UG/KG	11 U	12 U	11 U	13 UJ	11 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	11 U	12 U	11 U	13 U	11 U
1,1,2-Trichloroethane	UG/KG	11 U	12 U	11 U	13 U	11 U
1,1-Dichloroethane	UG/KG	11 U	12 U	11 U	13 U	11 U
1,1-Dichloroethene	UG/KG	11 U	12 U	11 U	2 J	11 U
1,2,4-Trichlorobenzene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
1,2-Dibromo-3-chloropropane	UG/KG	11 U	12 U	11 U	13 UJ	11 U
1,2-Dibromoethane	UG/KG	11 U	12 U	11 U	13 UJ	11 U
1,2-Dichlorobenzene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
1,2-Dichloroethane	UG/KG	11 U	12 U	11 U	13 U	11 U
1,2-Dichloropropane	UG/KG	11 U	12 U	11 U	13 U	11 U
1,3-Dichlorobenzene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
1,4-Dichlorobenzene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
2-Butanone	UG/KG	11 U	12 U	11 U	13 U	11 U
2-Hexanone	UG/KG	11 U	12 U	11 U	13 UJ	11 U
4-Methyl-2-pentanone	UG/KG	11 U	12 U	11 U	13 UJ	11 U
Acetone	UG/KG	11 U	12 U	11 U	4 J	5 J
Benzene	UG/KG	11 U	12 U	11 U	13 U	11 U
Bromodichloromethane	UG/KG	11 U	12 U	11 U	13 U	11 U
Bromoform	UG/KG	11 U	12 U	11 U	13 U	11 U
Bromomethane	UG/KG	11 U	12 U	11 U	13 U	11 U
Carbon disulfide	UG/KG	11 U	12 U	11 U	13 U	11 U
Carbon tetrachloride	UG/KG	11 U	12 U	11 U	13 U	11 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-10	GB-11	GB-11	GB-12	GB-12
Sample ID		CC-GB10-10-11	CC-GB11-2-3	CC-GB11-12.5-13.5	CC-GB12-8-10	CC-GB12-16-17
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		10.0-11.0	2.0-3.0	12.5-13.5	8.0-10.0	16.0-17.0
Date Sampled		07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
Chloroethane	UG/KG	11 U	12 U	11 U	13 U	11 U
Chloroform	UG/KG	11 U	12 U	11 U	13 U	11 U
Chloromethane	UG/KG	11 U	12 U	11 U	13 U	11 U
cis-1,2-Dichloroethene	UG/KG	2 J	12 U	11 U	1 J	11 U
cis-1,3-Dichloropropene	UG/KG	11 U	12 U	11 U	13 U	11 U
Cyclohexane	UG/KG	11 U	12 U	11 U	13 U	11 U
Dibromochloromethane	UG/KG	11 U	12 U	11 U	13 U	11 U
Dichlorodifluoromethane	UG/KG	11 UJ	12 UJ	11 UJ	13 UJ	11 UJ
Ethylbenzene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
Isopropylbenzene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
Methyl acetate	UG/KG	11 U	12 U	11 U	13 U	11 U
Methyl tert-butyl ether	UG/KG	11 U	12 U	11 U	13 U	11 U
Methylcyclohexane	UG/KG	11 U	12 U	11 U	13 U	11 U
Methylene chloride	UG/KG	11 U	12 U	11 U	13 U	11 U
Styrene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
Tetrachloroethene	UG/KG	27	2 J	25	41 J	9 J
Toluene	UG/KG	11 U	12 U	11 U	13 UJ	11 U
trans-1,2-Dichloroethene	UG/KG	11 U	12 U	11 U	13 U	11 U
trans-1,3-Dichloropropene	UG/KG	11 U	12 U	11 U	13 U	11 U
Trichloroethene	UG/KG	52	12 U	8 J	4 J	8 J
Trichlorofluoromethane	UG/KG	11 U	12 U	11 U	13 U	11 U
Vinyl chloride	UG/KG	11 U	12 U	11 U	13 U	11 U
Xylene (Total)	UG/KG	11 U	12 U	11 U	13 UJ	11 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID		CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled		07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	25,000 UJ	14,000 UJ	25	25	340 J
1,1,2,2-Tetrachloroethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,1,2-Trichloroethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,1-Dichloroethane	UG/KG	25,000 UJ	14,000 UJ	5 J	6 J	1,500 UJ
1,1-Dichloroethene	UG/KG	25,000 UJ	14,000 UJ	2 J	2 J	1,500 UJ
1,2,4-Trichlorobenzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,2-Dibromo-3-chloropropane	UG/KG	R	R	12 U	11 U	R
1,2-Dibromoethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,2-Dichlorobenzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,2-Dichloroethane	UG/KG	25,000 UJ	14,000 UJ	5 J	3 J	1,500 UJ
1,2-Dichloropropane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,3-Dichlorobenzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
1,4-Dichlorobenzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
2-Butanone	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
2-Hexanone	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
4-Methyl-2-pentanone	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Acetone	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Benzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Bromodichloromethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Bromoform	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Bromomethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Carbon disulfide	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Carbon tetrachloride	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-13	GB-13	GB-14	GB-14	GB-15
Sample ID		CC-GB13-4-5	CC-GB13-11.5-12.5	CC-GB14-8-9	CC-GB14-11.5-12.5	CC-GB15-9-10
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		4.0-5.0	11.5-12.5	8.0-9.0	11.5-12.5	9.0-10.0
Date Sampled		07/11/01	07/11/01	07/11/01	07/11/01	07/11/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Chloroethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Chloroform	UG/KG	25,000 UJ	14,000 UJ	3 J	3 J	1,500 UJ
Chloromethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
cis-1,2-Dichloroethene	UG/KG	25,000 UJ	14,000 UJ	16	24	1,500 UJ
cis-1,3-Dichloropropene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Cyclohexane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Dibromochloromethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Dichlorodifluoromethane	UG/KG	25,000 UJ	14,000 UJ	12 UJ	11 UJ	1,500 UJ
Ethylbenzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Isopropylbenzene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Methyl acetate	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Methyl tert-butyl ether	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Methylcyclohexane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Methylene chloride	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Styrene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Tetrachloroethene	UG/KG	340,000 J	150,000 J	750 DJ	660 J	9,900 J
Toluene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
trans-1,2-Dichloroethene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
trans-1,3-Dichloropropene	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Trichloroethene	UG/KG	25,000 UJ	14,000 UJ	1,700 D	1,100 J	2,400 J
Trichlorofluoromethane	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Vinyl chloride	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ
Xylene (Total)	UG/KG	25,000 UJ	14,000 UJ	12 U	11 U	1,500 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID		CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled		07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	12 J	14	1,400 UJ	91	61 J
1,1,2,2-Tetrachloroethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
1,1,2-Trichloroethane	UG/KG	80 U	11 U	1,400 UJ	1 J	1 J
1,1-Dichloroethane	UG/KG	80 U	11 U	1,400 UJ	5 J	10 J
1,1-Dichloroethene	UG/KG	80 U	1 J	1,400 UJ	13	10 J
1,2,4-Trichlorobenzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
1,2-Dibromo-3-chloropropane	UG/KG	80 U	11 U	R	11 U	12 UJ
1,2-Dibromoethane	UG/KG	80 U	11 U	1,400 UJ	37	28 J
1,2-Dichlorobenzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
1,2-Dichloroethane	UG/KG	80 U	11 U	1,400 UJ	11 U	5 J
1,2-Dichloropropane	UG/KG	80 U	11 U	1,400 UJ	10 J	15 J
1,3-Dichlorobenzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
1,4-Dichlorobenzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
2-Butanone	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
2-Hexanone	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
4-Methyl-2-pentanone	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Acetone	UG/KG	80 U	11 U	1,400 UJ	9 J	6 J
Benzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Bromodichloromethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Bromoform	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Bromomethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Carbon disulfide	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Carbon tetrachloride	UG/KG	80 U	2 J	1,400 UJ	11 U	12 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-15	GB-16	GB-16	GB-17	GB-17
Sample ID		CC-GB15-13-14	CC-GB16-17-18	CC-GB16-18-19	CC-GB17-11-12	CC-GB17-13-14
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		13.0-14.0	17.0-18.0	18.0-19.0	11.0-12.0	13.0-14.0
Date Sampled		07/11/01	07/11/01	07/11/01	07/12/01	07/12/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Chloroethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Chloroform	UG/KG	12 J	3 J	1,400 UJ	2 J	4 J
Chloromethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
cis-1,2-Dichloroethene	UG/KG	80 U	11 U	1,400 UJ	37	52 J
cis-1,3-Dichloropropene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Cyclohexane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Dibromochloromethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Dichlorodifluoromethane	UG/KG	8 J	11 UJ	1,400 UJ	1 J	12 UJ
Ethylbenzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Isopropylbenzene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Methyl acetate	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Methyl tert-butyl ether	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Methylcyclohexane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Methylene chloride	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Styrene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Tetrachloroethene	UG/KG	480 J	390 J	6,100 J	85 J	44 J
Toluene	UG/KG	80 U	2 J	1,400 UJ	1 J	12 UJ
trans-1,2-Dichloroethene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
trans-1,3-Dichloropropene	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Trichloroethene	UG/KG	220	140	670 J	84	77 J
Trichlorofluoromethane	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Vinyl chloride	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ
Xylene (Total)	UG/KG	80 U	11 U	1,400 UJ	11 U	12 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID		CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled		07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	10 J	4 J	72	28 J	1,500 U
1,1,2,2-Tetrachloroethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 UJ
1,1,2-Trichloroethane	UG/KG	13 U	11 UJ	3 J	60 U	1,500 U
1,1-Dichloroethane	UG/KG	2 J	2 J	4 J	60 U	1,500 U
1,1-Dichloroethene	UG/KG	13 U	1 J	6 J	60 U	1,500 U
1,2,4-Trichlorobenzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 UJ
1,2-Dibromo-3-chloropropane	UG/KG	13 U	11 UJ	12 U	60 U	R
1,2-Dibromoethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
1,2-Dichlorobenzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
1,2-Dichloroethane	UG/KG	13 U	2 J	52	14 J	1,500 U
1,2-Dichloropropane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
1,3-Dichlorobenzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
1,4-Dichlorobenzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
2-Butanone	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
2-Hexanone	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
4-Methyl-2-pentanone	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Acetone	UG/KG	4 J	11 UJ	12 U	60 U	1,500 UJ
Benzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Bromodichloromethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Bromoform	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Bromomethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Carbon disulfide	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Carbon tetrachloride	UG/KG	13 U	11 UJ	8 J	60 U	1,500 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-18	GB-18	GB-19	GB-19	GB-20
Sample ID		CC-GB-10-12	CC-GB-12.5-13.5	CC-GB19-11-12	CC-GB19-14-15	CC-GB20-12-13
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		10.0-12.0	12.5-13.5	11.0-12.0	14.0-15.0	12.0-13.0
Date Sampled		07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Chloroethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 UJ
Chloroform	UG/KG	13 U	2 J	29	60 U	1,500 U
Chloromethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
cis-1,2-Dichloroethene	UG/KG	70	85 J	42	60 U	1,500 U
cis-1,3-Dichloropropene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Cyclohexane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Dibromochloromethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Dichlorodifluoromethane	UG/KG	13 UJ	11 UJ	12 UJ	10 J	1,500 UJ
Ethylbenzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Isopropylbenzene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Methyl acetate	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Methyl tert-butyl ether	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Methylcyclohexane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Methylene chloride	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Styrene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Tetrachloroethene	UG/KG	270 J	190 J	1,100 J	780 J	6,000
Toluene	UG/KG	3 J	11 UJ	12 U	60 U	1,500 U
trans-1,2-Dichloroethene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
trans-1,3-Dichloropropene	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Trichloroethene	UG/KG	200	72 J	890 J	240	1,300 J
Trichlorofluoromethane	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Vinyl chloride	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U
Xylene (Total)	UG/KG	13 U	11 UJ	12 U	60 U	1,500 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID		CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled		07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	1,400 U	330 J	300 J	14 UJ	13 UJ
1,1,2,2-Tetrachloroethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	1,400 UJ	1,600 UJ	1,500 UJ	14 UJ	13 UJ
1,1,2-Trichloroethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,1-Dichloroethane	UG/KG	1,400 U	1,600 U	1,500 UJ	3 J	13 UJ
1,1-Dichloroethene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,2,4-Trichlorobenzene	UG/KG	1,400 UJ	1,600 UJ	1,500 UJ	14 UJ	13 UJ
1,2-Dibromo-3-chloropropane	UG/KG	R	R	R	14 UJ	13 UJ
1,2-Dibromoethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,2-Dichlorobenzene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,2-Dichloroethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,2-Dichloropropane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,3-Dichlorobenzene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
1,4-Dichlorobenzene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
2-Butanone	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
2-Hexanone	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
4-Methyl-2-pentanone	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Acetone	UG/KG	1,400 UJ	1,600 UJ	1,500 UJ	14 J	7 J
Benzene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Bromodichloromethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Bromoform	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Bromomethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Carbon disulfide	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Carbon tetrachloride	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-20	GB-21	GB-21	GB-22	GB-22
Sample ID		CC-GB20-17.5-18.5	CC-GB21-10-11	CC-GB21-16.5-17.5	CC-GB22-10-11	CC-GB22-14-15
Matrix		Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)		17.5-18.5	10.0-11.0	16.5-17.5	10.0-11.0	14.0-15.0
Date Sampled		07/12/01	07/12/01	07/12/01	07/12/01	07/12/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Chloroethane	UG/KG	1,400 UJ	1,600 UJ	1,500 UJ	14 UJ	13 UJ
Chloroform	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Chloromethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
cis-1,2-Dichloroethene	UG/KG	1,400 U	1,600 U	1,500 UJ	55 J	22 J
cis-1,3-Dichloropropene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Cyclohexane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Dibromochloromethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Dichlorodifluoromethane	UG/KG	1,400 UJ	1,600 UJ	1,500 UJ	14 UJ	13 UJ
Ethylbenzene	UG/KG	1,400 U	1,600 U	1,500 UJ	5 J	13 UJ
Isopropylbenzene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Methyl acetate	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Methyl tert-butyl ether	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Methylcyclohexane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Methylene chloride	UG/KG	1,400 U	1,600 U	180 J	14 UJ	13 UJ
Styrene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Tetrachloroethene	UG/KG	5,600	8,000	8,800 J	100 J	3 J
Toluene	UG/KG	1,400 U	210 J	330 J	14 UJ	13 UJ
trans-1,2-Dichloroethene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
trans-1,3-Dichloropropene	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Trichloroethene	UG/KG	1,200 J	4,000	3,800 J	42 J	13 UJ
Trichlorofluoromethane	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Vinyl chloride	UG/KG	1,400 U	1,600 U	1,500 UJ	14 UJ	13 UJ
Xylene (Total)	UG/KG	1,400 U	1,600 U	1,500 UJ	25 UJ	13 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-23	GB-23	GB-24	GB-24	SED-1
Sample ID		CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5	SED-1
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5	-
Date Sampled		07/12/01	07/12/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,1,2,2-Tetrachloroethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,1,2-Trichloroethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,1-Dichloroethane	UG/KG	13 U	13 U	3 J	12 U	25 UJ
1,1-Dichloroethene	UG/KG	13 U	13 U	4 J	12 U	25 UJ
1,2,4-Trichlorobenzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,2-Dibromo-3-chloropropane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,2-Dibromoethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,2-Dichlorobenzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,2-Dichloroethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,2-Dichloropropane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,3-Dichlorobenzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
1,4-Dichlorobenzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
2-Butanone	UG/KG	13 U	13 U	24 U	12 U	25 UJ
2-Hexanone	UG/KG	13 U	13 U	24 U	12 U	25 UJ
4-Methyl-2-pentanone	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Acetone	UG/KG	5 J	6 J	8 J	6 J	25 UJ
Benzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Bromodichloromethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Bromoform	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Bromomethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Carbon disulfide	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Carbon tetrachloride	UG/KG	13 U	13 U	24 U	12 U	25 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-23	GB-23	GB-24	GB-24	SED-1
Sample ID		CC-GB23-7-8	CC-GB23-11.5-12.5	CC-GB24-12-13	CC-GB24-13.5-14.5	SED-1
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	12.0-13.0	13.5-14.5	-
Date Sampled		07/12/01	07/12/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Chloroethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Chloroform	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Chloromethane	UG/KG	13 UJ	13 UJ	24 UJ	12 UJ	25 UJ
cis-1,2-Dichloroethene	UG/KG	2 J	13 U	92	4 J	25 UJ
cis-1,3-Dichloropropene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Cyclohexane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Dibromochloromethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Dichlorodifluoromethane	UG/KG	13 UJ	2 J	24 UJ	12 UJ	25 UJ
Ethylbenzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Isopropylbenzene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Methyl acetate	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Methyl tert-butyl ether	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Methylcyclohexane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Methylene chloride	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Styrene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Tetrachloroethene	UG/KG	29	13 U	24 U	12 U	25 UJ
Toluene	UG/KG	1 J	13 U	2 J	12 U	25 UJ
trans-1,2-Dichloroethene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
trans-1,3-Dichloropropene	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Trichloroethene	UG/KG	10 J	2 J	230	49	25 UJ
Trichlorofluoromethane	UG/KG	13 U	13 U	24 U	12 U	25 UJ
Vinyl chloride	UG/KG	13 U	13 U	5 J	12 U	25 UJ
Xylene (Total)	UG/KG	13 U	13 U	24 U	12 U	25 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		SED-2	SED-3	SED-4	SED-5	SED-6
Sample ID		SED-2	SED-3	SED-4	SED-5	SED-6
Matrix		Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,1,2,2-Tetrachloroethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,1,2-Trichloroethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,1-Dichloroethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,1-Dichloroethene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,2,4-Trichlorobenzene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,2-Dibromo-3-chloropropane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,2-Dibromoethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,2-Dichlorobenzene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,2-Dichloroethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,2-Dichloropropane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,3-Dichlorobenzene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
1,4-Dichlorobenzene	UG/KG	23 UJ	8 J	31 UJ	30 J	4 J
2-Butanone	UG/KG	23 UJ	23 UJ	31 UJ	25 J	16 U
2-Hexanone	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
4-Methyl-2-pentanone	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Acetone	UG/KG	66 UJ	23 UJ	29 J	160 UJ	16 U
Benzene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Bromodichloromethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Bromoform	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Bromomethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Carbon disulfide	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Carbon tetrachloride	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U

Flags assigned during chemistry validation are shown.

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Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		SED-2	SED-3	SED-4	SED-5	SED-6
Sample ID		SED-2	SED-3	SED-4	SED-5	SED-6
Matrix		Sediment	Sediment	Sediment	Sediment	Sediment
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/20/01	09/20/01	09/20/01	09/20/01	09/20/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/KG	23 UJ	5 J	31 UJ	53 J	16 U
Chloroethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Chloroform	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Chloromethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
cis-1,2-Dichloroethene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
cis-1,3-Dichloropropene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Cyclohexane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Dibromochloromethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Dichlorodifluoromethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Ethylbenzene	UG/KG	23 UJ	23 UJ	31 UJ	32 J	16 U
Isopropylbenzene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Methyl acetate	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Methyl tert-butyl ether	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Methylcyclohexane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Methylene chloride	UG/KG	23 UJ	4 J	31 UJ	40 UJ	16 U
Styrene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Tetrachloroethene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Toluene	UG/KG	23 UJ	23 UJ	31 UJ	250 J	16 U
trans-1,2-Dichloroethene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
trans-1,3-Dichloropropene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Trichloroethene	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Trichlorofluoromethane	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Vinyl chloride	UG/KG	23 UJ	23 UJ	31 UJ	40 UJ	16 U
Xylene (Total)	UG/KG	23 UJ	23 UJ	31 UJ	21 J	16 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-02	GB-13	GB-18	GB-22	SED-3
Sample ID		CC-GB2-7-8	CC-GB13-11.5-12.5	CC-GB-10-12	CC-GB22-10-11	SED-3
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	10.0-12.0	10.0-11.0	-
Date Sampled		07/09/01	07/11/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Semivolatiles						
1,1-Biphenyl	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2,2-oxybis(1-Chloropropane)	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2,4,5-Trichlorophenol	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ
2,4,6-Trichlorophenol	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2,4-Dichlorophenol	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2,4-Dimethylphenol	UG/KG	430 UJ	360 UJ	420 UJ	450 UJ	750 UJ
2,4-Dinitrophenol	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ
2,4-Dinitrotoluene	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2,6-Dinitrotoluene	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2-Chloronaphthalene	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2-Chlorophenol	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2-Methylnaphthalene	UG/KG	110 J	360 U	420 U	450 U	170 J
2-Methylphenol	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
2-Nitroaniline	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ
2-Nitrophenol	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
3,3-Dichlorobenzidine	UG/KG	430 UJ	360 UJ	420 UJ	450 UJ	6,000 UJ
3-Nitroaniline	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ
4,6-Dinitro-2-methylphenol	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ
4-Bromophenyl-phenylether	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
4-Chloro-3-methylphenol	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
4-Chloroaniline	UG/KG	430 UJ	360 UJ	420 UJ	450 UJ	750 UJ
4-Chlorophenyl-phenylether	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
4-Methylphenol	UG/KG	430 UJ	360 U	420 U	450 U	220 J
4-Nitroaniline	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-02	GB-13	GB-18	GB-22	SED-3
Sample ID		CC-GB2-7-8	CC-GB13-11.5-12.5	CC-GB-10-12	CC-GB22-10-11	SED-3
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	10.0-12.0	10.0-11.0	-
Date Sampled		07/09/01	07/11/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Semivolatiles						
4-Nitrophenol	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ
Acenaphthene	UG/KG	950 J	360 U	420 U	450 U	640 J
Acenaphthylene	UG/KG	430 UJ	360 U	420 U	450 U	150 J
Acetophenone	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Anthracene	UG/KG	1,800 J	360 U	420 U	220 J	1,700 J
Atrazine	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Benzaldehyde	UG/KG	430 UJ	360 U	420 U	450 U	180 J
Benzo(a)anthracene	UG/KG	2,900 J	360 U	420 U	440 J	8,000 DJ
Benzo(a)pyrene	UG/KG	2,800 J	360 U	420 U	280 J	8,500 DJ
Benzo(b)fluoranthene	UG/KG	3,900 DJ	360 U	420 U	380 J	13,000 DJ
Benzo(g,h,i)perylene	UG/KG	870 J	360 U	420 U	120 J	7,100 DJ
Benzo(k)fluoranthene	UG/KG	1,300 J	360 U	420 U	160 J	4,300 DJ
bis(2-Chloroethoxy)methane	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
bis(2-Chloroethyl)ether	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
bis(2-Ethylhexyl)phthalate	UG/KG	1,500 J	360 U	180 J	1,300	18,000 DJ
Butylbenzylphthalate	UG/KG	430 UJ	360 U	420 U	450 U	1,500 J
Caprolactam	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Carbazole	UG/KG	850 J	360 U	420 U	68 J	1,400 J
Chrysene	UG/KG	2,700 J	360 U	420 U	410 J	11,000 DJ
Dibenz(a,h)anthracene	UG/KG	300 J	360 U	420 U	450 U	1,300 DJ
Dibenzofuran	UG/KG	540 J	360 U	420 U	46 J	390 J
Diethylphthalate	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Dimethylphthalate	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Di-n-butylphthalate	UG/KG	430 UJ	360 U	420 U	450 U	930 J

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

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Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-02	GB-13	GB-18	GB-22	SED-3
Sample ID		CC-GB2-7-8	CC-GB13-11.5-12.5	CC-GB-10-12	CC-GB22-10-11	SED-3
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	10.0-12.0	10.0-11.0	-
Date Sampled		07/09/01	07/11/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Semivolatiles						
Di-n-octylphthalate	UG/KG	430 UJ	360 UJ	420 UJ	450 UJ	3,800 DJ
Fluoranthene	UG/KG	5,700 DJ	360 U	420 U	970	17,000 DJ
Fluorene	UG/KG	940 J	360 U	420 U	84 J	760 J
Hexachlorobenzene	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Hexachlorobutadiene	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Hexachlorocyclopentadiene	UG/KG	430 UJ	360 UJ	420 UJ	450 UJ	750 UJ
Hexachloroethane	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Indeno(1,2,3-cd)pyrene	UG/KG	1,200 J	360 U	420 U	150 J	7,900 DJ
Isophorone	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Naphthalene	UG/KG	92 J	360 U	420 U	450 U	200 J
Nitrobenzene	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
N-Nitroso-di-n-propylamine	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
N-Nitrosodiphenylamine	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Pentachlorophenol	UG/KG	1,100 UJ	910 U	1,100 U	1,100 U	1,900 UJ
Phenanthrene	UG/KG	6,400 DJ	360 U	420 U	870	11,000 DJ
Phenol	UG/KG	430 UJ	360 U	420 U	450 U	750 UJ
Pyrene	UG/KG	5,100 DJ	360 U	420 U	720	16,000 DJ
Pesticides						
4,4-DDD	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	7.6 UJ
4,4-DDE	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	24 R
4,4-DDT	UG/KG	4.2 UJ	3.7 U	4.3 U	4.6	8.6 JN
Aldrin	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
alpha-BHC	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
alpha-Chlordane	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	4.4 R

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-02	GB-13	GB-18	GB-22	SED-3
Sample ID		CC-GB2-7-8	CC-GB13-11.5-12.5	CC-GB-10-12	CC-GB22-10-11	SED-3
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	10.0-12.0	10.0-11.0	-
Date Sampled		07/09/01	07/11/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Pesticides						
beta-BHC	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
delta-BHC	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
Dieldrin	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	7.6 UJ
Endosulfan I	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
Endosulfan II	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	11 JN
Endosulfan sulfate	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	23 J
Endrin	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	7.6 UJ
Endrin aldehyde	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	7.6 UJ
Endrin ketone	UG/KG	4.2 UJ	3.7 U	4.3 U	4.5 U	7.6 UJ
gamma-BHC (Lindane)	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
gamma-Chlordane	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	43 J
Heptachlor	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
Heptachlor epoxide	UG/KG	2.2 UJ	1.9 U	2.2 U	2.3 U	3.9 UJ
Methoxychlor	UG/KG	22 UJ	19 U	22.4 U	23.0 U	39 UJ
Toxaphene	UG/KG	220 UJ	190 U	224 U	230 U	390 UJ
PCBs						
Aroclor 1016	UG/KG	42 UJ	37 U	43 U	45 U	76 UJ
Aroclor 1221	UG/KG	86 UJ	75 U	88 U	90 U	160 UJ
Aroclor 1232	UG/KG	42 UJ	37 U	43 U	45 U	76 UJ
Aroclor 1242	UG/KG	42 UJ	37 U	43 U	45 U	76 UJ
Aroclor 1248	UG/KG	42 UJ	37 U	43 U	45 U	76 UJ
Aroclor 1254	UG/KG	42 UJ	37 U	43 U	45 U	76 UJ
Aroclor 1260	UG/KG	42 UJ	37 U	43 U	45 U	340 J

Flags assigned during chemistry validation are shown.

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Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-02	GB-13	GB-18	GB-22	SED-3
Sample ID		CC-GB2-7-8	CC-GB13-11.5-12.5	CC-GB-10-12	CC-GB22-10-11	SED-3
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	10.0-12.0	10.0-11.0	-
Date Sampled		07/09/01	07/11/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Metals						
Aluminum	MG/KG	15,200	7,140	16,200	13,500	3,330 J
Antimony	MG/KG	0.18 UJ	0.19 UJ	0.66 JB	0.61 UJ	3.5 BJ
Arsenic	MG/KG	4.5 J	1.1 JB	7.8 J	5.5 J	5.0 J
Barium	MG/KG	169	58.2	117	118	76.4 J
Beryllium	MG/KG	0.79 B	0.33 B	0.86 B	0.64 B	0.23 BJ
Cadmium	MG/KG	0.63 B	0.40 B	1.1 B	1.0 B	3.6 J
Calcium	MG/KG	69,800	66,400	32,600	59,000	39,600 J
Chromium	MG/KG	22.5	11.3	24.1	20.4	70.8 J
Cobalt	MG/KG	13.9	5.0 B	16.2	11.8 B	5.0 BJ
Copper	MG/KG	29.3	11.5 J	24.3 J	17.9 J	185 J
Iron	MG/KG	27,500 J	13,000	30,200	26,200	14,600 J
Lead	MG/KG	55.1	9.6	12.3 J	10.6 J	173 J
Magnesium	MG/KG	14,100	26,600	11,900	20,200	10,400 J
Manganese	MG/KG	532	360	524	524	168 J
Mercury	MG/KG	0.054 U	0.051 U	0.057 U	0.068 U	0.27 J
Nickel	MG/KG	30.3	11.9 J	34.5	28.8	35.3 J
Potassium	MG/KG	2,030	1,480 J	2,530	2,280	462 BJ
Selenium	MG/KG	0.37 UJ	0.37 U	1.4	1.1 U	1.5 UJ
Silver	MG/KG	0.80 BJ	0.19 UJ	4.2 R	3.8 R	2.3 BJ
Sodium	MG/KG	108 B	67.1 B	235 B	269 B	1,030 BJ
Thallium	MG/KG	0.37 U	0.37 U	1.4 JB	1.0 U	1.4 UJ
Vanadium	MG/KG	26.8	15.5	29.7	26.9	11.9 BJ
Zinc	MG/KG	91.9 J	62.0 J	104 J	83.0 J	421 J

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SOIL AND SEDIMENT SAMPLE RESULTS
CHEMCORE

Location ID		GB-02	GB-13	GB-18	GB-22	SED-3
Sample ID		CC-GB2-7-8	CC-GB13-11.5-12.5	CC-GB-10-12	CC-GB22-10-11	SED-3
Matrix		Soil	Soil	Soil	Soil	Sediment
Depth Interval (ft)		7.0-8.0	11.5-12.5	10.0-12.0	10.0-11.0	-
Date Sampled		07/09/01	07/11/01	07/12/01	07/12/01	09/20/01
Parameter	Units					
Miscellaneous Parameters						
Cyanide	MG/KG	0.51 B	0.086 U	0.18 U	0.18 U	0.74 BJ

Flags assigned during chemistry validation are shown.

MADE BY: __GEK__11/29/01__

CHECKED BY: __JJL__12/4/01__

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/09/01	10/09/01	10/09/01	10/10/01	10/10/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	19	9,000	330	250 J	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	2,000 U	300 U	300 U	10 UJ
1,1,2-Trichloroethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,1-Dichloroethane	UG/L	14	2,800	1,000	300 U	10 U
1,1-Dichloroethene	UG/L	1 J	980 J	52 J	65 J	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	2,000 UJ	300 UJ	300 U	10 U
1,2-Dibromoethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,2-Dichloroethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,2-Dichloropropane	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	2,000 U	300 U	300 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	2,000 U	300 U	300 U	10 U
2-Butanone	UG/L	10 U	2,000 U	300 U	300 U	10 U
2-Hexanone	UG/L	10 U	2,000 UJ	300 UJ	300 U	10 U
4-Methyl-2-pentanone	UG/L	10 U	2,000 UJ	300 UJ	300 U	10 U
Acetone	UG/L	10 U	2,000 U	300 U	300 UJ	10 U
Benzene	UG/L	10 U	2,000 U	42 J	300 U	10 U
Bromodichloromethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
Bromoform	UG/L	10 U	2,000 U	300 U	300 U	10 U
Bromomethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
Carbon disulfide	UG/L	10 U	2,000 U	300 U	300 U	10 U
Carbon tetrachloride	UG/L	10 U	2,000 U	300 U	300 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/09/01	10/09/01	10/09/01	10/10/01	10/10/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/L	10 U	2,000 U	300 U	300 U	10 U
Chloroethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
Chloroform	UG/L	10 U	2,000 U	300 U	300 U	10 U
Chloromethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
cis-1,2-Dichloroethene	UG/L	110	28,000	4,700	690	10 U
cis-1,3-Dichloropropene	UG/L	10 U	2,000 U	300 U	300 U	10 U
Cyclohexane	UG/L	10 U	2,000 U	300 U	300 U	10 U
Dibromochloromethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
Dichlorodifluoromethane	UG/L	10 U	2,000 U	300 U	300 U	10 U
Ethylbenzene	UG/L	10 U	2,000 U	300 U	300 U	10 U
Isopropylbenzene	UG/L	10 U	2,000 U	300 U	300 U	10 U
Methyl acetate	UG/L	10 U	2,000 UJ	300 UJ	300 U	10 U
Methyl tert-butyl ether	UG/L	10 U	2,000 U	300 U	300 U	10 U
Methylcyclohexane	UG/L	10 U	2,000 U	300 U	300 U	10 U
Methylene chloride	UG/L	10 U	2,000 U	300 U	300 U	10 U
Styrene	UG/L	10 U	2,000 U	300 U	300 U	10 U
Tetrachloroethene	UG/L	2 J	260 J	230 J	5,400	10 U
Toluene	UG/L	10 U	2,000 U	710	300 U	2 J
trans-1,2-Dichloroethene	UG/L	10 U	2,000 U	300 U	300 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	2,000 U	300 U	300 U	10 U
Trichloroethene	UG/L	6 J	410 J	630	880	10 U
Trichlorofluoromethane	UG/L	10 U	2,000 UJ	300 UJ	300 U	10 UJ
Vinyl chloride	UG/L	7 J	3,200	3,700	300 U	10 U
Xylene (Total)	UG/L	10 U	2,000 U	300 U	300 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-04S	MW-05	MW-06	MW-07	MW-08S
Sample ID		MW-04S	MW-05	MW-06	MW-07	MW-08
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/10/01	10/10/01	10/10/01	10/10/01	10/10/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	10 U	10 U	3,400	1,700	20 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 UJ	10 UJ	2,000 U	800 U	20 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,1-Dichloroethane	UG/L	10 U	2 J	4,800	1,700	20 U
1,1-Dichloroethene	UG/L	10 U	10 U	490 J	370 J	20 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,2-Dibromoethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,2-Dichloroethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,2-Dichloropropane	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
2-Butanone	UG/L	10 U	10 U	2,000 U	800 U	20 U
2-Hexanone	UG/L	10 U	10 U	2,000 U	800 U	20 U
4-Methyl-2-pentanone	UG/L	10 U	10 U	2,000 U	800 U	20 U
Acetone	UG/L	10 U	10 U	2,000 UJ	800 UJ	20 UJ
Benzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
Bromodichloromethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
Bromoform	UG/L	10 U	10 U	2,000 U	800 U	20 U
Bromomethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
Carbon disulfide	UG/L	10 U	10 U	2,000 U	800 U	20 U
Carbon tetrachloride	UG/L	10 U	10 U	2,000 U	800 U	20 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-04S	MW-05	MW-06	MW-07	MW-08S
Sample ID		MW-04S	MW-05	MW-06	MW-07	MW-08
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/10/01	10/10/01	10/10/01	10/10/01	10/10/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
Chloroethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
Chloroform	UG/L	10 U	2 J	2,000 U	800 U	20 U
Chloromethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
cis-1,2-Dichloroethene	UG/L	10 U	7 J	23,000	9,400	220
cis-1,3-Dichloropropene	UG/L	10 U	10 U	2,000 U	800 U	20 U
Cyclohexane	UG/L	10 U	10 U	2,000 U	800 U	20 U
Dibromochloromethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
Dichlorodifluoromethane	UG/L	10 U	10 U	2,000 U	800 U	20 U
Ethylbenzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
Isopropylbenzene	UG/L	10 U	10 U	2,000 U	800 U	20 U
Methyl acetate	UG/L	10 U	10 U	2,000 U	800 U	20 U
Methyl tert-butyl ether	UG/L	10 U	10 U	2,000 U	800 U	20 U
Methylcyclohexane	UG/L	10 U	10 U	2,000 U	800 U	20 U
Methylene chloride	UG/L	10 U	10 U	2,000 U	800 U	20 U
Styrene	UG/L	10 U	10 U	2,000 U	800 U	20 U
Tetrachloroethene	UG/L	10 U	10 U	2,000 U	870	220
Toluene	UG/L	1 J	10 U	610 J	800 U	20 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	2,000 U	800 U	20 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	2,000 U	800 U	20 U
Trichloroethene	UG/L	10 U	10 U	2,000 U	1,600	29
Trichlorofluoromethane	UG/L	10 UJ	10 UJ	2,000 U	800 U	20 U
Vinyl chloride	UG/L	2 J	5 J	10,000	3,800	14 J
Xylene (Total)	UG/L	10 U	10 U	2,000 U	800 U	20 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-09	MW-10	WS-1	WS-2	WS-3
Sample ID		MW-09	MW-10	WS-1	WS-2	WS-3
Matrix		Groundwater	Groundwater	Surface Water	Surface Water	Surface Water
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/08/01	10/08/01	09/20/01	09/20/01	09/20/01
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	2 J	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 UJ	10 UJ	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
2-Butanone	UG/L	10 U	10 U	10 UJ	10 UJ	10 UJ
2-Hexanone	UG/L	10 U	10 U	10 UJ	10 UJ	10 UJ
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U	10 U	10 U
Acetone	UG/L	120 U	10 U	10 UJ	10 UJ	10 UJ
Benzene	UG/L	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	UG/L	10 U	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-09	MW-10	WS-1	WS-2	WS-3
Sample ID		MW-09	MW-10	WS-1	WS-2	WS-3
Matrix		Groundwater	Groundwater	Surface Water	Surface Water	Surface Water
Depth Interval (ft)		-	-	-	-	-
Date Sampled		10/08/01	10/08/01	09/20/01	09/20/01	09/20/01
Parameter	Units					
Volatiles						
Chlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Chloroethane	UG/L	10 U	6 J	10 U	10 U	10 U
Chloroform	UG/L	10 U	10 U	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	10 U	10 U	10 U	10 U	10 U
Styrene	UG/L	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
Toluene	UG/L	1 J	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	10 U
Trichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	UG/L	10 UJ	10 UJ	10 U	10 U	10 U
Vinyl chloride	UG/L	10 U	10 U	10 U	10 U	10 U
Xylene (Total)	UG/L	10 U	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		WS-4	WS-5	WS-6
Sample ID		WS-4	WS-5	WS-6
Matrix		Surface Water	Surface Water	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		09/20/01	09/20/01	09/20/01
Parameter	Units			
Volatiles				
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U
2-Butanone	UG/L	10 UJ	10 UJ	10 UJ
2-Hexanone	UG/L	10 UJ	10 UJ	10 UJ
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U
Acetone	UG/L	10 UJ	10 UJ	10 UJ
Benzene	UG/L	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U
Carbon tetrachloride	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		WS-4	WS-5	WS-6
Sample ID		WS-4	WS-5	WS-6
Matrix		Surface Water	Surface Water	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		09/20/01	09/20/01	09/20/01
Parameter	Units			
Volatiles				
Chlorobenzene	UG/L	10 U	10 U	10 U
Chloroethane	UG/L	10 U	10 U	10 U
Chloroform	UG/L	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	10 U	10 U	10 U
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U
Methylene chloride	UG/L	10 U	10 U	10 U
Styrene	UG/L	10 U	10 U	10 U
Tetrachloroethene	UG/L	10 U	10 U	10 U
Toluene	UG/L	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Trichloroethene	UG/L	10 U	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 U	10 U
Vinyl chloride	UG/L	10 U	10 U	10 U
Xylene (Total)	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/4/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-07	WS-3
Sample ID		MW-01D	MW-07	WS-3
Matrix		Groundwater	Groundwater	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		10/09/01	10/10/01	09/20/01
Parameter	Units			
Semivolatiles				
1,1-Biphenyl	UG/L	10 U	10 U	10 U
2,2-oxybis(1-Chloropropane)	UG/L	10 U	10 U	10 U
2,4,5-Trichlorophenol	UG/L	25 U	25 U	25 U
2,4,6-Trichlorophenol	UG/L	10 U	10 U	10 U
2,4-Dichlorophenol	UG/L	10 U	10 U	10 U
2,4-Dimethylphenol	UG/L	10 U	10 U	10 U
2,4-Dinitrophenol	UG/L	25 UJ	25 UJ	25 U
2,4-Dinitrotoluene	UG/L	10 U	10 U	10 U
2,6-Dinitrotoluene	UG/L	10 U	10 U	10 U
2-Chloronaphthalene	UG/L	10 U	10 U	10 U
2-Chlorophenol	UG/L	10 U	10 U	10 U
2-Methylnaphthalene	UG/L	10 U	10 U	10 U
2-Methylphenol	UG/L	10 U	10 U	10 U
2-Nitroaniline	UG/L	25 U	25 U	25 U
2-Nitrophenol	UG/L	10 U	10 U	10 U
3,3-Dichlorobenzidine	UG/L	10 U	10 U	10 U
3-Nitroaniline	UG/L	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	UG/L	25 UJ	25 UJ	25 U
4-Bromophenyl-phenylether	UG/L	10 U	10 U	10 U
4-Chloro-3-methylphenol	UG/L	10 U	10 U	10 U
4-Chloroaniline	UG/L	R	R	10 UJ
4-Chlorophenyl-phenylether	UG/L	10 U	10 U	10 U
4-Methylphenol	UG/L	10 U	10 U	10 U
4-Nitroaniline	UG/L	25 U	25 U	25 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-07	WS-3
Sample ID		MW-01D	MW-07	WS-3
Matrix		Groundwater	Groundwater	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		10/09/01	10/10/01	09/20/01
Parameter	Units			
Semivolatiles				
4-Nitrophenol	UG/L	25 U	25 U	25 U
Acenaphthene	UG/L	10 U	10 U	10 U
Acenaphthylene	UG/L	10 U	10 U	10 U
Acetophenone	UG/L	10 U	10 U	10 U
Anthracene	UG/L	10 U	10 U	10 U
Atrazine	UG/L	10 U	10 U	10 U
Benzaldehyde	UG/L	10 U	10 U	10 U
Benzo(a)anthracene	UG/L	10 U	10 U	10 U
Benzo(a)pyrene	UG/L	10 U	10 U	10 U
Benzo(b)fluoranthene	UG/L	10 U	10 U	10 UJ
Benzo(g,h,i)perylene	UG/L	10 U	10 U	10 U
Benzo(k)fluoranthene	UG/L	10 U	10 U	10 UJ
bis(2-Chloroethoxy)methane	UG/L	10 U	10 U	10 U
bis(2-Chloroethyl)ether	UG/L	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	UG/L	10 U	3 J	10 U
Butylbenzylphthalate	UG/L	10 U	10 U	10 U
Caprolactam	UG/L	10 U	3 J	10 U
Carbazole	UG/L	10 U	10 U	10 U
Chrysene	UG/L	10 U	10 U	10 U
Dibenz(a,h)anthracene	UG/L	10 U	10 U	10 U
Dibenzofuran	UG/L	10 U	10 U	10 U
Diethylphthalate	UG/L	10 U	10 U	10 U
Dimethylphthalate	UG/L	10 U	10 U	10 U
Di-n-butylphthalate	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-07	WS-3
Sample ID		MW-01D	MW-07	WS-3
Matrix		Groundwater	Groundwater	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		10/09/01	10/10/01	09/20/01
Parameter	Units			
Semivolatiles				
Di-n-octylphthalate	UG/L	10 U	10 U	10 UJ
Fluoranthene	UG/L	10 U	10 U	10 U
Fluorene	UG/L	10 U	10 U	10 U
Hexachlorobenzene	UG/L	10 U	10 U	10 U
Hexachlorobutadiene	UG/L	10 U	10 U	10 U
Hexachlorocyclopentadiene	UG/L	10 U	10 U	10 U
Hexachloroethane	UG/L	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	UG/L	10 U	10 U	10 U
Isophorone	UG/L	10 U	10 U	10 U
Naphthalene	UG/L	10 U	10 U	10 U
Nitrobenzene	UG/L	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	UG/L	10 U	10 U	10 U
N-Nitrosodiphenylamine	UG/L	10 U	10 U	10 UJ
Pentachlorophenol	UG/L	25 UJ	25 UJ	25 U
Phenanthrene	UG/L	10 U	10 U	10 U
Phenol	UG/L	10 U	10 U	10 U
Pyrene	UG/L	10 U	10 U	10 U
Pesticides				
4,4-DDD	UG/L	0.10 U	0.10 U	0.10 U
4,4-DDE	UG/L	0.10 U	0.10 U	0.10 U
4,4-DDT	UG/L	0.10 U	0.10 U	0.10 U
Aldrin	UG/L	0.050 U	0.050 U	0.050 U
alpha-BHC	UG/L	0.050 U	0.050 U	0.050 U
alpha-Chlordane	UG/L	0.050 U	0.050 U	0.050 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-07	WS-3
Sample ID		MW-01D	MW-07	WS-3
Matrix		Groundwater	Groundwater	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		10/09/01	10/10/01	09/20/01
Parameter	Units			
Pesticides				
beta-BHC	UG/L	0.050 U	0.050 U	0.050 U
delta-BHC	UG/L	0.050 U	0.050 U	0.050 U
Dieldrin	UG/L	0.10 U	0.10 U	0.10 U
Endosulfan I	UG/L	0.050 U	0.050 U	0.050 U
Endosulfan II	UG/L	0.10 U	0.10 U	0.10 U
Endosulfan sulfate	UG/L	0.10 U	0.10 U	0.10 U
Endrin	UG/L	0.10 U	0.10 U	0.10 U
Endrin aldehyde	UG/L	0.10 U	0.10 U	0.10 U
Endrin ketone	UG/L	0.10 U	0.10 U	0.10 U
gamma-BHC (Lindane)	UG/L	0.050 U	0.050 U	0.050 U
gamma-Chlordane	UG/L	0.050 U	0.050 U	0.050 U
Heptachlor	UG/L	0.050 U	0.050 U	0.050 U
Heptachlor epoxide	UG/L	0.050 U	0.050 U	0.050 U
Methoxychlor	UG/L	0.50 U	0.50 U	0.50 U
Toxaphene	UG/L	5.0 U	5.0 U	5.0 U
PCBs				
Aroclor 1016	UG/L	1.0 U	1.0 U	1.0 U
Aroclor 1221	UG/L	2.0 U	2.0 U	2.0 U
Aroclor 1232	UG/L	1.0 U	1.0 U	1.0 U
Aroclor 1242	UG/L	1.0 U	1.0 U	1.0 U
Aroclor 1248	UG/L	1.0 U	1.0 U	1.0 U
Aroclor 1254	UG/L	1.0 U	1.0 U	1.0 U
Aroclor 1260	UG/L	1.0 U	1.0 U	1.0 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-07	WS-3
Sample ID		MW-01D	MW-07	WS-3
Matrix		Groundwater	Groundwater	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		10/09/01	10/10/01	09/20/01
Parameter	Units			
Metals				
Aluminum	UG/L	158 B	91.5 B	88.6 B
Antimony	UG/L	2.4 U	1.0 U	2.4 U
Arsenic	UG/L	6.8 B	2.1 B	7.0 B
Barium	UG/L	124 B	54.3 B	30.7 B
Beryllium	UG/L	0.10 U	0.30 B	0.10 U
Cadmium	UG/L	0.10 U	0.20 U	0.10 U
Calcium	UG/L	171,000	128,000 J	38,800
Chromium	UG/L	16.4	1.5 B	0.85 B
Cobalt	UG/L	1.6 B	1.3 B	1.1 B
Copper	UG/L	1.0 B	2.7 B	2.3 B
Iron	UG/L	336	657 J	152 J
Lead	UG/L	1.2 U	2.0 U	1.3 B
Magnesium	UG/L	17,200	61,400	9,930
Manganese	UG/L	72.8	83.6 J	12.0 BJ
Mercury	UG/L	0.14 U	0.13 U	0.13 U
Nickel	UG/L	18.4 B	6.6 B	2.3 B
Potassium	UG/L	6,220	9,170	1,910 BJ
Selenium	UG/L	4.3 UJ	5.0 U	4.3 UJ
Silver	UG/L	3.0 BJ	1.6 B	0.60 U
Sodium	UG/L	228,000 J	169,000	9,690
Thallium	UG/L	3.9 U	2.0 U	3.9 U
Vanadium	UG/L	0.72 B	23.7 B	0.52 B
Zinc	UG/L	11.4 B	4.7 B	17.1 BJ

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL SURFACE AND GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-07	WS-3
Sample ID		MW-01D	MW-07	WS-3
Matrix		Groundwater	Groundwater	Surface Water
Depth Interval (ft)		-	-	-
Date Sampled		10/09/01	10/10/01	09/20/01
Parameter	Units			
Miscellaneous Parameters				
Cyanide	UG/L	3.0 U	3.2 B	3.4 B

Flags assigned during chemistry validation are shown.

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CHECKED BY: __JJL__12/6/01__

Detection Limits shown are PQL

TABLE 1
ANALYTICAL DRILL CUTTINGS SAMPLE RESULTS
CHEMCORE

Location ID		CCDC031302	DC-1
Sample ID		CCDC031302	DC-1
Matrix		Drill Cuttings	Drill Cuttings
Depth Interval (ft)		-	-
Date Sampled		03/13/02	10/08/01
Parameter	Units		
TCLP Volatiles			
1,1-Dichloroethene	MG/L	0.005 U	0.005 U
2-Butanone	MG/L	0.005 U	0.005 U
Benzene	MG/L	0.005 U	0.005 U
Carbon tetrachloride	MG/L	0.005 U	0.005 U
Chlorobenzene	MG/L	0.005 U	0.005 U
Chloroform	MG/L	0.005 U	0.005 U
Tetrachloroethene	MG/L	0.10	0.005 UJ
Trichloroethene	MG/L	0.005 U	0.005 U
Vinyl chloride	MG/L	0.005 U	0.005 U
1,2-Dichloroethane	MG/L	0.005 U	0.005 U
TCLP Semivolatiles			
1,4-Dichlorobenzene	MG/L	NA	0.033 U
2,4,5-Trichlorophenol	MG/L	NA	0.067 U
2,4,6-Trichlorophenol	MG/L	NA	0.033 U
2,4-Dinitrotoluene	MG/L	NA	0.033 U
Hexachlorobenzene	MG/L	NA	0.033 U
Hexachlorobutadiene	MG/L	NA	0.033 U
Hexachloroethane	MG/L	NA	0.033 U
Nitrobenzene	MG/L	NA	0.033 U
Pentachlorophenol	MG/L	NA	0.067 U
Pyridine	MG/L	NA	0.033 U
4-Methylphenol	MG/L	NA	0.033 U
2-Methylphenol	MG/L	NA	0.033 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL DRILL CUTTINGS SAMPLE RESULTS
CHEMCORE

Location ID		CCDC031302	DC-1
Sample ID		CCDC031302	DC-1
Matrix		Drill Cuttings	Drill Cuttings
Depth Interval (ft)		-	-
Date Sampled		03/13/02	10/08/01
Parameter	Units		
TCLP Metals			
Arsenic	MG/L	NA	0.0020 U
Barium	MG/L	NA	0.72
Cadmium	MG/L	NA	0.0044 B
Chromium	MG/L	NA	0.0044 B
Lead	MG/L	NA	0.0020 U
Mercury	MG/L	NA	0.0010 U
Selenium	MG/L	NA	0.0060 U
Silver	MG/L	NA	0.0036 B
Miscellaneous Parameters			
pH	S.U.	NA	8.8
Flashpoint	DEG F	NA	> 160
Sulfides, Reactive	MG/KG	NA	10
Cyanide, Reactive	MG/KG	NA	1 U

Flags assigned during chemistry validation are shown.

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CHECKED BY: __JJL__12/6/01__

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID		TB	TB	TB	TB
Matrix		Quality Control	Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-	-
Date Sampled		09/20/01	10/08/01	10/09/01	10/10/01
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)
Volatiles					
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 UJ	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U
2-Butanone	UG/L	10 UJ	10 U	10 U	10 U
2-Hexanone	UG/L	10 UJ	10 U	10 U	10 U
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U	10 U
Acetone	UG/L	10 UJ	10 U	10 U	10 UJ
Benzene	UG/L	10 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U	10 U
Carbon tetrachloride	UG/L	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID		TB	TB	TB	TB
Matrix		Quality Control	Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-	-
Date Sampled		09/20/01	10/08/01	10/09/01	10/10/01
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)	Trip Blank (1-1)
Volatiles					
Chlorobenzene	UG/L	10 U	10 U	10 U	10 U
Chloroethane	UG/L	10 U	10 U	10 U	10 U
Chloroform	UG/L	10 U	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	10 U	10 U	10 U	10 U
Styrene	UG/L	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	10 U	10 U	10 U	10 U
Toluene	UG/L	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U
Trichloroethene	UG/L	10 U	10 U	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 UJ	10 U	10 U
Vinyl chloride	UG/L	10 U	10 U	10 U	10 U
Xylene (Total)	UG/L	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Volatiles				
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	6 J	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U
2-Butanone	UG/L	10 U	10 UJ	10 U
2-Hexanone	UG/L	10 U	10 UJ	10 U
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U
Acetone	UG/L	10 U	10 UJ	16
Benzene	UG/L	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U
Carbon tetrachloride	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Volatiles				
Chlorobenzene	UG/L	10 U	10 U	10 U
Chloroethane	UG/L	10 UJ	10 U	10 U
Chloroform	UG/L	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 U
cis-1,2-Dichloroethene	UG/L	10 U	10 U	10 U
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 UJ	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U
Methylene chloride	UG/L	10 U	10 U	98
Styrene	UG/L	10 U	10 U	10 U
Tetrachloroethene	UG/L	10 U	10 U	10 U
Toluene	UG/L	10 U	1 J	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U
Trichloroethene	UG/L	10 U	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 U	10 U
Vinyl chloride	UG/L	10 U	10 U	10 U
Xylene (Total)	UG/L	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Semivolatiles				
1,1-Biphenyl	UG/L	10 U	NA	10 U
2,2-oxybis(1-Chloropropane)	UG/L	10 U	NA	10 U
2,4,5-Trichlorophenol	UG/L	25 U	NA	25 U
2,4,6-Trichlorophenol	UG/L	10 U	NA	10 U
2,4-Dichlorophenol	UG/L	10 U	NA	10 U
2,4-Dimethylphenol	UG/L	10 U	NA	10 U
2,4-Dinitrophenol	UG/L	25 U	NA	25 U
2,4-Dinitrotoluene	UG/L	10 U	NA	10 U
2,6-Dinitrotoluene	UG/L	10 U	NA	10 U
2-Chloronaphthalene	UG/L	10 U	NA	10 U
2-Chlorophenol	UG/L	10 U	NA	10 U
2-Methylnaphthalene	UG/L	10 U	NA	10 U
2-Methylphenol	UG/L	10 U	NA	10 U
2-Nitroaniline	UG/L	25 U	NA	25 U
2-Nitrophenol	UG/L	10 U	NA	10 U
3,3-Dichlorobenzidine	UG/L	10 U	NA	10 U
3-Nitroaniline	UG/L	25 U	NA	25 U
4,6-Dinitro-2-methylphenol	UG/L	25 U	NA	25 U
4-Bromophenyl-phenylether	UG/L	10 U	NA	10 U
4-Chloro-3-methylphenol	UG/L	10 U	NA	10 U
4-Chloroaniline	UG/L	10 U	NA	10 U
4-Chlorophenyl-phenylether	UG/L	10 U	NA	10 U
4-Methylphenol	UG/L	10 U	NA	10 U
4-Nitroaniline	UG/L	25 U	NA	25 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Semivolatiles				
4-Nitrophenol	UG/L	25 U	NA	25 U
Acenaphthene	UG/L	10 U	NA	10 U
Acenaphthylene	UG/L	10 U	NA	10 U
Acetophenone	UG/L	10 U	NA	10 U
Anthracene	UG/L	10 U	NA	10 U
Atrazine	UG/L	10 U	NA	10 U
Benzaldehyde	UG/L	10 U	NA	10 U
Benzo(a)anthracene	UG/L	10 U	NA	10 U
Benzo(a)pyrene	UG/L	10 U	NA	10 U
Benzo(b)fluoranthene	UG/L	10 U	NA	10 U
Benzo(g,h,i)perylene	UG/L	10 U	NA	10 U
Benzo(k)fluoranthene	UG/L	10 U	NA	10 U
bis(2-Chloroethoxy)methane	UG/L	10 U	NA	10 U
bis(2-Chloroethyl)ether	UG/L	10 U	NA	10 U
bis(2-Ethylhexyl)phthalate	UG/L	10 U	NA	10 U
Butylbenzylphthalate	UG/L	10 U	NA	10 U
Caprolactam	UG/L	10 U	NA	10 U
Carbazole	UG/L	10 U	NA	10 U
Chrysene	UG/L	10 U	NA	10 U
Dibenz(a,h)anthracene	UG/L	10 U	NA	10 U
Dibenzofuran	UG/L	10 U	NA	10 U
Diethylphthalate	UG/L	10 U	NA	10 U
Dimethylphthalate	UG/L	10 U	NA	10 U
Di-n-butylphthalate	UG/L	10 U	NA	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Semivolatiles				
Di-n-octylphthalate	UG/L	10 U	NA	10 U
Fluoranthene	UG/L	10 U	NA	10 U
Fluorene	UG/L	10 U	NA	10 U
Hexachlorobenzene	UG/L	10 U	NA	10 U
Hexachlorobutadiene	UG/L	10 U	NA	10 U
Hexachlorocyclopentadiene	UG/L	10 U	NA	10 U
Hexachloroethane	UG/L	10 U	NA	10 U
Indeno(1,2,3-cd)pyrene	UG/L	10 U	NA	10 U
Isophorone	UG/L	10 U	NA	10 U
Naphthalene	UG/L	10 U	NA	10 U
Nitrobenzene	UG/L	10 U	NA	10 U
N-Nitroso-di-n-propylamine	UG/L	10 U	NA	10 U
N-Nitrosodiphenylamine	UG/L	10 U	NA	10 U
Pentachlorophenol	UG/L	25 U	NA	25 U
Phenanthrene	UG/L	10 U	NA	10 U
Phenol	UG/L	10 U	NA	10 U
Pyrene	UG/L	10 U	NA	10 U
Pesticides				
4,4-DDD	UG/L	0.10 U	NA	0.10 U
4,4-DDE	UG/L	0.10 U	NA	0.10 U
4,4-DDT	UG/L	0.10 U	NA	0.10 U
Aldrin	UG/L	0.050 U	NA	0.050 U
alpha-BHC	UG/L	0.050 U	NA	0.050 U
alpha-Chlordane	UG/L	0.050 U	NA	0.050 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Pesticides				
beta-BHC	UG/L	0.050 U	NA	0.050 U
delta-BHC	UG/L	0.050 U	NA	0.050 U
Dieldrin	UG/L	0.10 U	NA	0.10 U
Endosulfan I	UG/L	0.050 U	NA	0.050 U
Endosulfan II	UG/L	0.10 U	NA	0.10 U
Endosulfan sulfate	UG/L	0.10 U	NA	0.10 U
Endrin	UG/L	0.10 U	NA	0.10 U
Endrin aldehyde	UG/L	0.10 U	NA	0.10 U
Endrin ketone	UG/L	0.10 U	NA	0.10 U
gamma-BHC (Lindane)	UG/L	0.050 U	NA	0.050 U
gamma-Chlordane	UG/L	0.050 U	NA	0.050 U
Heptachlor	UG/L	0.050 U	NA	0.050 U
Heptachlor epoxide	UG/L	0.050 U	NA	0.050 U
Methoxychlor	UG/L	0.50 U	NA	0.50 U
Toxaphene	UG/L	5.0 U	NA	5.0 U
PCBs				
Aroclor 1016	UG/L	1.0 U	NA	1.0 U
Aroclor 1221	UG/L	2.0 U	NA	2.0 U
Aroclor 1232	UG/L	1.0 U	NA	1.0 U
Aroclor 1242	UG/L	1.0 U	NA	1.0 U
Aroclor 1248	UG/L	1.0 U	NA	1.0 U
Aroclor 1254	UG/L	1.0 U	NA	1.0 U
Aroclor 1260	UG/L	1.0 U	NA	1.0 U

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Metals				
Aluminum	UG/L	4.6 U	NA	4.6 U
Antimony	UG/L	2.4 U	NA	2.4 U
Arsenic	UG/L	4.2 U	NA	4.2 U
Barium	UG/L	5.2 B	NA	1.7 B
Beryllium	UG/L	0.10 U	NA	0.10 U
Cadmium	UG/L	0.10 U	NA	0.10 U
Calcium	UG/L	133 U	NA	133 U
Chromium	UG/L	1.9 B	NA	1.6 B
Cobalt	UG/L	0.90 B	NA	1.4 B
Copper	UG/L	1.4 B	NA	6.2 B
Iron	UG/L	18.2 B	NA	26.3 B
Lead	UG/L	1.2 U	NA	1.2 U
Magnesium	UG/L	34.2 B	NA	6.0 U
Manganese	UG/L	1.2 B	NA	3.2 B
Mercury	UG/L	0.12 U	NA	0.15 U
Nickel	UG/L	1.2 B	NA	1.6 B
Potassium	UG/L	49.7 U	NA	49.7 U
Selenium	UG/L	4.3 U	NA	4.3 UJ
Silver	UG/L	0.60 U	NA	2.4 BJ
Sodium	UG/L	291 B	NA	429 B
Thallium	UG/L	3.9 U	NA	3.9 U
Vanadium	UG/L	0.40 U	NA	0.40 U
Zinc	UG/L	3.4 B	NA	27.7 J

Flags assigned during chemistry validation are shown.

MADE BY: _GEK_11/29/01_

CHECKED BY: _JJL_12/6/01_

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC
Sample ID		RINSE BLANK	RB	RB
Matrix		Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-
Date Sampled		07/10/01	09/20/01	10/08/01
Parameter	Units	Rinse Blank (1-1)	Rinse Blank (1-1)	Rinse Blank (1-1)
Miscellaneous Parameters				
Cyanide	UG/L	2.0 U	NA	3.0 U

Flags assigned during chemistry validation are shown.

MADE BY: __GEK__11/29/01__

CHECKED BY: __JJL__12/6/01__

Detection Limits shown are PQL

TABLE 1
ANALYTICAL DRILL CUTTINGS SAMPLE RESULTS
CHEM-CORE

Location ID		CCDC031302
Sample ID		CCDC031302
Matrix		Drill Cuttings
Depth Interval (ft)		-
Date Sampled		03/13/02
Parameter	Units	
TCLP Volatiles		
1,1-Dichloroethene	MG/L	0.005 U
2-Butanone	MG/L	0.005 U
Benzene	MG/L	0.005 U
Carbon tetrachloride	MG/L	0.005 U
Chlorobenzene	MG/L	0.005 U
Chloroform	MG/L	0.005 U
Tetrachloroethene	MG/L	0.10
Trichloroethene	MG/L	0.005 U
Vinyl chloride	MG/L	0.005 U
1,2-Dichloroethane	MG/L	0.005 U

Flags assigned during chemistry validation are shown.

MADE BY: 62 4/30/02

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL AIR SAMPLE RESULTS
CHEM-CORE

Location ID		SVE-01
Sample ID		SVE-01
Matrix		Ambient Air
Depth Interval (ft)		-
Date Sampled		03/29/02
Parameter	Units	
Volatiles		
1,1,1-Trichloroethane	PPBV	35,000
1,1,2,2-Tetrachloroethane	PPBV	24,000 U
1,1,2-Trichloroethane	PPBV	24,000 U
1,1-Dichloroethane	PPBV	24,000 U
1,1-Dichloroethene	PPBV	16,000 J
1,2-Dichloroethane	PPBV	24,000 U
1,2-Dichloropropane	PPBV	24,000 U
2-Butanone	PPBV	60,000 UJ
2-Hexanone	PPBV	60,000 UJ
4-Methyl-2-pentanone	PPBV	60,000 UJ
Acetone	PPBV	600,000 UJ
Benzene	PPBV	24,000 U
Bromodichloromethane	PPBV	24,000 U
Bromoform	PPBV	24,000 U
Bromomethane	PPBV	24,000 U
Carbon disulfide	PPBV	24,000 U
Carbon tetrachloride	PPBV	24,000 U
Chlorobenzene	PPBV	24,000 U
Chloroethane	PPBV	24,000 U
Chloroform	PPBV	24,000 U
Chloromethane	PPBV	60,000 U
cis-1,2-Dichloroethene	PPBV	24,000 U
cis-1,3-Dichloropropene	PPBV	24,000 U
Dibromochloromethane	PPBV	24,000 U

Flags assigned during chemistry validation are shown.

MADE BY: mu 4/30/02
CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL AIR SAMPLE RESULTS
CHEM-CORE

Location ID		SVE-01
Sample ID		SVE-01
Matrix		Ambient Air
Depth Interval (ft)		-
Date Sampled		03/29/02
Parameter	Units	
Volatiles		
Ethylbenzene	PPBV	24,000 U
Methylene chloride	PPBV	610,000
Styrene	PPBV	24,000 U
Tetrachloroethene	PPBV	2,200,000
Toluene	PPBV	24,000 U
trans-1,2-Dichloroethene	PPBV	24,000 U
trans-1,3-Dichloropropene	PPBV	24,000 U
Trichloroethene	PPBV	38,000
Vinyl chloride	PPBV	24,000 U
Xylene (Total)	PPBV	24,000 U

Flags assigned during chemistry validation are shown.

MADE BY: JH 7/30/02
CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/23/02	01/23/02	01/24/02	01/22/02	01/23/02
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	59	970	470	640	10 U
1,1,2,2-Tetrachloroethane	UG/L	20 U	250 U	400 U	400 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	20 U	250 U	400 U	400 U	10 U
1,1,2-Trichloroethane	UG/L	20 U	250 U	400 U	400 U	10 U
1,1-Dichloroethane	UG/L	45	700	730	400 U	10 U
1,1-Dichloroethene	UG/L	10 J	170 J	130 J	140 J	10 U
1,2,4-Trichlorobenzene	UG/L	20 U	250 U	400 U	400 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	20 U	250 U	400 U	400 U	10 U
1,2-Dibromoethane	UG/L	20 U	250 U	400 U	400 U	10 U
1,2-Dichlorobenzene	UG/L	20 U	250 U	400 U	400 U	10 U
1,2-Dichloroethane	UG/L	20 U	250 U	400 U	400 U	10 U
1,2-Dichloropropane	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
1,3-Dichlorobenzene	UG/L	20 U	250 U	400 U	400 U	10 U
1,4-Dichlorobenzene	UG/L	20 U	250 U	400 U	400 U	10 U
2-Butanone	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
2-Hexanone	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
4-Methyl-2-pentanone	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
Acetone	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
Benzene	UG/L	20 U	250 U	52 J	400 U	2 J
Bromodichloromethane	UG/L	20 U	250 U	400 U	400 U	10 U
Bromoform	UG/L	20 U	250 U	400 U	400 U	10 U
Bromomethane	UG/L	20 U	250 U	400 U	400 U	10 U
Carbon disulfide	UG/L	20 U	250 U	400 U	400 U	10 U
Carbon tetrachloride	UG/L	20 U	250 U	400 U	400 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/23/02	01/23/02	01/24/02	01/22/02	01/23/02
Parameter	Units					
Volatiles						
Chlorobenzene	UG/L	20 U	250 U	400 U	400 U	10 U
Chloroethane	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
Chloroform	UG/L	20 U	250 U	400 U	400 U	10 U
Chloromethane	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
cis-1,2-Dichloroethene	UG/L	310	4,800	6,600	990	1 J
cis-1,3-Dichloropropene	UG/L	20 U	250 U	400 U	400 U	10 U
Cyclohexane	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
Dibromochloromethane	UG/L	20 U	250 U	400 U	400 U	10 U
Dichlorodifluoromethane	UG/L	20 U	250 U	400 U	400 U	10 U
Ethylbenzene	UG/L	20 U	250 U	400 U	400 U	10 U
Isopropylbenzene	UG/L	20 U	250 U	400 U	400 U	10 U
Methyl acetate	UG/L	20 UJ	250 UJ	400 UJ	400 UJ	10 U
Methyl tert-butyl ether	UG/L	20 U	250 U	400 U	400 U	10 U
Methylcyclohexane	UG/L	20 U	250 U	400 U	400 U	10 U
Methylene chloride	UG/L	5 J	74 J	400 U	400 U	10 U
Styrene	UG/L	20 U	250 U	400 U	400 U	10 U
Tetrachloroethene	UG/L	8 J	68 J	550	5,400	10 U
Toluene	UG/L	20 U	250 U	2,200	400 U	10 U
trans-1,2-Dichloroethene	UG/L	2 J	33 J	51 J	400 U	10 U
trans-1,3-Dichloropropene	UG/L	20 U	250 U	400 U	400 U	10 U
Trichloroethene	UG/L	18 J	120 J	520	1,900	10 U
Trichlorofluoromethane	UG/L	20 U	250 U	400 U	400 U	10 U
Vinyl chloride	UG/L	12 J	1,000 J	2,700 J	400 UJ	10 U
Xylene (Total)	UG/L	20 U	250 U	400 U	400 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Sample ID		MW-01D	MW-01S	MW-02	MW-03	MW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/23/02	01/23/02	01/24/02	01/22/02	01/23/02
Parameter	Units					
Filtered Metals						
Iron	UG/L	67.5 B	172 B	254	82.1 B	25.0 U
Miscellaneous Parameters						
Hardness	MG/L	620	550	580	650	1,900

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-04S	MW-05	MW-06	MW-07	MW-08D
Sample ID		MW-04S	MW-05	MW-06	MW-07	MW-08D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/24/02	01/24/02	01/24/02	01/22/02
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	10 U	10 U	3,000	2,100	38 J
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,1-Dichloroethane	UG/L	10 U	3 J	4,500	1,400	210
1,1-Dichloroethene	UG/L	10 U	10 U	530 J	320 J	50 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,2-Dibromoethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,2-Dichloroethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,2-Dichloropropane	UG/L	10 U	10 UJ	2,000 U	500 UJ	50 UJ
1,3-Dichlorobenzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
2-Butanone	UG/L	10 UJ	10 UJ	2,000 U	500 UJ	50 UJ
2-Hexanone	UG/L	10 U	10 UJ	2,000 U	500 UJ	50 UJ
4-Methyl-2-pentanone	UG/L	10 U	10 UJ	2,000 U	500 UJ	50 UJ
Acetone	UG/L	10 UJ	10 UJ	2,000 U	500 UJ	50 UJ
Benzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
Bromodichloromethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
Bromoform	UG/L	10 U	10 U	2,000 U	500 U	50 U
Bromomethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
Carbon disulfide	UG/L	10 U	10 U	2,000 U	500 U	50 U
Carbon tetrachloride	UG/L	10 U	10 U	2,000 U	500 U	50 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-04S	MW-05	MW-06	MW-07	MW-08D
Sample ID		MW-04S	MW-05	MW-06	MW-07	MW-08D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/24/02	01/24/02	01/24/02	01/22/02
Parameter	Units					
Volatiles						
Chlorobenzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
Chloroethane	UG/L	10 U	10 UJ	2,000 U	500 UJ	50 UJ
Chloroform	UG/L	10 U	10 U	2,000 U	180 J	50 U
Chloromethane	UG/L	10 U	10 UJ	2,000 UJ	500 UJ	50 UJ
cis-1,2-Dichloroethene	UG/L	10 U	9 J	25,000	8,500	340
cis-1,3-Dichloropropene	UG/L	10 U	10 U	2,000 U	500 U	50 U
Cyclohexane	UG/L	10 U	2 J	2,000 U	500 UJ	50 UJ
Dibromochloromethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
Dichlorodifluoromethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
Ethylbenzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
Isopropylbenzene	UG/L	10 U	10 U	2,000 U	500 U	50 U
Methyl acetate	UG/L	10 U	10 UJ	2,000 U	500 UJ	50 UJ
Methyl tert-butyl ether	UG/L	10 U	10 U	2,000 U	500 U	50 U
Methylcyclohexane	UG/L	10 U	2 J	2,000 U	500 U	50 U
Methylene chloride	UG/L	10 U	10 U	2,000 U	500 U	50 U
Styrene	UG/L	10 U	10 U	2,000 U	500 U	50 U
Tetrachloroethene	UG/L	10 U	1 J	2,000 U	880	50 U
Toluene	UG/L	10 U	10 U	480 J	500 U	50 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	2,000 U	56 J	6 J
trans-1,3-Dichloropropene	UG/L	10 U	10 U	2,000 U	500 U	50 U
Trichloroethene	UG/L	10 U	2 J	2,000 U	4,400	17 J
Trichlorofluoromethane	UG/L	10 U	10 U	2,000 U	500 U	50 U
Vinyl chloride	UG/L	10 U	3 J	9,300 J	2,900 J	540 J
Xylene (Total)	UG/L	10 U	10 U	2,000 U	500 U	50 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-04S	MW-05	MW-06	MW-07	MW-08D
Sample ID		MW-04S	MW-05	MW-06	MW-07	MW-08D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/24/02	01/24/02	01/24/02	01/22/02
Parameter	Units					
Filtered Metals						
Iron	UG/L	208	25.0 U	916	137 B	165 B
Miscellaneous Parameters						
Hardness	MG/L	410	340	680	730	570

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-08S	MW-09	MW-10	MW-11	MW-12
Sample ID		MW-08S	MW-09	MW-10	MW-11	MW-12
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/23/02	01/23/02	01/22/02	01/22/02
Parameter	Units					
Volatiles						
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U	87	160 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U	10 U	160 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U	10 U	160 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	160 U
1,1-Dichloroethane	UG/L	10 U	10 U	1 J	11	160 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U	11	160 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U	160 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U	10 U	160 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U	10 U	160 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	160 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U	10 U	160 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 U	10 U	160 UJ
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	160 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	160 U
2-Butanone	UG/L	10 UJ	10 U	10 U	10 UJ	160 UJ
2-Hexanone	UG/L	10 U	10 U	10 U	10 U	160 UJ
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 U	10 U	160 UJ
Acetone	UG/L	10 UJ	10 U	10 U	10 UJ	160 UJ
Benzene	UG/L	10 U	10 U	10 U	2 J	160 U
Bromodichloromethane	UG/L	10 U	10 U	10 U	10 U	160 U
Bromoform	UG/L	10 U	10 U	10 U	10 U	160 U
Bromomethane	UG/L	10 U	10 U	10 U	10 U	160 U
Carbon disulfide	UG/L	10 U	10 U	10 U	10 U	160 U
Carbon tetrachloride	UG/L	10 U	10 U	10 U	10 U	160 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-08S	MW-09	MW-10	MW-11	MW-12
Sample ID		MW-08S	MW-09	MW-10	MW-11	MW-12
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/23/02	01/23/02	01/22/02	01/22/02
Parameter	Units					
Volatiles						
Chlorobenzene	UG/L	10 U	10 U	2 J	10 U	160 U
Chloroethane	UG/L	10 U	10 U	8 J	10 U	160 UJ
Chloroform	UG/L	10 U	10 U	10 U	10 U	160 U
Chloromethane	UG/L	10 U	10 U	10 U	10 U	160 UJ
cis-1,2-Dichloroethene	UG/L	93	2 J	6 J	110	550
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	160 U
Cyclohexane	UG/L	10 U	2 J	10 U	10 U	160 UJ
Dibromochloromethane	UG/L	10 U	10 U	10 U	10 U	160 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U	10 U	160 U
Ethylbenzene	UG/L	10 U	10 U	10 U	10 U	160 U
Isopropylbenzene	UG/L	10 U	10 U	10 U	10 U	160 U
Methyl acetate	UG/L	10 U	10 U	10 U	10 U	160 UJ
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U	10 U	160 U
Methylcyclohexane	UG/L	10 U	3 J	10 U	10 U	160 U
Methylene chloride	UG/L	10 U	1 J	10 U	10 U	160 U
Styrene	UG/L	10 U	10 U	10 U	10 U	160 U
Tetrachloroethene	UG/L	75	10 U	10 U	160	2,300
Toluene	UG/L	10 U	10 U	10 U	10 U	160 U
trans-1,2-Dichloroethene	UG/L	2 J	10 U	10 U	4 J	160 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	160 U
Trichloroethene	UG/L	22	10 U	10 U	85	310
Trichlorofluoromethane	UG/L	10 U	10 U	10 U	10 U	160 U
Vinyl chloride	UG/L	10 U	10 U	10 U	14	160 UJ
Xylene (Total)	UG/L	10 U	10 U	10 U	10 U	160 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-08S	MW-09	MW-10	MW-11	MW-12
Sample ID		MW-08S	MW-09	MW-10	MW-11	MW-12
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/23/02	01/23/02	01/22/02	01/22/02
Parameter	Units					
Filtered Metals						
Iron	UG/L	71.1 B	25.0 U	429	60.3 B	77.2 B
Miscellaneous Parameters						
Hardness	MG/L	290	400	630	490	520

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-13D	MW-13S	MW-14	PZ-1
Sample ID		MW-13D	MW-13S	MW-14	PZ-1
Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-
Date Sampled		03/25/02	03/25/02	03/25/02	01/24/02
Parameter	Units				
Volatiles					
1,1,1-Trichloroethane	UG/L	10 U	10 U	7,700	25,000
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	3,000 U	2,000 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	46	3,000 U	2,000 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	3,000 U	2,000 U
1,1-Dichloroethane	UG/L	10 U	10 U	1,400 J	1,500 J
1,1-Dichloroethene	UG/L	10 U	10 U	1,000 J	1,400 J
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	3,000 U	2,000 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	3,000 U	2,000 U
1,2-Dibromoethane	UG/L	10 U	10 U	3,000 U	2,000 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	3,000 U	2,000 U
1,2-Dichloroethane	UG/L	10 U	10 U	3,000 U	2,000 U
1,2-Dichloropropane	UG/L	10 U	10 U	3,000 U	2,000 UJ
1,3-Dichlorobenzene	UG/L	10 U	10 U	3,000 U	2,000 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	3,000 U	2,000 U
2-Butanone	UG/L	10 U	10 U	3,000 U	2,000 UJ
2-Hexanone	UG/L	10 UJ	10 UJ	3,000 UJ	2,000 UJ
4-Methyl-2-pentanone	UG/L	10 U	10 U	3,000 U	2,000 UJ
Acetone	UG/L	10 UJ	10 UJ	3,000 UJ	1,000 J
Benzene	UG/L	10 U	10 U	3,000 U	2,000 U
Bromodichloromethane	UG/L	10 U	10 U	3,000 U	2,000 U
Bromoform	UG/L	10 U	10 U	3,000 U	2,000 U
Bromomethane	UG/L	10 U	10 U	3,000 U	2,000 U
Carbon disulfide	UG/L	10 U	10 U	3,000 U	2,000 U
Carbon tetrachloride	UG/L	10 U	10 U	3,000 U	2,000 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-13D	MW-13S	MW-14	PZ-1
Sample ID		MW-13D	MW-13S	MW-14	PZ-1
Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-
Date Sampled		03/25/02	03/25/02	03/25/02	01/24/02
Parameter	Units				
Volatiles					
Chlorobenzene	UG/L	10 U	10 U	3,000 U	2,000 U
Chloroethane	UG/L	10 U	10 U	3,000 U	2,000 UJ
Chloroform	UG/L	10 U	10 U	3,000 U	2,000 U
Chloromethane	UG/L	10 U	10 U	3,000 U	2,000 UJ
cis-1,2-Dichloroethene	UG/L	10 U	9 J	30,000	23,000
cis-1,3-Dichloropropene	UG/L	10 U	10 U	3,000 U	2,000 U
Cyclohexane	UG/L	10 U	10 U	3,000 U	2,000 UJ
Dibromochloromethane	UG/L	10 U	10 U	3,000 U	2,000 U
Dichlorodifluoromethane	UG/L	10 U	10 U	3,000 U	2,000 U
Ethylbenzene	UG/L	10 U	10 U	3,000 U	2,000 U
Isopropylbenzene	UG/L	10 U	10 U	3,000 U	2,000 U
Methyl acetate	UG/L	10 U	10 U	3,000 U	2,000 UJ
Methyl tert-butyl ether	UG/L	10 U	10 U	3,000 U	2,000 U
Methylcyclohexane	UG/L	10 U	10 U	3,000 U	2,000 U
Methylene chloride	UG/L	10 U	10 U	3,000 U	3,000
Styrene	UG/L	10 U	10 U	3,000 U	2,000 U
Tetrachloroethene	UG/L	10 U	10 U	21,000	1,500 J
Toluene	UG/L	10 U	10 U	3,000 U	2,000 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	3,000 U	2,000 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	3,000 U	2,000 U
Trichloroethene	UG/L	10 U	10 U	14,000	16,000
Trichlorofluoromethane	UG/L	10 U	10 U	3,000 U	2,000 U
Vinyl chloride	UG/L	10 U	10 U	1,900 J	2,000 UJ
Xylene (Total)	UG/L	10 U	10 U	3,000 U	2,000 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL GROUNDWATER SAMPLE RESULTS
CHEMCORE

Location ID		MW-13D	MW-13S	MW-14	PZ-1
Sample ID		MW-13D	MW-13S	MW-14	PZ-1
Matrix		Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-
Date Sampled		03/25/02	03/25/02	03/25/02	01/24/02
Parameter	Units				
Filtered Metals					
Iron	UG/L	NA	NA	NA	17,000
Miscellaneous Parameters					
Hardness	MG/L	NA	NA	NA	690

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID		TB	TB	RB-1	TB-1	GWRB03
Matrix		Quality Control	Quality Control	Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/23/02	01/24/02	01/24/02	03/25/02
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)	Rinse Blank (1-1)	Trip Blank (1-1)	Rinse Blank (1-1)
Volatiles						
1,1,1-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	UG/L	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
2-Butanone	UG/L	10 UJ	10 U	10 UJ	10 UJ	10 U
2-Hexanone	UG/L	10 U	10 U	10 UJ	10 UJ	10 UJ
4-Methyl-2-pentanone	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
Acetone	UG/L	10 UJ	10 U	10 UJ	10 UJ	10 UJ
Benzene	UG/L	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Bromoform	UG/L	10 U	10 U	10 U	10 U	10 U
Bromomethane	UG/L	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	UG/L	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	UG/L	10 U	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID		TB	TB	RB-1	TB-1	GWRB03
Matrix		Quality Control	Quality Control	Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/23/02	01/24/02	01/24/02	03/25/02
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)	Rinse Blank (1-1)	Trip Blank (1-1)	Rinse Blank (1-1)
Volatiles						
Chlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Chloroethane	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
Chloroform	UG/L	10 U	10 U	10 U	10 U	10 U
Chloromethane	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
cis-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	10 U
Cyclohexane	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
Dibromochloromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	UG/L	10 U	10 U	10 U	10 U	10 U
Methyl acetate	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
Methyl tert-butyl ether	UG/L	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	UG/L	10 U	10 U	10 U	10 U	10 U
Methylene chloride	UG/L	1 J	10 U	10 U	1 J	1 J
Styrene	UG/L	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	UG/L	2 J	10 U	10 U	10 U	10 U
Toluene	UG/L	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	UG/L	10 U	10 U	10 U	10 U	10 U
Trichloroethene	UG/L	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	UG/L	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	UG/L	10 U	10 U	10 UJ	10 UJ	10 U
Xylene (Total)	UG/L	10 U	10 U	10 U	10 U	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC	FIELDQC	FIELDQC	FIELDQC	FIELDQC
Sample ID		TB	TB	RB-1	TB-1	GWRB03
Matrix		Quality Control	Quality Control	Quality Control	Quality Control	Quality Control
Depth Interval (ft)		-	-	-	-	-
Date Sampled		01/22/02	01/23/02	01/24/02	01/24/02	03/25/02
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)	Rinse Blank (1-1)	Trip Blank (1-1)	Rinse Blank (1-1)
Filtered Metals						
Iron	UG/L	NA	NA	25.0 U	NA	NA
Miscellaneous Parameters						
Hardness	MG/L	NA	NA	4 U	NA	NA

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC
Sample ID		TB032502
Matrix		Quality Control
Depth Interval (ft)		-
Date Sampled		03/25/02
Parameter	Units	Trip Blank (1-1)
Volatiles		
1,1,1-Trichloroethane	UG/L	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/L	10 U
1,1,2-Trichloroethane	UG/L	10 U
1,1-Dichloroethane	UG/L	10 U
1,1-Dichloroethene	UG/L	10 U
1,2,4-Trichlorobenzene	UG/L	10 U
1,2-Dibromo-3-chloropropane	UG/L	10 U
1,2-Dibromoethane	UG/L	10 U
1,2-Dichlorobenzene	UG/L	10 U
1,2-Dichloroethane	UG/L	10 U
1,2-Dichloropropane	UG/L	10 U
1,3-Dichlorobenzene	UG/L	10 U
1,4-Dichlorobenzene	UG/L	10 U
2-Butanone	UG/L	10 U
2-Hexanone	UG/L	10 UJ
4-Methyl-2-pentanone	UG/L	10 U
Acetone	UG/L	10 UJ
Benzene	UG/L	10 U
Bromodichloromethane	UG/L	10 U
Bromoform	UG/L	10 U
Bromomethane	UG/L	10 U
Carbon disulfide	UG/L	10 U
Carbon tetrachloride	UG/L	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC
Sample ID		TB032502
Matrix		Quality Control
Depth Interval (ft)		-
Date Sampled		03/25/02
Parameter	Units	Trip Blank (1-1)
Volatiles		
Chlorobenzene	UG/L	10 U
Chloroethane	UG/L	10 U
Chloroform	UG/L	10 U
Chloromethane	UG/L	10 U
cis-1,2-Dichloroethene	UG/L	10 U
cis-1,3-Dichloropropene	UG/L	10 U
Cyclohexane	UG/L	10 U
Dibromochloromethane	UG/L	10 U
Dichlorodifluoromethane	UG/L	10 U
Ethylbenzene	UG/L	10 U
Isopropylbenzene	UG/L	10 U
Methyl acetate	UG/L	10 U
Methyl tert-butyl ether	UG/L	10 U
Methylcyclohexane	UG/L	10 U
Methylene chloride	UG/L	10 U
Styrene	UG/L	10 U
Tetrachloroethene	UG/L	10 U
Toluene	UG/L	10 U
trans-1,2-Dichloroethene	UG/L	10 U
trans-1,3-Dichloropropene	UG/L	10 U
Trichloroethene	UG/L	10 U
Trichlorofluoromethane	UG/L	10 U
Vinyl chloride	UG/L	10 U
Xylene (Total)	UG/L	10 U

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

TABLE 1
ANALYTICAL FIELD QC SAMPLE RESULTS
CHEMCORE

Location ID		FIELDQC
Sample ID		TB032502
Matrix		Quality Control
Depth Interval (ft)		-
Date Sampled		03/25/02
Parameter	Units	Trip Blank (1-1)
Filtered Metals		
Iron	UG/L	NA
Miscellaneous Parameters		
Hardness	MG/L	NA

Flags assigned during chemistry validation are shown.

MADE BY: _____

CHECKED BY: _____

Detection Limits shown are PQL

APPENDIX I

WASTE PROFILES, MANIFESTS, AND STRAIGHT

BILLS OF LADING

NYG 3136086

DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest 1/5/99)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Doc. No.		2. Page 1 of		Information within heavy bold line is not required by Federal Law.						
		NYD002133841		36086		1								
3. Generator's Name and Mailing Address NYSDEC 625 BROADWAY, ALBANY, NY 12201						A. NYG 3136086								
4. Generator's Telephone Number (518) 457-6934						B. Generator's ID 1382 NIAGARA ST, BUFFALO, NY								
5. Transporter 1 (Company Name) FRANK'S VACUUM TRUCK SERVICE				6. US EPA ID Number NYD982792814		C. State Transporter's ID AD76460								
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (716) 284-2132								
9. Designated Facility Name and Site Address CECOS INTERNATIONAL 5600 NIAGARA FALLS BLVD NIAGARA FALLS, NY 14303				10. US EPA ID Number NYD080336241		E. State Transporter's ID								
						F. Transporter's Telephone ()								
						G. State Facility ID								
						H. Facility Telephone (716) 282-2676								
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ HAZARDOUS WASTE LIQUID, NOS (D039, D040, D043) 9, NA3082, PGIII						12. Containers		13. Total		14. Unit		I. Waste No.		
						Number		Type		Quantity				Wt/Vol
						001		TT		XX/600		G		EPA D039
b.														STATE
c.														EPA
														STATE
d.														EPA
														STATE
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above								
a.						c. ☒ T ☐								
b.						d. ☐ ☐								
15. Special Handling Instructions and Additional Information 11a) 12497-AAB W04 284704 EMERGENCY RESPONSE # (716) 856-5636														
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.														
Printed/Typed Name						Signature						Mo. Day Year		
Michael Gutmann						Michael Gutmann						10/4/11/02		
17. Transporter 1 Acknowledgement of Receipt of Materials														
Printed/Typed Name						Signature						Mo. Day Year		
Richard Goodman						Richard Goodman						10/4/11/02		
18. Transporter 2 Acknowledgement of Receipt of Materials														
Printed/Typed Name						Signature						Mo. Day Year		
19. Discrepancy Indication Space														
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.														
Printed/Typed Name						Signature						Mo. Day Year		

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest 1/5/99)

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NYD002133841		Manifest Doc. No. 36086	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address NYSDBC 625 BROADWAY, ALBANY, NY 12201					A. NYG 3136086		
4. Generator's Telephone Number (518) 457-6934					B. Generator's ID 1382 NIAGARA ST, BUFFALO, NY		
5. Transporter 1 (Company Name) FRANK'S VACUUM TRUCK SERVICE		6. US EPA ID Number NYD982792814			C. State Transporter's ID AD76460		
7. Transporter 2 (Company Name)		8. US EPA ID Number			D. Transporter's Telephone (716) 284-2132		
9. Designated Facility Name and Site Address CROOS INTERNATIONAL 5600 NIAGARA FALLS BLVD NIAGARA FALLS, NY 14303		10. US EPA ID Number NYD080336241			E. State Transporter's ID		
					F. Transporter's Telephone ()		
					G. State Facility ID		
					H. Facility Telephone (716) 282-2676		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. BO HAZARDOUS WASTE LIQUID, NOS (D039,D040, D043) 9, NA3082, PGIII				001	TX	600	EPA D039
b.							STATE
c.							EPA
d.							STATE
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above			
a.				c. ☒ T ☐			
b.				d. ☐			
15. Special Handling Instructions and Additional Information 11a) 12497-AAB W04 284704 EMERGENCY RESPONSE # (716) 856-5636							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name <i>[Signature]</i>				Signature <i>[Signature]</i>		Mo. Day Year 12/4/11 10/17	
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name Richard Goshen				Signature <i>[Signature]</i>		Mo. Day Year 10/4/11 10/12	
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name				Signature		Mo. Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.							
Printed/Typed Name				Signature		Mo. Day Year	

(Hazardous Waste Manifest 1/5/99)

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 451-1562

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NYD002133841		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.									
3. Generator's Name and Mailing Address NYSDOC 625 BROADWAY, ALBANY, NY 12201						A. NYG 3136086											
4. Generator's Telephone Number (518) 457-6934						B. Generator's ID 1382 NIAGARA ST, BUFFALO, NY											
5. Transporter 1 (Company Name) FRANK'S VACUUM TRUCK SERVICE				6. US EPA ID Number NYD982792814		C. State Transporter's ID (716) 284-2132											
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (716) 284-2132											
9. Designated Facility Name and Site Address CECOS INTERNATIONAL 5600 NIAGARA FALLS BLVD NIAGARA FALLS, NY 14303						E. State Transporter's ID											
10. US EPA ID Number NYD080336241						F. Transporter's Telephone ()											
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						G. State Facility ID											
a. NO HAZARDOUS WASTE LIQUID, NOS (D039, D040, D043) 9, HA3082, PGII						12. Containers Number Type 001 TT		13. Total Quantity ✓ 1.1		14. Unit Wt/Vol G		I. Waste No. EPA D039 STATE					
b.												EPA STATE					
c.												EPA STATE					
d.												EPA STATE					
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above											
a.						b.						c.					
b.						c.						d.					
15. Special Handling Instructions and Additional Information 11a) 12497-AAB EMERGENCY RESPONSE @ (716) 856-3636																	
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.																	
Printed/Typed Name						Signature						Mo.		Day		Year	
17. Transporter 1 Acknowledgement of Receipt of Materials																	
Printed/Typed Name						Signature						Mo.		Day		Year	
18. Transporter 2 Acknowledgement of Receipt of Materials																	
Printed/Typed Name						Signature						Mo.		Day		Year	
19. Discrepancy Indication Space																	
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.																	
Printed/Typed Name						Signature						Mo.		Day		Year	



FRANK'S VACUUM TRUCK SERVICE, INC.
4500 Royal Avenue • Niagara Falls, New York 14303
(716) 284-2132

70821

NYDEC #9A-332
EPA ID # NYD982792814

PICK UP				DELIVERY			
NAME				NAME			
STREET				STREET			
CITY				CITY			
STATE				STATE			
ZIP CODE				ZIP CODE			
CONTACT NAME				CONTACT NAME			
SCHEDULED TIME				SCHEDULED TIME			
ADDITIONAL INFORMATION				ADDITIONAL INFORMATION			

CUSTOMER P.O. NO.	WORK ORDER NUMBER	MANIFEST NUMBER	BILLING REFERENCE
284704	284704	446313608	ORSGRUFFNY
LOAD NUMBER	TRACTOR NUMBER	TRAILER NUMBER	DRIVER'S NAME

NUMBER & TYPES	WEIGHT OR VOLUME	HAZ. MAT.	DESCRIPTION OF WASTE(S) PER 49 CFR	CUSTOMER CODE
SVT	6000	V	SP. 1111 11/17	12477 AAB

TYPE (CIRCLE ONE)	PLACARDS PROVIDED OR AFFIXED	WHEN "RO" QUANTITY RELEASED INTO ENVIRONMENT, IMMEDIATELY NOTIFY NAT. RESPONSE CENTER - 800-424-0002 AND 911 EMERGENCY SYSTEM OR LOCAL OPERATOR	EMERGENCY RESPONSE PHONE NUMBER:
TANK (S/S) (R/L) DUMP VAN ROLL-OFF FLATBED	SHIPPER'S CHECK LIST DOT LABELS APPLIED AND SECURE DOT AUTHORIZED CONTAINERS PROPER DOT NAME ON ALL PACKAGES CHECKED FOR PROPER SEALING		716 856 5030

PICK UP		DELIVERY	
ARRIVAL DATE	4-11-02	DRIVER	DATE
ARRIVAL TIME	8:00	ARRIVAL TIME	RELEASE TIME
TRAILER EMPTY UPON ARRIVAL	☐ YES ☐ NO	TRAILER EMPTY UPON DEPARTURE	☐ YES ☐ NO
DIP MEASUREMENT (Tankers Only) _____ INCHES		COMMENTS: (EXPLAIN ALL DELAYS)	
COMMENTS: (EXPLAIN ALL DELAYS)			
SHIPPER'S SIGNATURE		CONSIGNEE'S SIGNATURE	

SHIPPER'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.

GENERATOR



4746 MODEL CITY ROAD, P.O. BOX 209

MODEL CITY NEW YORK 14107-0209

1-800-662-0012 (716) 754-8226 FAX (716) 754-8964

Modern Disposal Services, Inc.

DATE: 04/23/02
SITE TIME IN:
SITE TIME OUT:
ROUTE: X008

TRANSACTION #: TK-1647790-001
TRUCK #: 1302
PREPARED BY: patw
DUMP SITE: MODERN LANDFILL, INC

SERVICE SITE:

1805.017
FRANK'S VACUUM TRUCK SERVICE
1382 NIAGARA STREET

Contact: PIER
Phone : 716/284-2132

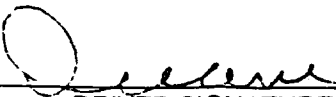
BUFFALO

M01-1571

COMMODITY: 0100-0000 INDUSTRIAL WASTE
TRANSACTION TYPE/STYLE: EMPTY AND NO RETURN OL15
CONTAINER SIZE:
Service Code: LUGGER
TONS (M01-1571) CONTAMINATED SOIL

CONTAINER # IN: _____

CONTAINER # OUT: 122


DRIVER SIGNATURE


CUSTOMER SIGNATURE

***PLEASE NOTE INDEMNIFICATION AGREEMENT ***

The customer agrees to indemnify, defend and hold harmless the Contractor against all claims, damages, suits, judgements, penalties, fines and other liability or injury or death to persons or loss or damage to property arising out of the Customer's use, operation or possession of the equipment or arising out of the customers breach of any warranty created hereunder by the Customer. The Customer shall not overload the equipment nor use it for incineration purposes or make alterations without the Contractor's written approval.

CUSTOMER'S COPY



In case of emergency or spill immediately call the National Response Center (800) 424-9311

HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NYD002133041	Manifest Doc. No. 1	2. Is this manifest required by Federal Law? 1	
Generator's Name and Mailing Address CECOS INTERNATIONAL 5000 NIAGARA FALLS BOVD NIAGARA FALLS, NY 14303					
4. Generator's Telephone Number (518) 457-6934		6. US EPA ID Number NYD982792814		A. NYG 3136086	
5. Transporter 1 (Company Name) FRANK'S VACUUM TRUCK SERVICE		8. US EPA ID Number		B. Generator's ID 1382 NIAGARA ST. BUFFALO, NY	
7. Transporter 2 (Company Name)		10. US EPA ID Number NYD980336241		C. State Transporter's ID AD 16-410	
9. Designated Facility Name and Site Address CECOS INTERNATIONAL 5000 NIAGARA FALLS BOVD NIAGARA FALLS, NY 14303		12. Containers Number Type 001 TS 4x100 G		D. Transporter's Telephone (716) 204-2132	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. NO HAZARDOUS WASTE LIQUID, NOS (2039, 2040, 2043) 9, IN3082, PGIII		13. Total Quantity 4x100 G		E. State Transporter's ID	
				F. Transporter's Telephone ()	
				G. State Facility ID	
				H. Facility Telephone (716) 202-2676	
				I. Waste No. EPA 2039 STATE EPA STATE EPA STATE EPA STATE	
J. Additional Descriptions for Materials listed Above a.		K. Handling Codes for Wastes Listed Above a. 2		☐	
b.		b.		☐	
c.		c.		☐	
d.		d.		☐	
15. Special Handling Instructions and Additional Information 11a) 1207-228 EMERGENCY RESPONSE 1 (716) 856-3436					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name		Signature		Mo. Day Year 11/1/02	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Mo. Day Year 11/1/02	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Mo. Day Year 11/1/02	
19. Discrepancy Indication Space Quantity received 2.35 Tons					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name		Signature		Mo. Day Year 11/1/02	

COPY 7—Transporter Copy—Retained by Transporter

NYG 3138192

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple

(Hazardous Waste Manifest 1/5/99)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Doc. No.		2. Page 1 of		Information within heavy bold line is not required by Federal Law.			
		NYD002133841		36192		1					
3. Generator's Name and Mailing Address 625 Broadway, Albany, New York, 12201		NYG 3138192									
		B. Generator's ID									
4. Generator's Telephone Number (518) 457-6934		1382 Niagara St. Buffalo NY									
5. Transporter 1 (Company Name)		6. US EPA ID Number		C. State Transporter's ID		AD 76300					
FRANK VALUUM TRUCK SERVICE INC		NYD982792814		D. Transporter's Telephone		(716) 287 2132					
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Telephone ()					
9. Designated Facility Name and Site Address		10. US EPA ID Number		G. State Facility ID		H. Facility Telephone ()					
CWM CHEMICAL SERVICES LLC		NYD949836679		1555 Balmer Rd		716 754-8231					
Model City NY 14107											
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Total		14. Unit			
				Number		Quantity		Wt/Vol			
a. RQ HAZARDOUS WASTE SOLID ADS (D039)											
9, NA 3077, PG III				DIA				P			
b.								I. Waste No.			
								EPA D039			
								STATE			
c.								EPA			
								STATE			
d.								EPA			
								STATE			
J. Additional Descriptions for Materials listed Above				K. Handling Codes for Wastes Listed Above							
a. CT 8772				c.		a. L		c.			
b.				d.		b.		d.			
15. Special Handling Instructions and Additional Information				Emergency # 716-856-5630							
accumulation start date - 5/1/2002				COPY OF DESTRUCTION							
SE # 643471											
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.											
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Printed/Typed Name				Signature		Mo.		Day		Year	
MICHAEL GUIMANN						10		11		02	
17. Transporter 1 Acknowledgement of Receipt of Materials											
Printed/Typed Name				Signature		Mo.		Day		Year	
JOHN P. SENEV						10		11		02	
18. Transporter 2 Acknowledgement of Receipt of Materials											
Printed/Typed Name				Signature		Mo.		Day		Year	
19. Discrepancy Indication Space											
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.											
Printed/Typed Name				Signature		Mo.		Day		Year	