Report for:

SUPPLEMENTAL PHASE III SITE CHARACTERIZATION AT EKONOL POLYESTER RESINS WHEATFIELD, NEW YORK

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SECTION 1
INTRODUCTION

1.1 PREVIOUS INVESTIGATION

The former Ekonol Polyester Resins facility is located on the west side of Walmore Road, approximately one-half mile north of Niagara Falls Boulevard (Route 62) in the Town of Wheatfield, New York (Figure 1). A former concrete secondary containment tank for process water was removed from service at the facility in October 1999. Results of samples from the surrounding soil, wall, and floor of the tank indicated the presence of several organic compounds. Among those detected, and later included on the target parameter list, were trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2 DCE), phenol, and metals including lead and zinc. Because some of the sample results exceeded New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) 4046 values, characterization of the site was completed.

The Phase I Site Characterization determined the extent of impacts on soil and groundwater in the vicinity of the former containment tank. The Phase I Site Characterization activities included soil borings, temporary well installations, soil and groundwater sampling, and surveying. The Phase I Site Characterization work was summarized and presented to the NYSDEC in a report dated March 2001. The NYSDEC reviewed the report and requested further characterization of soil and groundwater.

To address the NYSDEC comments on the Phase I report, Phase II site characterization activities were undertaken. Phase II field activities included soil borings, soil sampling with groundwater field screening, overburden and bedrock monitoring well installation, two rounds of groundwater sampling, and an investigation of site sewers.

Field and analytical data from the Phase II investigation showed impacts to groundwater, including a dense non-aqueous phase liquid (DNAPL). After reviewing the Phase II data, NYSDEC concurred that additional work of similar scope to Phase II was warranted for groundwater in the bedrock.

To investigate impacts to groundwater in bedrock, a Work Plan for Phase III Site Characterization was prepared, submitted to, and approved by the NYSDEC. The Phase III Site Characterization Report was issued January 2004. The Phase III Site Characterization Report concluded that the extent of the dissolved phase groundwater plume was adequately defined to the north, west, and northeast but additional information was required off-site to the east across Walmore Road, and to the south, southeast, and southwest. Investigation in these areas was warranted to define the extent of impacts to groundwater in bedrock.

The NYSDEC approved the work plan for this phase of investigation on May 4, 2004. Field work for the Supplemental Phase III Site Characterization was completed during May and June of 2004. The Supplemental Phase III Site Characterization included the installation of off-site temporary borings in bedrock, installation of off-site groundwater monitoring wells, groundwater screening, three rounds of water level measurement, and the collection of two rounds of groundwater samples from all site-related wells.

1.2 SITE DESCRIPTION

The former Ekonol Polyester Resins facility is located on the west side of Walmore Road, approximately one-half mile north of Niagara Falls Boulevard (Route 62) in the Town of Wheatfield, New York (see Figure 1). The facility is situated at the northeast end of the Saint-Gobain Performance Plastics Corporation facility. Properties adjacent to this facility include Bell Aerospace Textron to the south, Niagara Falls Air Force Base to the north, and Niagara Falls International Airport to the west. Properties to the east of Walmore Road are primarily zoned industrial and commercial; however, residential properties do exist on the east side of Walmore Road.

The topography at the facility is relatively flat, and located at an approximate elevation of 600 feet above mean sea level (AMSL). The investigation area, is paved with asphalt and concrete, some portions of the area are unpaved. Paved areas are used primarily for vehicle parking and equipment storage. The facility receives its potable water supply from the Town of Wheatfield, New York. The nearest groundwater supply well for domestic use is approximately one-mile east-southeast of the facility (EDR, 2000).

1.3 SITE HISTORY

The former secondary containment tank at the facility received wastewater rinsates from floor drains inside the process area of the Ekonol plant. The tank was installed prior to 1977, and remained in use until October 1999. According to Frontier (2000), the tank was constructed of reinforced concrete walls, approximately 9.5 inches thick. The interior dimensions were approximately 18 feet long, 6 feet wide, and 9 feet deep (Frontier, 2000). At capacity, the maximum volume was 7,794 gallons (Frontier, 2000). The tank was an open top, rinsate collection point covered with large steel plates. The walls and floor were sound, with no obvious cracking or fractures. At the time the tank was removed, there was no protective coating visible on the inside walls or floor (Frontier, 2000).

Following the October 1999 tank removal, TCE was detected in concentrations ranging from 1.2 to 200 mg/kg in soil samples collected from the excavation walls (Frontier, 2000). Cis-1,2-DCE was detected at levels ranging from 2.9 to 100 mg/kg. Phenols were detected at concentrations ranging from 4.5 to 12 mg/kg.

The March 2001 Site Characterization Report described the Phase I Site Characterization, intended to determine the extent of the target organic compounds and

metals in soil and groundwater in the vicinity of the former containment tank. The Phase II Site Characterization field activities at the Site are described in the March 2003 Site Characterization Report. The Phase III Site Characterization field activities and results are presented in the January 2004 Phase III Site Characterization Report. The Supplemental Phase III Site Characterization field activities and results are presented herein. Field activity associated with the Supplemental Phase III Site Characterization was completed in July 2004. The locations of the monitoring wells installed at the site are shown on Figure 2.

SECTION 2
SUPPLEMENTAL PHASE III SITE CHARACTERIZATION ACTIVITIES

2.1 INTRODUCTION

The Supplemental Phase III field investigation effort included offsite groundwater screening from temporary bedrock borings and installation of bedrock monitoring wells, groundwater elevation measurement, and groundwater sampling and analysis. Prior to constructing the well in the cored borehole for MW-18D, packer testing was completed. After well installation, two rounds of groundwater samples were collected and analyzed.

2.2 PRE-DRILLING ACTIVITIES

Prior to subsurface investigative (drilling) work, each location was screened for underground utilities using the following steps:

- Location of subsurface investigation activity was marked using spray paint along with alternate locations;
- The New York State one-call (UFPO) number was called and the potential locations described;
- Any company that had underground utilities in the area of the site was asked to mark them out at a specific time and day;
- Parsons met each utility marker at the site to observe their work;
- The current facility owner representative was requested to agree to the subsurface work at each location based on their knowledge of underground utilities; and
- Each location was hand dug to a diameter greater than the drilling tool, to a minimum of five feet below the ground surface.

2.3 BEDROCK GROUNDWATER SCREENING

To define the extent of impacts to groundwater in bedrock, two additional bedrock monitoring wells were installed. To determine the appropriate location for the bedrock monitoring well east of the site, four temporary borings were installed. The temporary borings enabled collection of bedrock groundwater samples for field screening. The groundwater screening results were used to evaluate whether the proposed monitoring well location was at or near the limit of impacts to bedrock groundwater.

Locations for bedrock groundwater screening holes were selected based on previous onsite results and the expected groundwater flow direction. The temporary groundwater

screening holes were advanced on open land east of Walmore Road. The locations of the four screening boreholes (TMW-1, TMW-2, TMW-3, and TMW-4) are shown on Figure 3.

The temporary borings were installed at the four proposed locations by advancing 4-inch inner diameter spin casing to the top of bedrock. The spin casing was seated 12 inches into the competent bedrock. After seating the casing, a pneumatic rock drill was used to advance the boring. Using filtered, compressed air as the drilling lubricant, the pneumatic drill was advanced a maximum of 31 feet into competent bedrock or until a water-bearing zone was encountered, whichever occurred first. Once the total depth of the boring was reached, the drill stem was removed, and groundwater was allowed to recharge into the boring.

Once groundwater had recharged sufficiently, a groundwater screening sample was collected from the open borehole using a peristaltic pump or disposable HDPE bailer. The groundwater samples were field-screened for total volatile organic halides (VOHs), using EPA Method 8535. A summary of the screening results obtained during the Supplemental Phase III investigation is provided on Table 1. The groundwater screening borings were properly abandoned using bentonite holeplug and cement-bentonite grout.

2.4 MONITORING WELL INSTALLATION

The two bedrock monitoring wells were installed; MW-18D and MW-19D. The location of the wells are note on Figure 4. MW-18D was installed based on groundwater screening completed during the Supplemental Phase III Site Characterization. Once a suitable location for MW-18D was selected using the screening method, a bedrock monitoring well was installed at a location adjacent to the abandoned borehole. The use of the screening results is discussed in Section 3. MW-19D was installed near the southwest corner of the site without using the screening method, but based on location and clearance issues. Drilling records for the wells installed are included in Attachment A.

Both wells were installed by advancing 6.25-inch hollow-stem augers (HSAs) to the top of bedrock. After reaching the top of bedrock, a tri-cone roller bit was used to drill a rock socket approximately two feet into competent bedrock. After drilling the rock socket, a permanent four-inch steel casing was placed to the bottom of the boring. The casing was sealed in-place by tremie grouting with cement-bentonite grout from the bottom up. After allowing the grout to set for a minimum of 24 hours, a HQ-sized core barrel (nominal 4-inch outside diameter) was advanced 16 feet into bedrock.

At MW-18D, after each core run, typically five feet in length, packer testing was performed on that section of the boring (total of three tests). The packer test data was used to estimate the hydraulic conductivity of each section of the corehole. Packer testing in the open boring with periodic water level monitoring in adjacent borings or wells enabled identification of higher permeability zones and connectivity of fractures between holes. Packer testing was performed over the entire section of bedrock that was

cored. Packer testing was not completed at MW-19D to meet the groundwater sampling schedule. Packer test results are provided in Attachment B.

These two bedrock monitoring wells were constructed with a 2-inch ID, wire wrapped stainless steel well screen and riser was installed in each boring. Each well screen was ten feet long and contained 0.010-inch slots. Each well was screened over the most permeable section of the boring as determined from observations made during drilling, bedrock core descriptions, and from packer testing. Below the screen, a 2-foot section of casing was installed as a sump to collect any DNAPL, if present. The bedrock wells were completed in accordance with the NYSDEC-approved Phase III Investigation Work Plan (August 2003) and the guidelines outlined in the December 2002 NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation (DER-10). Well MW-18D was completed with a a stick up protective casing, and MW-19D was completed with flush-mount protective casing.

Following installation, all screening borings and new wells were surveyed by a licensed New York State surveyor for location and elevation. Water levels were collected from all of the overburden and bedrock monitoring wells and used with survey elevation data to determine the local direction of groundwater flow in the overburden and bedrock water-bearing zones.

2.5 GROUNDWATER SAMPLING AND ANALYSIS

After the Supplemental Phase III wells were installed, two rounds of groundwater samples were collected from all of the monitoring wells. In two rounds of sampling from 9 overburden, and 13 bedrock monitoring wells, a total of 44 groundwater samples were collected and submitted for laboratory analysis (Tables 2 and 3). Both rounds of groundwater sampling were completed consistent with the methodology described in the NYSDEC-approved Work Plan for the Phase III Investigation (August 2003). Screening for dense non aqueous-phase liquids (DNAPL) was also completed during the Supplemental Phase III investigation. After the bedrock monitoring wells were installed, the wells were developed and purged following standard NYSDEC guidelines outlined in DER-10. Following development or purging, groundwater samples were collected in accordance with NYSDEC protocols and guidance using disposable bailers. Well sampling records are included in Attachment C. Groundwater elevation measurements collected during well sampling are provided on the well sampling records. Monthly Water Level measurements are provided in Table 4.

Groundwater Sampling and Testing

The first round of sampling was conducted on May 2004, the second round of sampling was completed in June 2004. All 22 of the monitoring wells (9 shallow, 13 deep) were sampled during each round. In accordance with NYSDEC protocols and guidance, three volumes of water were purged from each well prior to sampling using a peristaltic pump with dedicated tubing. During purging, field parameters including pH, specific conductance, temperature, dissolved oxygen (DO), and oxidation reduction

potential (ORP) were documented. Sampling records for both rounds of sampling are presented in Attachment C.

Groundwater samples were submitted to a New York State certified analytical laboratory (Severn Trent Laboratories, Inc.) for analysis. Groundwater samples were analyzed for volatile organic compounds (VOCs) including: 1,1-dichloroethane, total 1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and vinyl chloride; and two semivolatile compounds (SVOCs): phenol and aniline. All chemical analysis was completed using the NYSDEC Analytical Services Protocols (ASP). Analytical methods included Method 8260B for VOCs and 8270C for SVOCs. Groundwater analytical data has been reviewed for usability with the data usability summary report provided in Attachment D. Both rounds of groundwater samples had 100% usable VOC and SVOC analytical results. Based on the QA/QC review, all data is usable for the intended purpose.

Separate-Phase Liquid Monitoring

During well development and purging, the groundwater collected from the sumps installed at the bottom of the monitoring wells was checked for the presence of dense non-aqueous phase liquids (DNAPL) using visual observation and a hydrophobic dye (Sudan IV). During the May sampling event, visual observation and hydrophobic dye tests were completed.

The sample from MW-19D was stained red while all other samples remained clear. This result indicated the possible presence of a separate phase liquid in MW-19D. It appears that this result was anomalous, as no other indicators of DNAPL were observed (groundwater screening result were very low, no odor was observed, no visually observable DNAPL was noted, and the analytical laboratory result were low). Thus, a sample was not submitted to the laboratory for DNAPL analysis. Well sampling records are included in Attachment C.

2.6 WASTE HANDLING

Disposal of the investigation-derived waste (IDW) created during the installation of the monitoring wells and groundwater sampling was required. As stated in the NYSDEC-approved Work Plan for the Phase III Investigation, waste disposal included characterization of the wastes for disposal and proper disposal of the waste. Waste streams included drill cuttings, groundwater, decontamination water, and personal protective equipment. Wastes were disposed at approved disposal facilities using the established EPA Site Identification Number (NYR000103382). Manifests for the disposal of the IDW are included in Attachment E.

2.7 QUALITATIVE EXPOSURE ASSESSMENT

The qualitative risk assessment (exposure assessment) completed in Phase III was updated with the data collected during the Supplemental Phase III work. The qualitative

risk assessment was completed as an exposure scenario assessment intended to define complete and potentially complete pathways to receptors and evaluate whether the site poses an existing or potential hazard to the exposed or potentially exposed population. The updated qualitative risk assessment included current and future onsite workers as potential receptors and evaluated the potential for possible exposures via indoor air. These potential receptors were included in the updated exposure assessment due to the current use of a small portion of the Saint-Gobain Abravsives building and undertemined future use of the building.

To define the complete and potentially complete exposure pathways, site characterization data including the supplemental Phase III data, was reviewed to identify the source of the contamination, release and transport mechanisms, the point of exposure, the route of exposure, and the receptor population. Based on this review, the conceptual site model (CSM) was revised (see Figure 5). The revised CSM is a site-specific model that identifies the suspected or potential sources of contamination, where they are located, how chemicals may migrate, and the receptors they potentially impact. The revised CSM evaluates the potential current and future exposure of both human and ecological receptors, and establishes whether or not each exposure pathway is complete. Table 5 (current) and Table 6 (future) provide a summary of the exposure pathways considered for the potential human receptors. Table 7 provides a summary of the ecological exposure pathways considered. Details of the revised exposure assessment can be found in Section 3.

SECTION 3
SUPPLEMENTAL PHASE III SITE CHARACTERIZATION RESULTS

3.1 GEOLOGY AND HYDROGEOLOGY

The overburden deposits encountered in the Supplemental Phase III investigation were consistent with the silty red-brown clay, with gray silty clay lenses observed in previous investigations. Fine sand and gravel was found at the interface with bedrock. During this investigation, the observed overburden thickness ranged from 11 feet to 13 feet, consistent with that observed in previous investigations. A description of the overburden encountered can be found on the drilling logs in Attachment A.

The bedrock observed during the Supplemental Phase III well installation consisted of light to dark gray dolomite of the Lockport Group, containing weathered bedding planes, vugs, stylolitic horizons, and fossil corals. A fracture/rubble zone was encountered at depths ranging from 20.2 feet to 29.70 feet below ground surface (bgs). A loss of drilling fluid circulation was encountered in this zone. Circulation of drilling fluid did not recover once loss was encountered. The observations made during the bedrock coring in Supplemental Phase III Investigation were consistent with previous investigations.

Core samples collected during the Supplemental Phase III Investigation were largely from Zone 1 (Guelph Formation). The top portion of Zone 2 (Eramosa Formation) was penetrated during coring. The top portion of Zone 2 was primarily massive and relatively unfractured. High angle vertical fractures were not observed in the portion of Zone 2 cored during Supplemental Phase III. Zones 3 and 4 were not penetrated during the Supplemental Phase III Investigation. Descriptions of the bedrock cores obtained during the Supplemental Phase III Investigation are provided on the drilling records in Attachment A.

3.2 SITE HYDROGEOLOGY

Water level data associated with the Supplemental Phase III investigation is provided on Table 4. Water levels were measured in the 22 overburden and bedrock wells and used with survey data to determine the local direction of groundwater flow. The overburden and bedrock groundwater potentiometric surface maps are presented in Figures 6 and 8 for May 2004, and Figures 7 and 9 for the measurements collected in July 2004.

Overburden Groundwater

In general, the groundwater flow direction in the overburden appears to be radial from high water level elevations seen near the former containment tank (MW-2). Variability in the elevation of the top of rock, the type of subsurface material, and the

location of the data points adjacent to buildings, may have an influence on the groundwater elevations observed and gradients determined. The hydraulic gradient calculated from the water levels measured in the overburden water bearing zone ranged from 0.008 to 0.037 feet per foot. Gradients determined from groundwater level measurements have been relatively consistent between monitoring events. The overburden groundwater gradient appears to flatten out moving away from the groundwater high. Regionally, groundwater flow direction in the overburden water-bearing zone is to the southwest. On a regional scale, groundwater gradients are relatively low.

Bedrock Groundwater

In the bedrock water-bearing zone, the groundwater gradient suggests groundwater flow to the south. A hydraulic gradient of 0.002 feet per foot is estimate for the area beneath the site. The hydraulic gradient at the southern edge of the site, south of the main facility entrance, may increase slightly. In bedrock, the gradients are low and dependent upon the interconnection of fractures in bedrock. Variability in flow direction may occur due to variability in fractures intercepted and the hydraulic conductivity of the bedrock. The occurrence of bedrock groundwater observed during the Supplemental Phase III Investigation is consistent with previous investigations.

Hydraulic Conductivity

During the Supplemental Phase III Investigation, hydraulic conductivity was estimated by packer testing during installation of MW-18D. Packer testing was completed in each interval of bedrock cored. The average hydraulic conductivity ranged from 1.8×10^{-2} cm/sec in the first cored interval (11 to 16 feet bgs), to 9.6×10^{-3} cm/sec in the deeper second interval cored (16 to 21 feet bgs), and 1.6×10^{-2} cm/sec in the final interval cored (21 to 26 feet bgs). Depth intervals tested and calculated hydraulic conductivities are provided in Attachment B.

3.3 GROUNDWATER ANALYTICAL RESULTS

Groundwater Screening

Total VOH concentrations from groundwater screening samples collected during the Supplemental Phase III Investigation ranged from 0.0 µg/L in TMW-4 (adjacent to MW-18D) to 3.6 µg/L in TMW-3. All results during the Supplemental Phase III Investigation were below the limit used as an indicator that a location is impacted above NYSDEC AWQS (50 µg/L). The VOH concentration for all of the groundwater samples were acceptable for well installation. The location (TMW-4) was selected based on its north-south central location and closest to Walmore Road (closer to the site).

Field screening locations were based on property boundaries, utility clearances, and field observations. The bedrock field screening locations are presented on Figure 3. The results from the field groundwater screening are presented in Table 1.

Groundwater Sampling from Monitoring Wells - Overburden

Analytical results for groundwater samples collected from overburden monitoring wells are summarized in Table 2. The concentrations of the indicator analytes for the Supplemental Phase III sampling rounds are plotted on Figure 10. Nine groundwater samples were collected during each round of sampling. The ranges of concentrations for the first round of sampling (May 2004) are summarized below.

Groundwater samples are compared to NYSDEC Ambient Water Quality Standards (AWQS) for screening purposes only. These standards are as follows: 1,1 DCA, 1,2 DCE (total), 1,1,1 TCA, and TCE at 5 µg/L each; vinyl chloride at 2 µg/L; aniline at 5 µg/L; phenol at 1 µg/L; zinc (total) at 2 µg/L; and lead (total) at 0.025 µg/L.

- TCE concentrations ranged from not detected (ND) at seven of the nine wells to 1600 µg/L at MW-4S. Two of the nine samples exceeded NYSDEC AWQS (MW-1S, MW-4S).
- 1,1,1-TCA was detected only in MW-4S at a concentration of 710 µg/L, which exceeds the AWQS.
- Total 1,2-DCE concentrations ranged from not detected (ND) in MW-3S and MW-8S to 780,000 µg/L in MW-2S. The AWQS for 1,2-DCE was exceeded in five wells (MW-1, MW-2, MW-4, MW-6 and MW-9S).
- 1,1-DCA was detected in two wells and both exceeded AWQS. In well MW-4S the 1,1-DCA concentration was 68 µg/L and in MW-6S the concentration was 5.6 µg/L.
- Vinyl chloride was detected in four wells and all detection exceeded the AWQS. Detected concentrations ranged from 25 to 35,000 µg/L (MW-2S).
- Aniline was detected in MW-4S (44 µg/L) only. The detection exceeded the AWQS.
- Phenol was detected only in MW-2S at 28,000 µg/L, which exceeds the AWQS of 1 µg/L.

The ranges of concentrations for the second round of sampling (June 2004) are summarized below:

- TCE detected in seven of nine wells at concentrations ranging from 2.4 µg/L at MW-3S to 7,300 µg/L at MW-2S. Five of the seven detected concentrations exceeded the AWQS.
- 1,1,1-TCA was detected in three of nine samples with only one detected concentration exceeding AWQS (MW-4S at 43 µg/L).
- Total 1,2-DCE was detected in eight of nine samples with six of the samples exceeding the NYSDEC AWQS. Detected concentrations ranged from 1.8 µg/L at MW-5S to 600,000 µg/L at MW-2S.

- 1,1-DCA was detected in the samples from MW-4S (68 µg/L) and MW-6S (6.6 µg/L). Both detections exceeded the NYSDEC AWQS.
- Vinyl Chloride was detected in five samples and each of the detected concentrations exceeded the NYSDEC AWQS. Detected concentrations ranged from 7 µg/L at MW-1S to 26,000 µg/L in MW-2S.
- Aniline was detected in MW-2S (40 µg/L) and MW-4S (50 µg/L). Both detections exceeded the NYSDEC AWQS.
- Phenol was detected in MW-2S only, at a concentration of 35,000 µg/L.

Groundwater Sampling from Monitoring Wells - Bedrock

Analytical results for groundwater collected from bedrock monitoring wells are summarized in Table 3. The concentrations of the indicator analytes for the Supplemental Phase III sampling rounds are plotted on Figure 11. The eastern extent of dissolved-phase constituents in bedrock groundwater east of the site is defined by MW-18D. To the southwest, the extent of bedrock groundwater impacts is defined at MW-19D. The low levels of chemicals of potential concern (COPCs) identified in groundwater samples collected from MW-1D/RMW-1D indicate that they are near the northern limit of groundwater impacts. The ranges of concentrations for the May 2004 sampling are summarized below.

- TCE was detected in eight of the fourteen samples with detected concentrations ranging from 1.1 µg/L at MW-17D to 100,000 µg/L at MW-2D. The concentration of TCE exceeded the NYSDEC AWQS (5 µg/L) in seven wells.
- 1,1,1-TCA was detected in eight of the fourteen samples with detected concentrations ranging from 2.3 µg/L at MW-13D to 54,000 µg/L at MW-2D. The concentration of 1,1,1-TCA exceeded the NYSDEC AWQS (5 µg/L) in seven wells.
- Total 1,2-DCE was detected in 12 samples. Detected concentrations ranged from 3.5 µg/L in MW-12D to 11,000 µg/L at RMW-4D. Total 1,2-DCE exceeded the AWQS in ten wells.
- 1,1-DCA was detected in four wells with detected concentrations ranging from 1.1 µg/L at MW-17D to 260 µg/L at MW-15D. Concentrations exceeded the NYSDEC AWQS in two wells (RMW-3D and MW-15D).
- Vinyl chloride was detected in seven wells and all detected concentrations exceeded the NYSDEC AWQS. Detected concentrations ranged from 2.4 µg/L (MW-17D) to 360 µg/L at MW-4D and RMW-4D.
- Aniline was detected in four wells and all detected concentrations exceeded the NYSDEC AWQS. Detected concentrations ranged from 8 µg/L to 410 µg/L at MW-2D.

- Phenol was detected in one well (RMW-2D) at 100 µg/L, over the NYSDEC AWQS of 1 µg/L.

The ranges of concentrations for the second round of sampling of the bedrock monitoring wells (June 2004) are summarized below:

- TCE was detected in 11 of the 14 samples and detected concentrations ranged from 1.3 µg/L in RMW-4D to 130,000 µg/L in MW-19D. Nine samples exceeded the NYSDEC AWQS for TCE.
- 1,1,1-TCA was detected in seven wells with detected concentrations ranging from 14 µg/L in MW-17D to 9,900 µg/L in RMW-3D. All seven detections of 1,1,1-TCA were above the NYSDEC AWQS.
- Total 1,2-DCE was detected in 12 wells and detected concentrations ranged from 5.1 µg/L in MW-12D to 16,000 µg/L in RMW-2D. All detections exceeded the NYSDEC AWQS for total 1,2-DCE.
- 1,1-DCA was detected in six wells with five of the detected concentrations exceeding the NYSDEC AWQS. Detected concentrations ranged from 1.6 µg/L in MW-17D to 210 µg/L in RMW-4D.
- Vinyl chloride was detected in seven wells with detected concentrations ranged from 3.1 µg/L in MW-19D to 1,400 µg/L in RMW-2D. All other vinyl chloride detections exceeded the AWQS.
- Aniline was detected in five wells with detected concentrations ranging from 0.8 µg/L in MW-10D to 470 µg/L in RMW-4D. Aniline exceeded the AWQS in two wells (RMW-2D and RMW-4D).
- Phenol was only detected in RMW-2D at 75 µg/L. The NYSDEC AWQS for phenol is 1 µg/L.

3.4 QUALITATIVE EXPOSURE ASSESSMENT

The updated qualitative exposure assessment (QEA) for the Ekonol Polyester Resins site consisted of characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. The QEA was initially completed in the Phase III Site Characterization Report (January, 2004). The NYSDEC requested that an additional pathway (future onsite workers) be included in the QEA. This potential additional pathway and the additional data collected during the Supplemental Phase III Site Characterization have been included in the updated QEA.

Charaterization of Exposure Setting

The former Ekonol Polyester Resins facility is located on the west side of Walmore Road, approximately 0.5 miles north of Niagara Falls Boulevard (Route 62) in the Town of Wheatfield, New York. The Ekonol facility is situated at the northeast end of the Saint-Gobain Performance Plastics Corporation property. The Saint-Gobain Abrasives building is situated to the south of the Ekonol building in the central portion of the Saint

Gobain property. Active manufacturing is currently taking place in the northeast corner of the abrasives building. The remaining portions of the building are presently vacant. Plans for redevelopment or reuse of the abrasives building building are undetermined. Properties adjacent to the St. Gobain property include Bell Aerospace Textron to the south, Niagara Falls International airport to the west. Properties to the east of Walmore Road are primarily zoned industrial and commercial; however, residential properties do exist on the east side of Walmore Road. See Section 1 for additional details.

The population of the Town of Wheatfield was 14,086 as of the 2000 U.S. census. The total estimated population within 1 mile of the site is 642, based on 2000 U.S. census tract data (www.factfinder.census.gov, January 14, 2004). Table 8 presents the census tract data used for the estimate.

Identification of Exposure Pathways

An exposure pathway describes the means by which a receptor may be exposed to contaminants originating from a site. According to the Voluntary Cleanup Program (VCP) Guide, an exposure pathway has five elements:

- a contaminant source;
- contaminant release and transport mechanisms;
- a point of exposure;
- a route of exposure; and
- a receptor population.

An exposure pathway is complete when all five elements are documented. A potential exposure pathway exists when one or more elements is not documented, but may plausibly exist currently or in the future. At the Ekonol site after the Supplemental Phase III Investigation, only potential exposure pathways exist, as all five elements have not been documented for any exposure pathway.

At the Ekonol facility, chemicals were released during past industrial operations. The chemicals of potential concern (COPCs) at the site today are present mainly in groundwater and dense non-aqueous phase liquids (DNAPL) at depth. A few chemicals have been detected in subsurface soil, but at concentrations below the NYSDEC Technical and Administrative Guidelines Memorandum No. 4046 (TAGM 4046) recommended soil cleanup objectives. The COPCs include: trichloroethene (TCE), tetrachloroethene (PCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-tichoroethane (TCA), 1,1-dichloroethane (1,1-DCA), vinyl chloride (VC), phenol, aniline, lead and zinc. The previous site characterization reports (Parsons, 2001, 2003, 2004) summarize the soil and groundwater analytical data for the COPCs. Analytical data from the Supplemental Phase III Site Characterization are presented herein.

The QEA identified both potentially complete exposure pathways and incomplete exposure pathways. Figure 5 presents the updated conceptual site model (CSM),

schematically depicting sources, release mechanisms, transport mechanisms, and exposure pathways. Figure 5 indicates the exposure pathways evaluated herein, those that are potentially complete, and those that are incomplete. Tables 5, 6, and 7 provide similar information, plus text explaining why the exposure pathway is either potentially complete, or incomplete. Based on the information collected to date, presented in the figure and the tables, and a review of the Risk Assessment for the adjacent Bell Aerospace Textron facility, the receptor groups associated with potentially complete exposure pathways are as follows:

- **Current on-site workers.** Inhalation of chemicals volatilized from groundwater into indoor air.
- **Future off-site residents.** Three potential pathways for future offsite residents, these include: 1) ingestion of groundwater, 2) dermal contact with groundwater, and 3) volatilization of chemicals into indoor air from groundwater. This scenario considers future groundwater use.
- **Future excavation worker.** Three potential pathways for future excavation workers have been identified. These include: 1) ingestion of chemicals in on-site soils; 2) dermal contact with chemicals in on-site soils and 3) dermal contact with groundwater.
- **Future on-site worker.** For future on-site workers, the pathway identified is volatilization of chemicals into indoor air from groundwater.
- **Ecological Receptors.** For terrestrial and aquatic receptors, no pathways have been identified.

Conclusion

The qualitative exposure assessment update characterizes the exposure setting, identifies exposure pathways, and evaluates contaminant fate and transport. While there are potential current and future receptors, and potentially complete exposure pathways, there is no evidence that any of the identified receptors are currently or will be impacted.

The QEA identified current and future potential exposure pathways. Concrete flooring, paved parking areas and roadways, significant thickness of a low permeability silty clay on top of rock, and a large distance from the source area acts to eliminate the potential for completion of exposure pathways for the current and future receptors identified.

SECTION 4
CONCLUSIONS

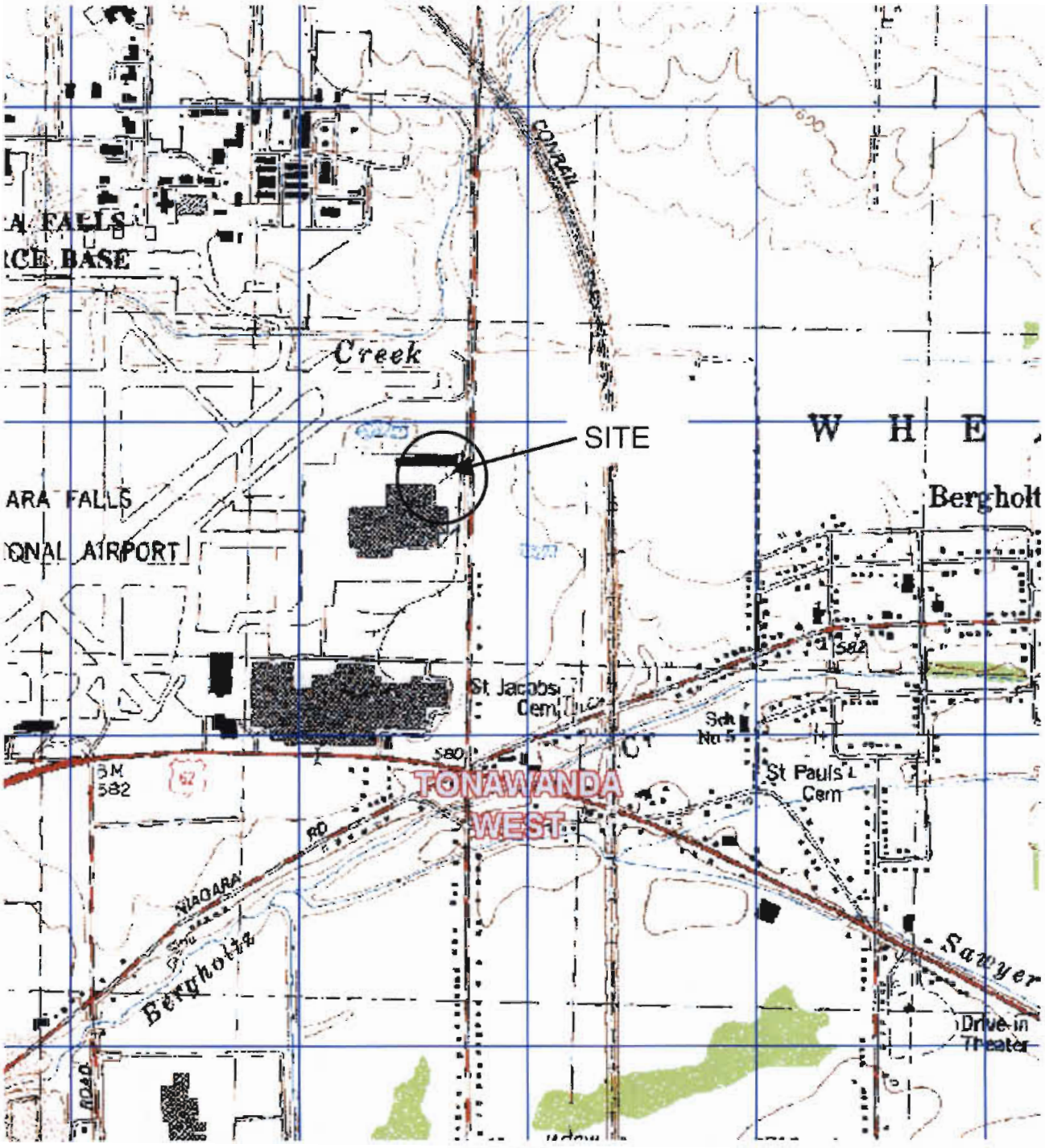
4.1 CONCLUSIONS

The objective of this Supplemental Phase III investigation, to fully define the extent of impacts in bedrock groundwater related to the former containment tank, has been achieved. The following conclusions can be drawn from the existing data:

- The extent of dissolved-phase constituents in bedrock groundwater east of the site is defined by MW-18D, as no COPCs were detected at concentrations above the AWQS in the sample from MW-18D.
- To the southwest, low levels of COPCs identified in groundwater samples collected from well MW-19D, indicate that the well is near the southwestern limit of groundwater impacts.
- The low levels of COPCs identified in groundwater samples collected from MW-1D/RMW-1D indicate that they are near the northern limit of groundwater impacts.
- The areal extent of bedrock groundwater impacts has been sufficiently defined based on the groundwater analytical data from MW-15D, MW-13D, and MW-16D. Further delineation of the extent of impacts south of these wells could not be achieved due to the presence of underground utilities running east to west, south of MW-16D.
- Shallow groundwater flow in the overburden is radial from the former containment structure location. This is consistent with previous findings.
- Groundwater flow direction in the upper portion of the bedrock is toward the southeast, consistent with previous findings.
- The qualitative exposure assessment identified potential current and future receptors, and potentially complete exposure pathways. However there is no evidence that any of the identified receptors are currently, or will be impacted in the future. Maintenance of existing site conditions and implementation of potential remendial actions eliminates the potential for complete exposure pathways.

In summary, no additional investigation is necessary. Groundwater impacts have been sufficiently defined. Future work will focus on evaluation of potential remedial actions for the site.

FIGURES



New York Quadrangle

LATITUDE: N43° 06' 21"
LONGITUED: W78° 55' 46"

SOURCE: DeLORME 3-D TOPOQUAD PROGRAM

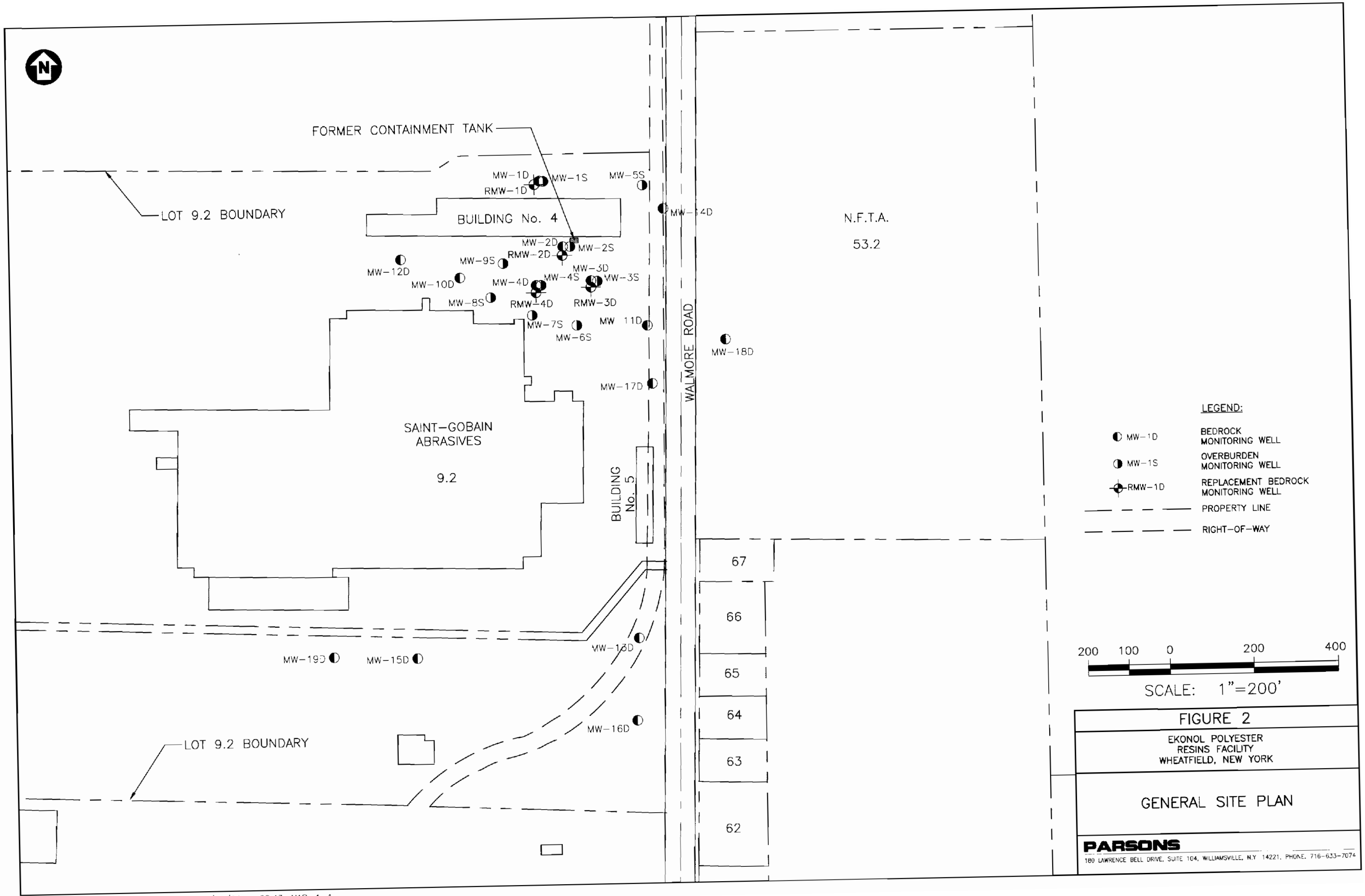
FIGURE 1

EKONOL POLYESTER RESINS FACILITY
WHEATFIELD, NEW YORK

SITE LOCATION MAP

PARSONS
180 LAWRENCE BELL DRIVE - WILLIAMSVILLE, NEW YORK 14221 (716) 633-7074

P:\737515\GRAPHICS\WHEATFIELD.PPT


FORMER CONTAINMENT TANK
LOT 9.2 BOUNDARY
BUILDING No. 4
MW-1D
MW-1S
RMW-1D
MW-5S
MW-14D
MW-2D
MW-2S
RMW-2D
MW-9S
MW-12D
MW-3D
MW-10D
MW-4S
MW-3S
MW-4D
MW-8S
RMW-4D
RMW-3D
MW-7S
MW-6S
MW 11D
MW-18D
MW-17D
WALMORE ROAD
N.F.T.A.
53.2
SAINT-GOBAIN
ABRASIVES
9.2
BUILDING No. 5
MW-19D
MW-15D
MW-13D
MW-16D
LOT 9.2 BOUNDARY
67
66
65
64
63
62
LEGEND:
MW-1D BEDROCK MONITORING WELL
MW-1S OVERBURDEN MONITORING WELL
RMW-1D REPLACEMENT BEDROCK MONITORING WELL
PROPERTY LINE
RIGHT-OF-WAY
200 100 0 200 400
SCALE: 1"=200'
FIGURE 2
EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK
GENERAL SITE PLAN
PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221. PHONE: 716-633-7074
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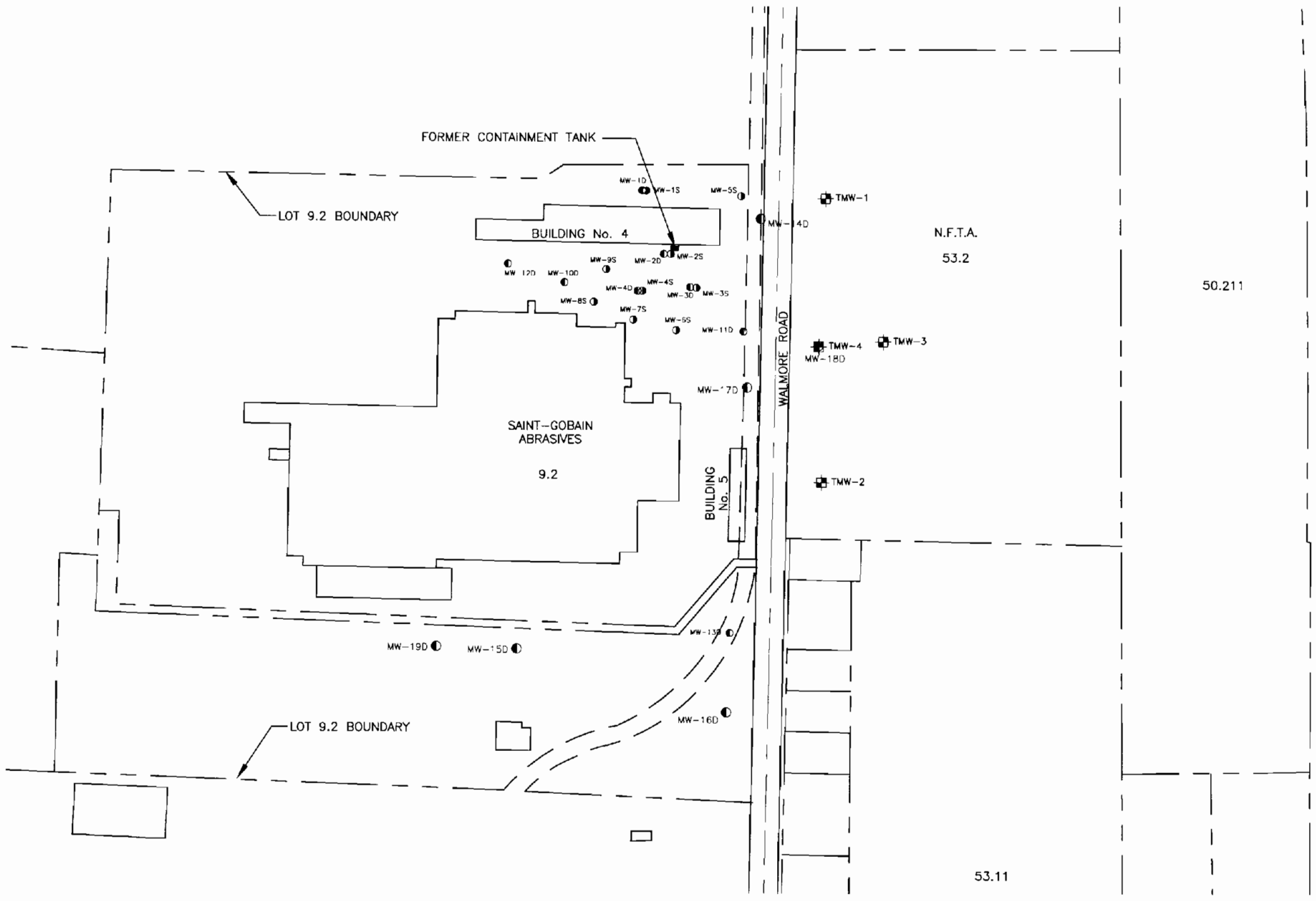

300 150 0 300 600

SCALE: 1"=300'

LEGEND:

- MW-1D — BEDROCK MONITORING WELL
- MW-1S — OVERBURDEN MONITORING WELL
- TMW-1 — TEMPORARY BEDROCK BORING GROUNDWATER SAMPLING LOCATION
- PROPERTY LINE
- RIGHT-OF-WAY

FIGURE 3

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

SUPPLEMENTAL PHASE III GROUNDWATER SCREENING/ BEDROCK BORING LOCATION MAP

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221. PHONE: 716-633-7074

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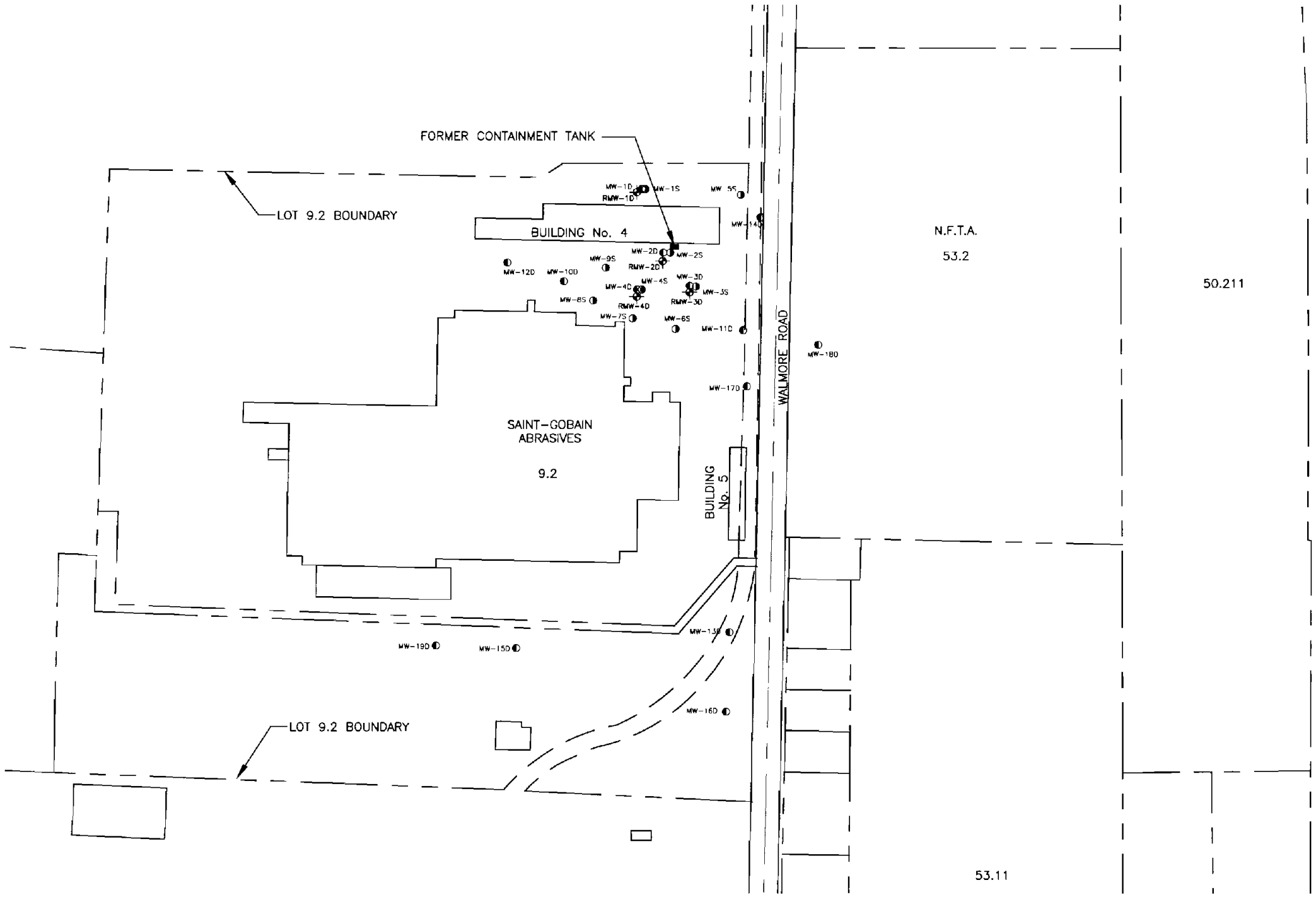

300 150 0 300 600

SCALE: 1"=300'

LEGEND:

MW-1D	BEDROCK MONITORING WELL
MW-1S	OVERBURDEN MONITORING WELL
RMW-1D	REPLACEMENT BEDROCK MONITORING WELL
	PROPERTY LINE
	RIGHT-OF-WAY

FIGURE 4

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

MONITORING WELL LOCATION PLAN

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 1422', PHONE 716-633-7074

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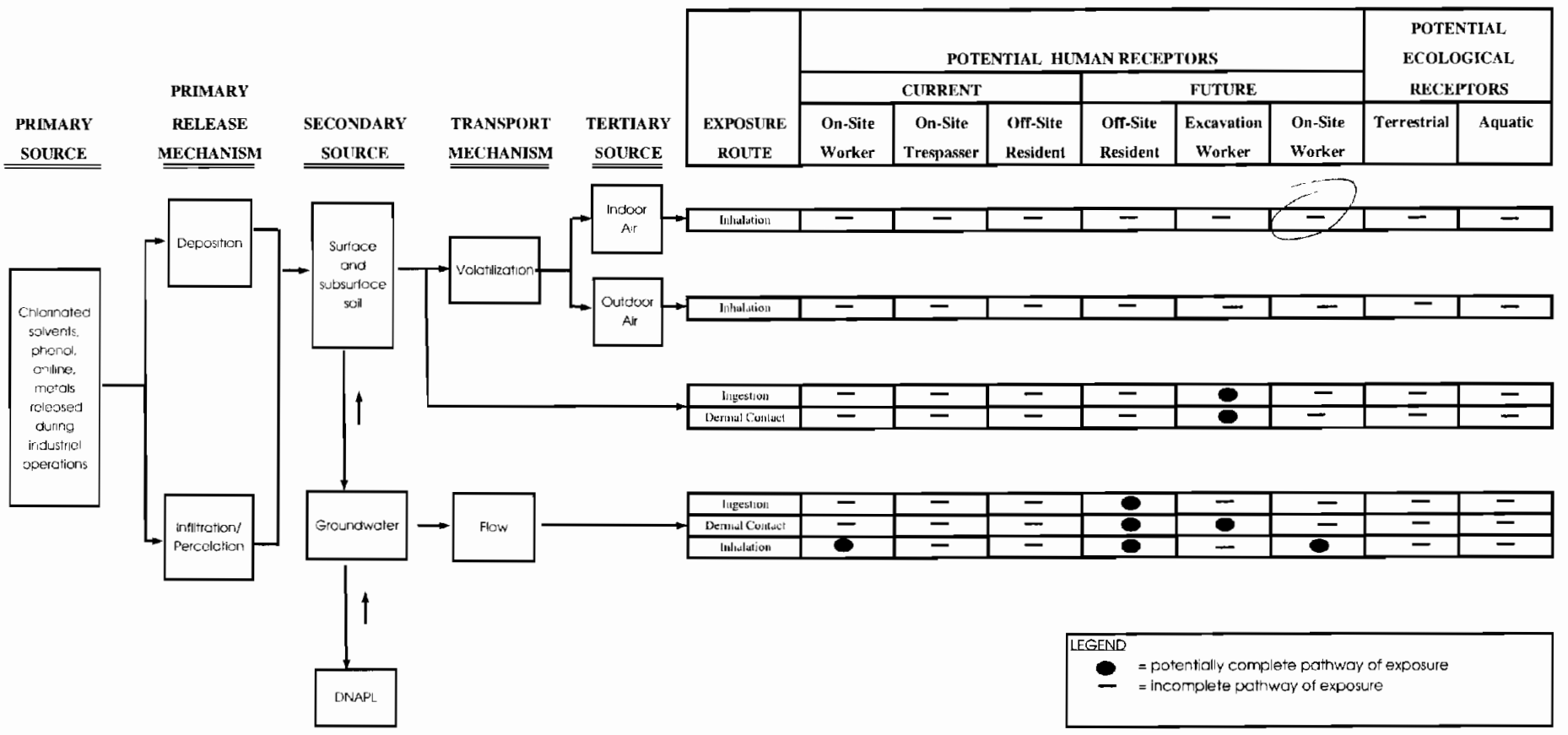
FIGURE 5
CONCEPTUAL SITE MODEL
EKONOL POLYESTER RESINS
WHEATFIELD, NEW YORK



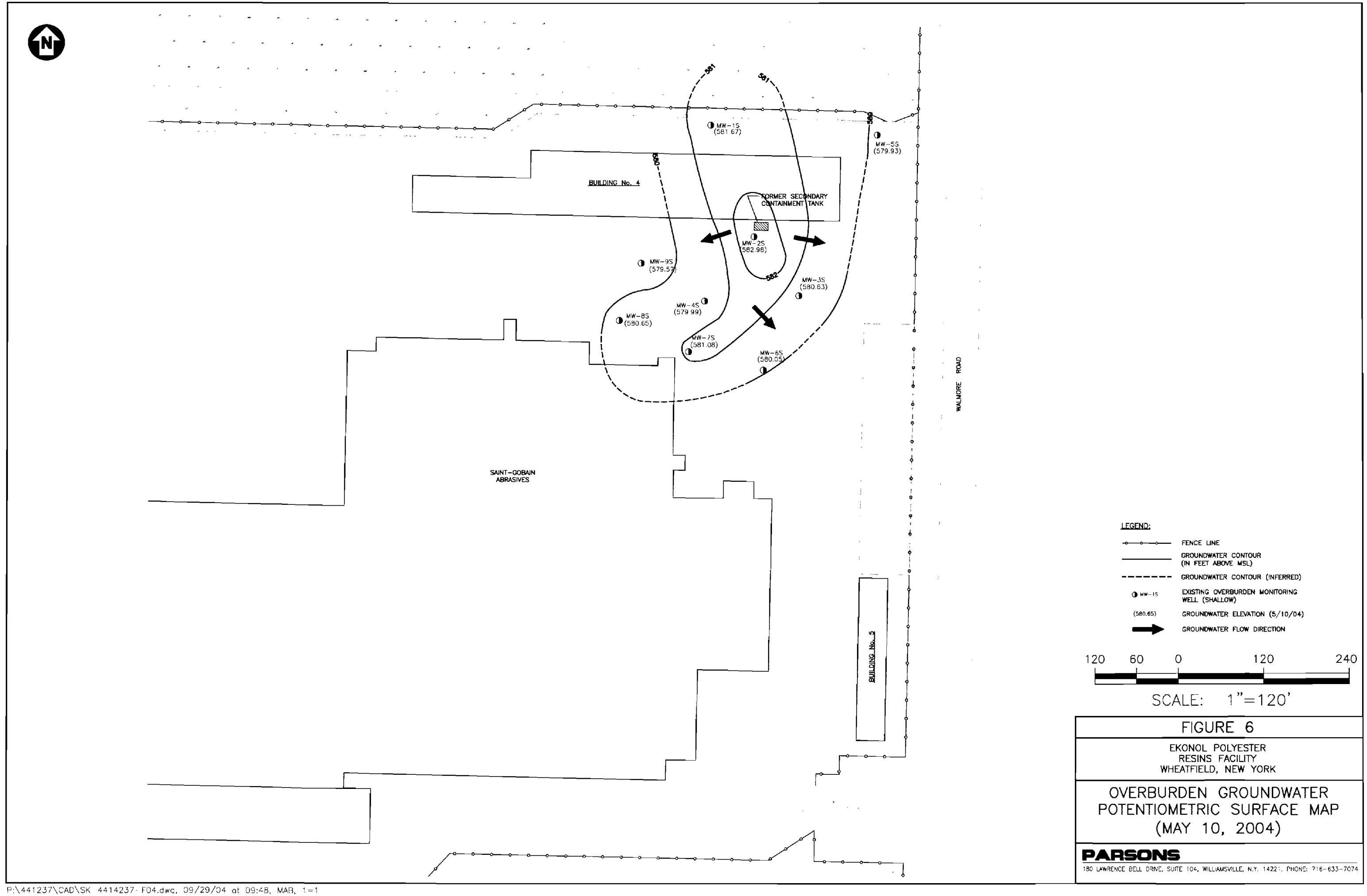


FIGURE 6

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

OVERBURDEN GROUNDWATER POTENTIOMETRIC SURFACE MAP (MAY 10, 2004)

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221. PHONE: 716-633-7074

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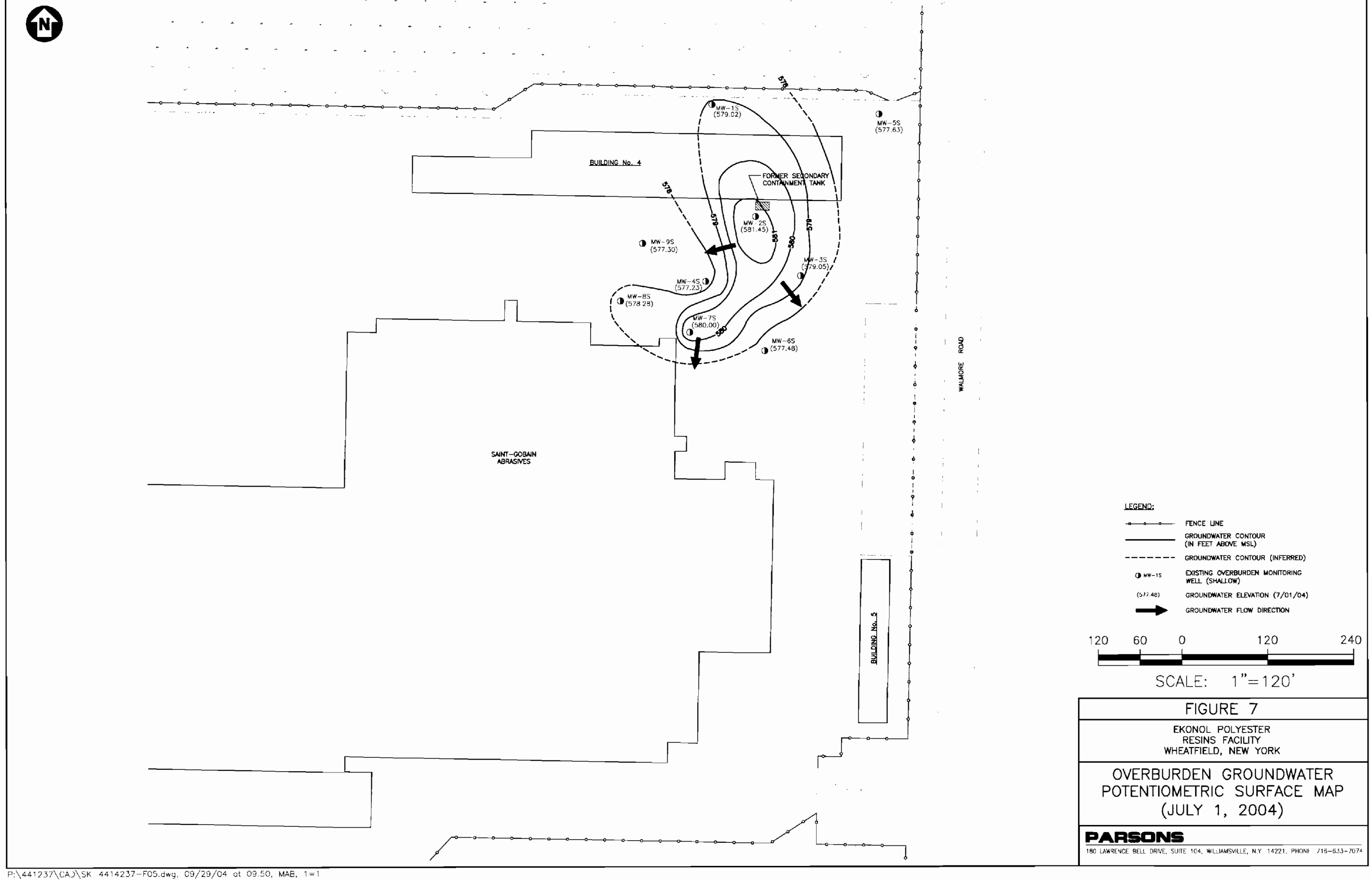

FIGURE 7

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

OVERBURDEN GROUNDWATER POTENTIOMETRIC SURFACE MAP (JULY 1, 2004)

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221. PHONE 716-633-7074

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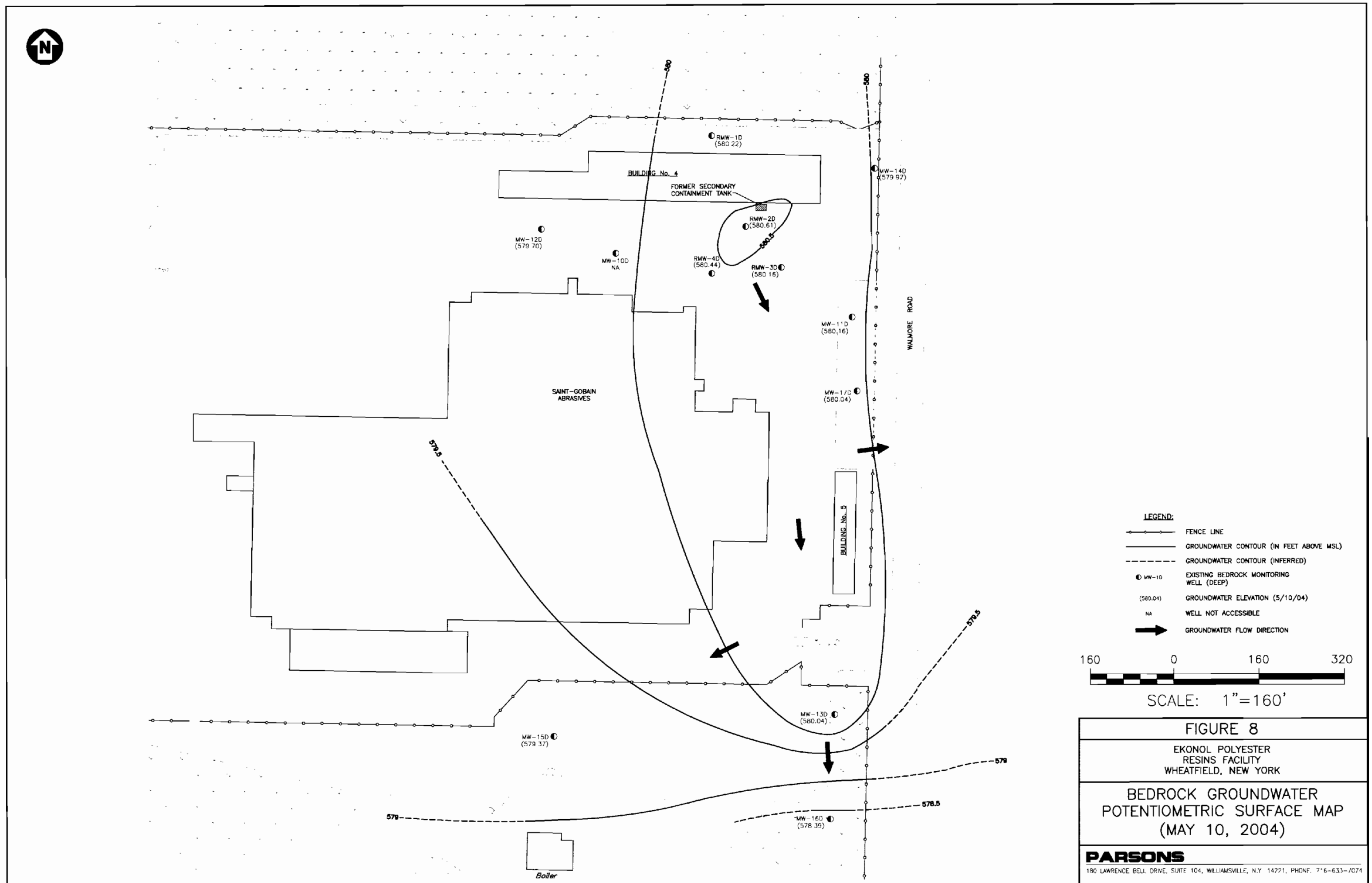

FIGURE 8

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

BEDROCK GROUNDWATER POTENTIOMETRIC SURFACE MAP (MAY 10, 2004)

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221, PHONE: 716-633-7074

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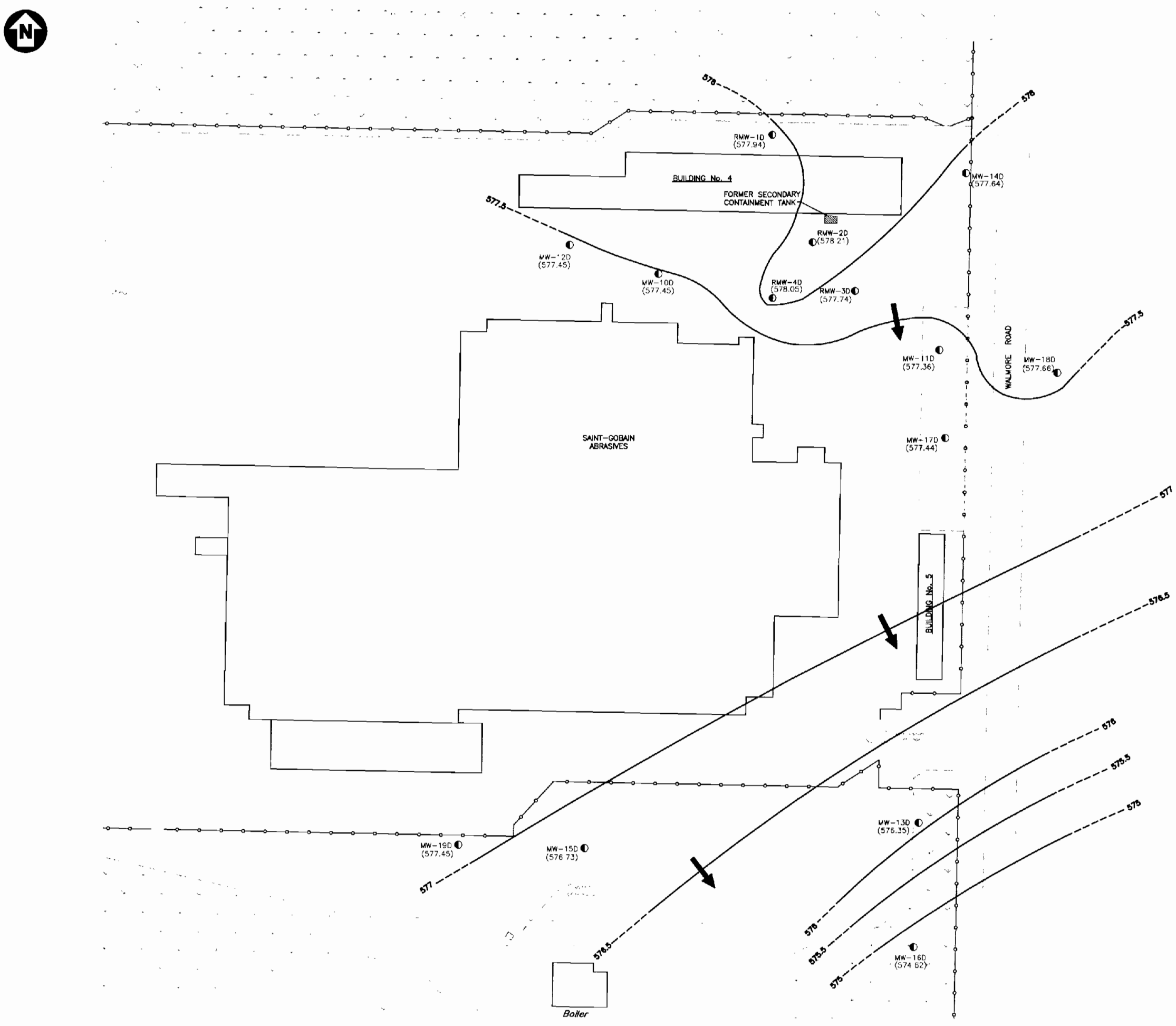

LEGEND:

- FENCE LINE
- GROUNDWATER CONTOUR (IN FEET ABOVE MSL)
- GROUNDWATER CONTOUR (INFERRED)
- MW-1D — EXISTING BEDROCK MONITORING WELL (DEEP)
- (576.35) — GROUNDWATER ELEVATION (7/01/04)
- GROUNDWATER FLOW DIRECTION

160 0 160 320

SCALE: 1"=160'

FIGURE 9

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

BEDROCK GROUNDWATER POTENTIOMETRIC SURFACE MAP (JULY 1, 2004)

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221, PHONE: 716-633-7074

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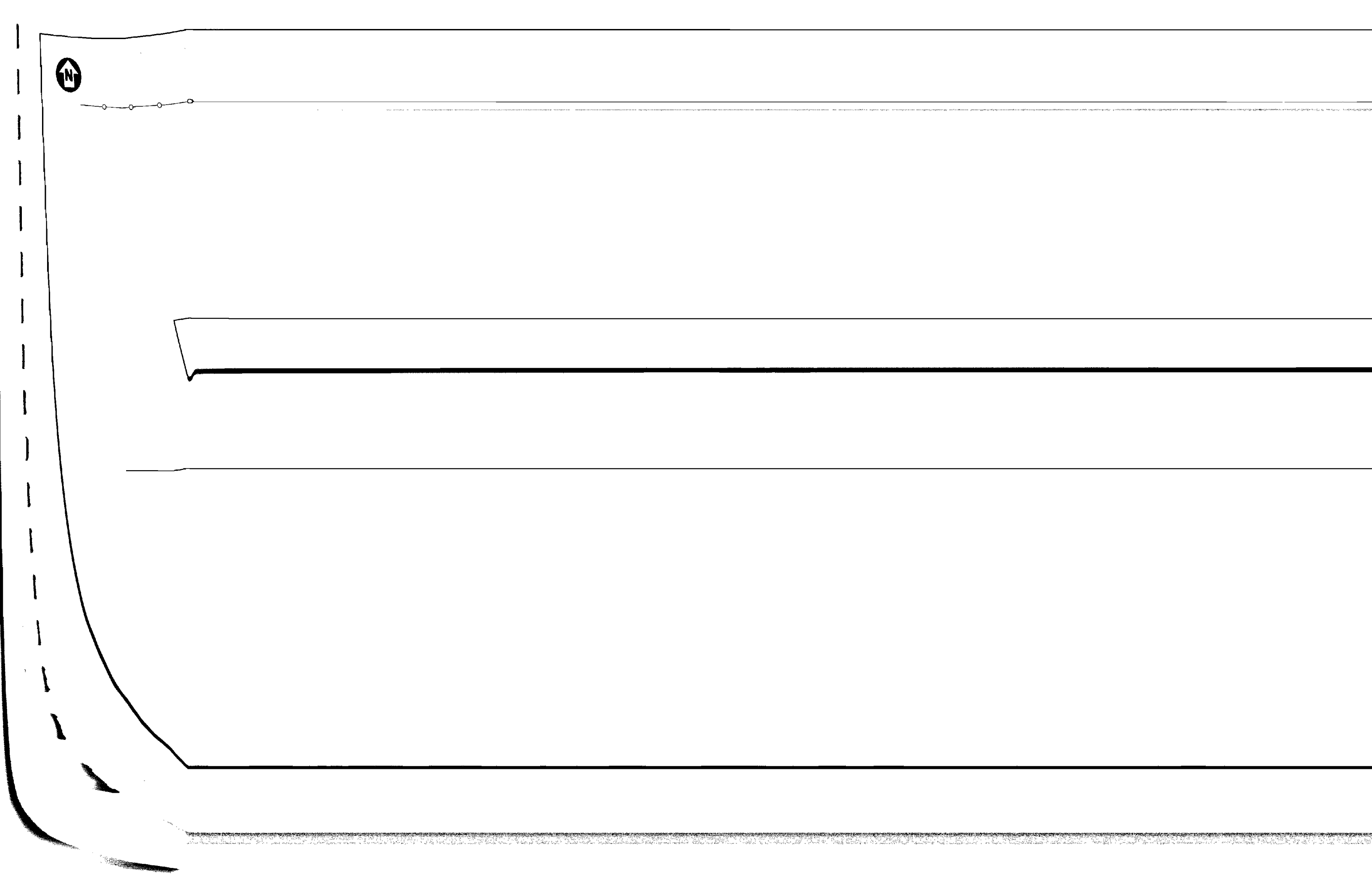

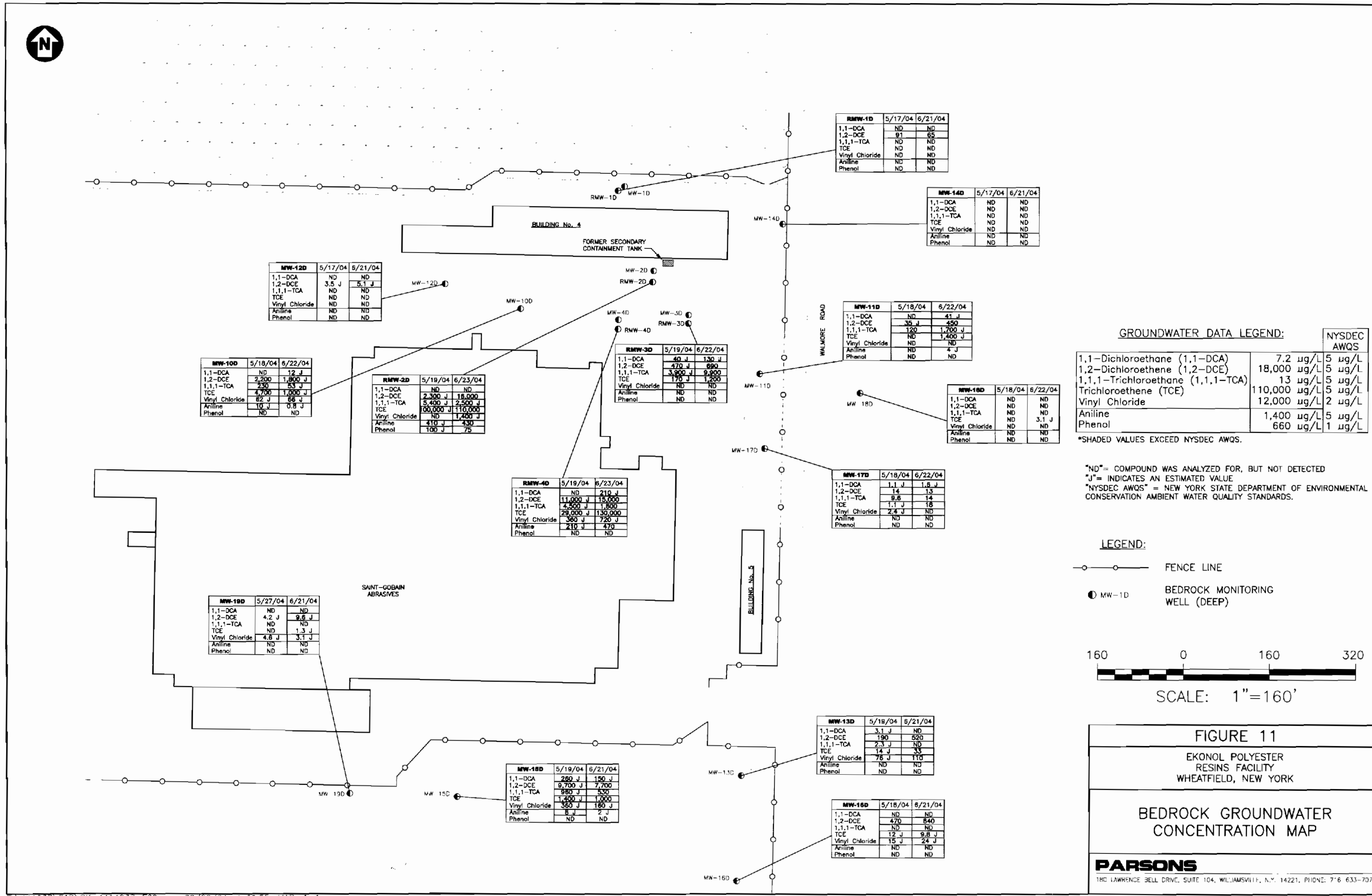

RMW-1D	5/17/04	6/21/04
1,1-DCA	ND	ND
1,2-DCE	91	65
1,1,1-TCA	ND	ND
TCE	ND	ND
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

MW-14D	5/17/04	6/21/04
1,1-DCA	ND	ND
1,2-DCE	ND	ND
1,1,1-TCA	ND	ND
TCE	ND	ND
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

MW-12D	5/17/04	6/21/04
1,1-DCA	ND	ND
1,2-DCE	3.5 J	5.1 J
1,1,1-TCA	ND	ND
TCE	ND	ND
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

MW-11D	5/18/04	6/22/04
1,1-DCA	ND	41 J
1,2-DCE	35 J	450
1,1,1-TCA	120	1,700 J
TCE	ND	1,400 J
Vinyl Chloride	ND	ND
Aniline	ND	4 J
Phenol	ND	ND

MW-10D	5/18/04	6/22/04
1,1-DCA	ND	12 J
1,2-DCE	2,200	1,800 J
1,1,1-TCA	230	53 J
TCE	4,700	1,000 J
Vinyl Chloride	82 J	66 J
Aniline	10 J	0.8 J
Phenol	ND	ND

RMW-3D	5/19/04	6/22/04
1,1-DCA	40 J	130 J
1,2-DCE	470 J	690
1,1,1-TCA	3,900 J	9,900
TCE	170 J	1,200
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

RMW-2D	5/19/04	6/23/04
1,1-DCA	ND	ND
1,2-DCE	2,300 J	18,000
1,1,1-TCA	5,400 J	2,500 J
TCE	100,000 J	110,000
Vinyl Chloride	ND	1,400 J
Aniline	410 J	430
Phenol	100 J	75

MW-18D	5/18/04	6/22/04
1,1-DCA	ND	ND
1,2-DCE	ND	ND
1,1,1-TCA	ND	ND
TCE	ND	3.1 J
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

RMW-4D	5/19/04	6/23/04
1,1-DCA	ND	210 J
1,2-DCE	11,000 J	15,000
1,1,1-TCA	4,500 J	1,800
TCE	29,000 J	130,000
Vinyl Chloride	360 J	720 J
Aniline	210 J	470
Phenol	ND	ND

MW-17D	5/18/04	6/22/04
1,1-DCA	1.1 J	1.8 J
1,2-DCE	14	13
1,1,1-TCA	9.8	14
TCE	1.1 J	18
Vinyl Chloride	2.4 J	ND
Aniline	ND	ND
Phenol	ND	ND

MW-19D	5/27/04	6/21/04
1,1-DCA	ND	ND
1,2-DCE	4.2 J	9.5 J
1,1,1-TCA	ND	ND
TCE	ND	1.3 J
Vinyl Chloride	4.6 J	3.1 J
Aniline	ND	ND
Phenol	ND	ND

MW-15D	5/19/04	6/21/04
1,1-DCA	260 J	150 J
1,2-DCE	9,700 J	7,700
1,1,1-TCA	980 J	530
TCE	1,400 J	1,000
Vinyl Chloride	350 J	180 J
Aniline	8 J	2 J
Phenol	ND	ND

MW-13D	5/18/04	6/21/04
1,1-DCA	3.1 J	ND
1,2-DCE	190	520
1,1,1-TCA	2.3 J	ND
TCE	14 J	33
Vinyl Chloride	76 J	110
Aniline	ND	ND
Phenol	ND	ND

MW-16D	5/18/04	6/21/04
1,1-DCA	ND	ND
1,2-DCE	470	840
1,1,1-TCA	ND	ND
TCE	12 J	9.8 J
Vinyl Chloride	15 J	24 J
Aniline	ND	ND
Phenol	ND	ND

GROUNDWATER DATA LEGEND:

		NYSDEC AWQS
1,1-Dichloroethane (1,1-DCA)	7.2 µg/L	5 µg/L
1,2-Dichloroethene (1,2-DCE)	18,000 µg/L	5 µg/L
1,1,1-Trichloroethane (1,1,1-TCA)	13 µg/L	5 µg/L
Trichloroethene (TCE)	110,000 µg/L	5 µg/L
Vinyl Chloride	12,000 µg/L	2 µg/L
Aniline	1,400 µg/L	5 µg/L
Phenol	660 µg/L	1 µg/L

*SHADED VALUES EXCEED NYSDEC AWQS.

"ND"= COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED
"J"= INDICATES AN ESTIMATED VALUE
"NYSDEC AWQS" = NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AMBIENT WATER QUALITY STANDARDS.

LEGEND:

FENCE LINE

MW-1D BEDROCK MONITORING WELL (DEEP)

160 0 160 320

SCALE: 1"=160'

FIGURE 11

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

BEDROCK GROUNDWATER CONCENTRATION MAP

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221, PHONE: 716 633-7074

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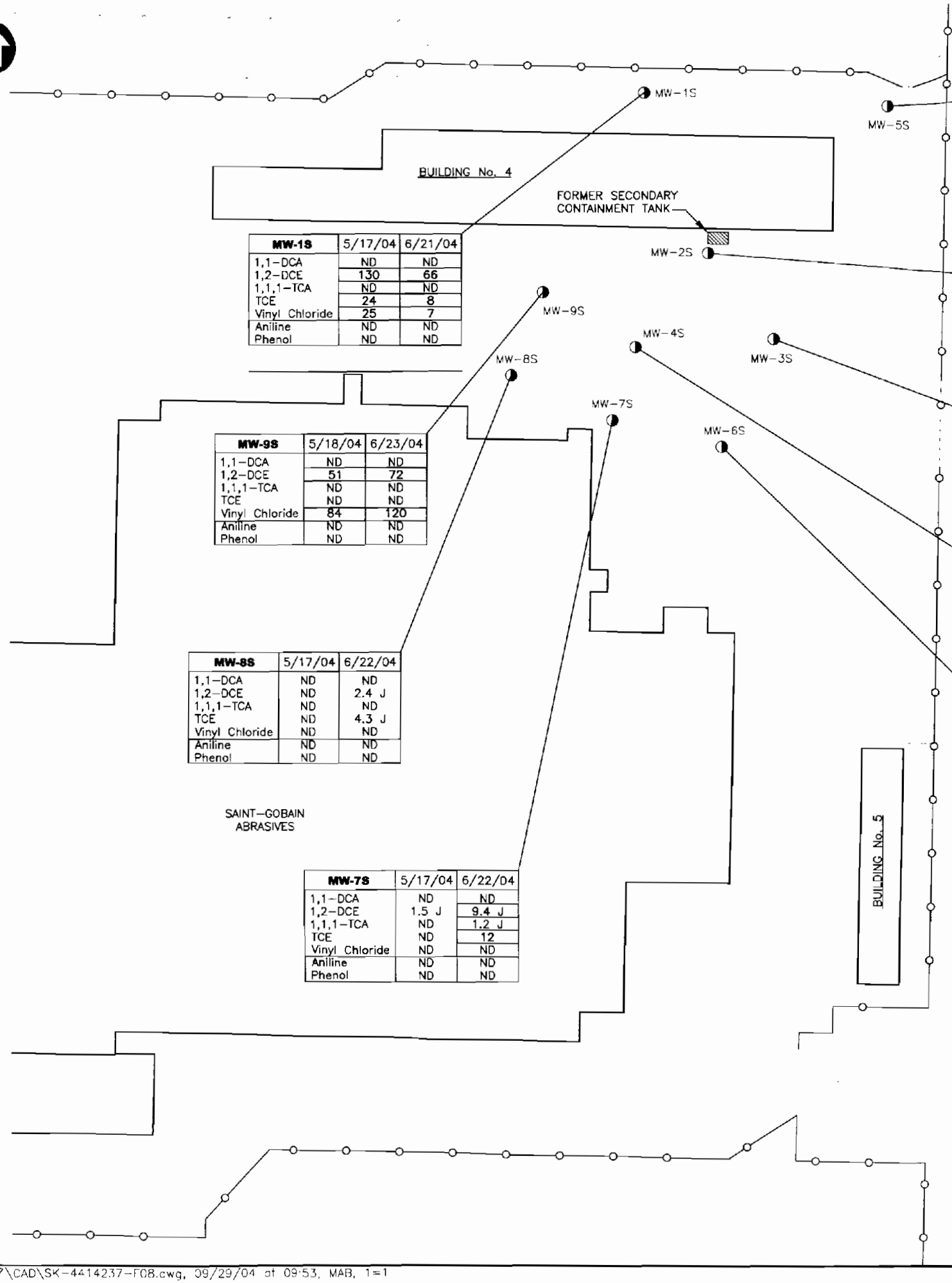

MW-1S	5/17/04	6/21/04
1,1-DCA	ND	ND
1,2-DCE	130	66
1,1,1-TCA	ND	ND
TCE	24	8
Vinyl Chloride	25	7
Aniline	ND	ND
Phenol	ND	ND

MW-5S	5/17/04	6/21/04
1,1-DCA	ND	ND
1,2-DCE	1.5 J	1.8 J
1,1,1-TCA	ND	ND
TCE	ND	ND
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

MW-2S	5/19/04	6/23/04
1,1-DCA	ND	ND
1,2-DCE	780,000 J	600,000
1,1,1-TCA	ND	ND
TCE	ND	7,300 J
Vinyl Chloride	35,000 J	26,000
Aniline	ND	40
Phenol	28,000 J	35,000

MW-3S	5/19/04	6/22/04
1,1-DCA	ND	ND
1,2-DCE	ND	ND
1,1,1-TCA	ND	ND
TCE	ND	2.4 J
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

MW-4S	5/18/04	6/23/04
1,1-DCA	68 J	ND
1,2-DCE	6,800	4,200
1,1,1-TCA	710 J	43 J
TCE	1,600 J	250
Vinyl Chloride	1,000 J	410
Aniline	44 J	50
Phenol	ND	ND

MW-6S	5/17/04	6/22/04
1,1-DCA	5.6	6.6
1,2-DCE	24	52
1,1,1-TCA	ND	2 J
TCE	ND	11
Vinyl Chloride	190	120
Aniline	ND	ND
Phenol	ND	ND

MW-7S	5/17/04	6/22/04
1,1-DCA	ND	ND
1,2-DCE	1.5 J	9.4 J
1,1,1-TCA	ND	1.2 J
TCE	ND	12
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

MW-8S	5/17/04	6/22/04
1,1-DCA	ND	ND
1,2-DCE	ND	2.4 J
1,1,1-TCA	ND	ND
TCE	ND	4.3 J
Vinyl Chloride	ND	ND
Aniline	ND	ND
Phenol	ND	ND

MW-9S	5/18/04	6/23/04
1,1-DCA	ND	ND
1,2-DCE	51	72
1,1,1-TCA	ND	ND
TCE	ND	ND
Vinyl Chloride	84	120
Aniline	ND	ND
Phenol	ND	ND

GROUNDWATER DATA LEGEND:

		NYSDEC AWQS
1,1-Dichloroethane (1,1-DCA)	7.2 µg/L	5 µg/L
1,2-Dichloroethene (1,2-DCE)	18,000 µg/L	5 µg/L
1,1,1-Trichloroethane (1,1,1-TCA)	13 µg/L	5 µg/L
Trichloroethene (TCE)	110,000 µg/L	5 µg/L
Vinyl Chloride	12,000 µg/L	2 µg/L
Aniline	1,400 µg/L	5 µg/L
Phenol	660 µg/L	1 µg/L

*SHADED VALUES EXCEED NYSDEC AWQS.

"ND"= COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED
"J"= INDICATES AN ESTIMATED VALUE
"NYSDEC AWQS" = NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AMBIENT WATER QUALITY STANDARDS.

LEGEND:

FENCE LINE

MW 1S — OVERBURDEN MONITORING WELL (SHALLOW)

120 60 0 120 240

SCALE: 1"=120'

FIGURE 10

EKONOL POLYESTER
RESINS FACILITY
WHEATFIELD, NEW YORK

OVERBURDEN GROUNDWATER CONCENTRATION MAP

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 101, WILLIAMSVILLE, N.Y. 14221, PHONE: 716 633-7074

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TABLES

Table 1

Ekonol Facility
Groundwater Field Screening Summary
Wheatfield, New York

Field Screening Location ID	Date Sampled	VOH Result (ug/L)
TMW-1	5/6/04	2.3
TMW-2	5/6/04	2.8
TMW-3	5/6/04	3.6
TMW-4	5/7/04	0.0

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-1S	MW-1S	MW-1S	MW-1S	MW-1S	MW-1S	MW-1S	MW-1S
			Sampled	11/2/2001	12/6/2001	9/26/2002	11/4/2002	9/19/2003	10/28/2003	5/17/2004	6/21/2004
			Validated					11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A1A87201	A1C13203	A2957201	A2A99705	A3902701	A3A47402	A04-4650	A04-5891
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9572	A02A997	A39027	A3A474	A4465001	A4589105
CAS No.	Compound	Standard*	Units								
	VOLATILES										
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	190	180	71	97 D	69 J	120	130	66
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	32	28	6.9	10	7.8	17	24	8
75-01-4	Vinyl chloride	2	ug/L	NA	NA	NA	NA	18	19	25	7
	SEMIVOLATILES										
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
	METALS										
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	0.088	0.023	ND	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
** = Dissolved concentration standard

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-2S	MW-2S	MW-2S	MW-2S	MW-2S	MW-2S	MW-2S	MW-2S
			Sampled	11/2/2001	12/6/2001	10/3/2002	11/7/2002	9/19/2003	10/30/2003	5/19/2004	6/23/2004
			Validated					11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A1A87205	A1C13208	A2980401	A2B04201	A3902706	A3A53102	A4471601	A4595302
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9804	A02B042	A39027	A3A531	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES										
75-34-3	1,1-Dichloroethane	5	ug/L	85	ND	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	480,000 D	630,000	740,000	780,000	780,000	690,000	780000 J	600000
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	140,000 BD	200,000	ND	5,600 J	ND	ND	ND	7300 J
75-01-4	Vinyl chloride	2	ug/L	NA	NA	NA	NA	30,000	32,000	35000 J	26000
	SEMIVOLATILES										
62-53-3	Aniline	5	ug/L	420 D	ND	2,000	ND	2600	R	ND	40
108-95-2	Phenol	1	ug/L	25,000 D	42,000 D	66,000	53,000 B	56,000	39,000 JN	28000 J	35000
	METALS										
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	0.38	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	0.091	1.7	0.026	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
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"D"= Compound was identified in an analysis at the secondary dilution factor
"B"= The analyte was found in the associated blank, as well as in the sample
** = Dissolved concentration standard

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-3S	MW-3S	MW-3S	MW-3S	MW-3S	MW-3S	MW-3S	MW-3S
			Sampled	11/2/2001	12/6/2001	9/26/2002	11/4/2002	9/18/2003	10/28/2003	5/19/2004	6/22/2004
			Validated					11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A1A87209	A1C13207	A2957203	A2A99702	A3898203	A3A47404	A4471602	A4591510
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9572	A02A997	A38982	A3A474	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES										
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	1.3 J	ND	ND	0.58 J	ND	ND	ND	ND
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	4.3 BJ	2.3 J	5	2	ND	ND	ND	2.4 J
75-01-4	Vinyl chloride	2	ug/L	NA	NA	NA	NA	ND	ND	ND	ND
	SEMIVOLATILES										
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	2 J	ND	ND	ND	ND	ND	ND
	METALS										
7439-92-1	Lead - Total	0.025**	mg/L	0.025	ND	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.14	0.094	ND	0.048	NA	NA	NA	NA

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"B"= The analyte was found in the associated blank, as well as in the sample
** = Dissolved concentration standard

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S
			Sampled	11/2/2001	12/6/2001	9/26/2002	11/4/2002	9/18/2003	10/28/2003	5/19/2004	6/23/2004
			Validated					11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A1A87207	A1C13205	A2957204	A2A99707	A3898202	A3A47405	A4471603	A4595303
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9572	A02A997	A38982	A3A474	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES										
75-34-3	1,1-Dichloroethane	5	ug/L	7.2	ND	ND	13 J	ND	ND	68 J	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	18,000 D	8,900	8,100	22,000 D	2,200 J	3,900	6800	4200
71-55-6	1,1,1-Trichloroethane	5	ug/L	13	ND	ND	150	100	100	710 J	43 J
79-01-6	Trichloroethene	5	ug/L	110,000 BD	46,000	4,100	9,000 D	190	130	1600 J	250
75-01-4	Vinyl chloride	2	ug/L	NA	NA	NA	NA	230	320	1000 J	410
	SEMIVOLATILES										
62-53-3	Aniline	5	ug/L	1,400 D	10	120	400 D	7 J	91	44 J	50
108-95-2	Phenol	1	ug/L	660 D	8 J	8 J	32	ND	ND	ND	ND
	METALS										
7439-92-1	Lead - Total	0.025**	mg/L	0.15	0.045	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.12	0.08	ND	0.02	NA	NA	NA	NA

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"D"= Compound was identified in an analysis at the secondary dilution factor
"B"= The analyte was found in the associated blank, as well as in the sample
** = Dissolved concentration standard

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S
			Sampled	9/26/2002	11/4/2002	9/18/2003	10/28/2003	5/17/2004	6/21/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A2957202	A2A88703	A3898201	A3A47401	A4465003	A4589109
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9572	A02A887	A38982	A3A474	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	5.4	4.4 J	ND	ND	1.5 J	1.8 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND	ND	ND	ND	ND
75-01-4	Vinyl chloride	2	ug/L	NA	NA	ND	ND	ND	ND
	SEMIVOLATILES								
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	ND	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
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"ND"= Compound was analyzed for, but not detected
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Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-6S	MW-6S	MW-6S	MW-6S	MW-6S	MW-6S
			Sampled	9/27/2002	11/4/2002	9/18/2003	10/29/2003	5/17/2004	6/22/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A2961401	A2A99703	A3898204	A3A48109	A4465006	A4591504
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A997	A38982	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ug/L	ND	1.6	5.4	4.4 J	5.6	6.6
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	30	17	36	44	24	52
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	2 J
79-01-6	Trichloroethene	5	ug/L	29	0.68 J	3.4 J	3.9 J	ND	11
75-01-4	Vinyl chloride	2	ug/L	NA	NA	210	140	190	120
	SEMIVOLATILES								
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.046	0.034	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
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** = Dissolved concentration standard

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S
			Sampled	9/27/2002	11/4/2002	9/18/2003	10/29/2003	5/17/2004	6/22/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A2961402	A2A88706	A3898205	A3A48110	A4465007	A4591505
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A887	A38982	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	4.6 J	2.4 J	ND	3.8 J	1.5 J	9.4 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	1.2 J
79-01-6	Trichloroethene	5	ug/L	ND	ND	ND	2.9 J	ND	12
75-01-4	Vinyl chloride	2	ug/L	NA	NA	ND	ND	ND	ND
	SEMIVOLATILES								
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	0.14	0.013	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.71	0.086	NA	NA	NA	NA

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** = Dissolved concentration standard

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-8S	MW-8S	MW-8S	MW-8S	MW-8S	MW-8S
			Sampled	9/27/2002	11/4/2002	9/18/2003	10/28/2003	5/17/2004	6/22/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A2961403	A2A88704	A3898207	A3A47406	A4465008	A4591508
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A887	A38982	A3A474	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	1.6 J	3.1 J	ND	ND	ND	2.4 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND	ND	ND	ND	4.3 J
75-01-4	Vinyl chloride	2	ug/L	NA	NA	ND	ND	ND	ND
	SEMIVOLATILES								
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	0.07	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.37	ND	NA	NA	NA	NA

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"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
** = Dissolved concentration standard

Table 2

Ekonol Facility
Groundwater Analytical Summary
Overburden Monitoring Wells
Wheatfield, New York

			Sample ID	MW-9S	MW-9S	MW-9S	MW-9S	MW-9S	MW-9S
			Sampled	9/27/2002	11/4/2002	9/18/2003	10/28/2003	5/18/2004	6/23/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A2961404	A2A88705	A3898206	A3A47403	A4466008	A4595301
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A887	A38982	A3A474	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	4.4 J	6.0	2.4 J	11.0	51	72
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND	ND	ND	ND	ND
75-01-4	Vinyl chloride	2	ug/L	NA	NA	ND	22	84	120
	SEMIVOLATILES								
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	0.011	0.014	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.069	0.073	NA	NA	NA	NA

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Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-2D	MW-2D	MW-2D	MW-2D	MW-2D	RMW-2D	RMW-2D	RMW-2D
			Sampled	11/2/2001	12/6/2001	10/2/2002	11/7/2002	9/23/2003	10/30/2003	5/19/2004	6/23/2004
			Validated					11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A1A87204	A1C13209	A2980501	A2B04203	A3912203	A3A53104	A4471606	A4595305
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9805	A02B042	A39122	A3A531	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES										
75-34-3	1,1-Dichloroethane	5	ug/L	33	ND	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	12,000 DJ	ND	ND	7,000 J	24000 J	ND	2300 J	16000
71-55-6	1,1,1-Trichloroethane	5	ug/L	32	ND	ND	ND	2900 J	ND	5400 J	2500 J
79-01-6	Trichloroethene	5	ug/L	440,000 BD	950,000	410,000	400,000	480,000	640,000	100000 J	110000
75-01-4	Vinyl chloride	2	ug/L	NA	NA	NA	NA	ND	ND	ND	1400 J
	SEMIVOLATILES										
62-53-3	Aniline	5	ug/L	10,000 D	14,000	5,400 D	3,800	13,000	6,200	410 J	430
108-95-2	Phenol	1	ug/L	3,100 D	8,400	1,600 D	710 B	ND	ND	100 J	75
	METALS										
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	0.25	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	ND	0.76	ND	NA	NA	NA	NA

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"D"= Compound was identified in an analysis at the secondary dilution factor
"B"= The analyte was found in the associated blank, as well as in the sample
** = Dissolved concentration standard

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-3D	MW-3D	MW-3D	MW-3D	MW-3D	RMW-3D	RMW-3D	RMW-3D
			Sampled	11/2/2001	12/6/2001	9/30/2002	11/7/2002	9/22/2003	10/29/2003	5/19/2004	6/22/2004
			Validated					11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A1A87208	A1C13206	A2965603	A2B04202	A3908104	A3A48105	A4471604	A4591509
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9656	A02B042	A39081	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES										
75-34-3	1,1-Dichloroethane	5	ug/L	1,200 DJ	ND	ND	110 J	100 J	72 J	40 J	130 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	2,200 DJ	1,000 J	600 J	570	670 J	460 J	470 J	690
71-55-6	1,1,1-Trichloroethane	5	ug/L	87,000 D	44,000	25,000	16,000 D	11,000	6,200	3900 J	9900
79-01-6	Trichloroethene	5	ug/L	30,000 BD	20,000	5,500	4,600	1,600	810	170 J	1200
75-01-4	Vinyl chloride	2	ug/L	NA	NA	NA	NA	ND	ND	ND	ND
	SEMIVOLATILES										
62-53-3	Aniline	5	ug/L	72	11	ND	2 J	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	20	ND	ND	5 BJ	ND	4 J	ND	ND
	METALS										
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	ND	ND	ND	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
"D"= Compound was identified in an analysis at the secondary dilution factor
"B"= The analyte was found in the associated blank, as well as in the sample
** = Dissolved concentration standard

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	RMW-4D	RMW-4D	RMW-4D
			Sampled	11/2/2001	12/6/2001	9/30/2002	11/6/2002	9/19/2003	10/29/2003	5/19/2004	6/23/2004
			Validated					11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A1A87206	A1C13204	A2965604	A2A98403	A3902703	A3A48106	A4471604	A4595304
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9656	A02A984	A39027	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES										
75-34-3	1,1-Dichloroethane	5	ug/L	21	ND	ND	ND	ND	ND	ND	210 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	17,000 D	11,000	30,000	28,000	26,000 J	12,000	11000 J	15000
71-55-6	1,1,1-Trichloroethane	5	ug/L	56	ND	1,300 J	3,300	4,200	2,800	4500 J	1800
79-01-6	Trichloroethene	5	ug/L	250,000 BD	190,000	61,000	58,000	31,000	72,000	29000 J	130000
75-01-4	Vinyl chloride	2	ug/L	NA	NA	NA	NA	780 J	ND	360 J	720 J
	SEMIVOLATILES										
62-53-3	Aniline	5	ug/L	3,300 DE	1,200	680	580	390	2,700	210 J	470
108-95-2	Phenol	1	ug/L	1,000 D	240	36	40	ND	ND	ND	ND
	METALS										
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.026	0.024	ND	ND	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
"E"= Concentration exceeded the calibration range
"D"= Compound was identified in an analysis at the secondary dilution factor
"B"= The analyte was found in the associated blank, as well as in the sample
** = Dissolved concentration standard

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D	MW-10D-DUP	MW-10D
			Sampled	10/1/2002	11/6/2002	9/22/2003	10/29/2003	5/18/2004	5/18/2004	6/22/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/5/2004	8/6/2004
			Lab Sample ID	A2968203	A2A98402	A3908101	A3A48108	A4466004	A4466007	A4591501
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A984	A39081	A3A481	A04-4650	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units							
	VOLATILES									
75-34-3	1,1-Dichloroethane	5	ug/L	14	ND	28 J	46	ND	ND	12 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	1,500 D	2,600	2,700	2,700	2200	2200	1800 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	43	140 J	230	200 J	230	220	53 J
79-01-6	Trichloroethene	5	ug/L	4,300 D	5,400	2,500	3,700	4700	4500	1000 J
75-01-4	Vinyl chloride	2	ug/L	NA	NA	66 J	130	62 J	64 J	66 J
	SEMIVOLATILES									
62-53-3	Aniline	5	ug/L	6 J	ND	ND	51	10 J	10 J	0.8 J
108-95-2	Phenol	1	ug/L	ND	ND	ND	5 J	ND	ND	ND
	METALS									
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	NA	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	ND	NA	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
"D"= Compound was identified in an analysis at the secondary dilution factor
** = Dissolved concentration standard

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-11D	MW-11D	MW-11D	MW-11D	MW-11D	MW-11D
			Sampled	10/1/2002	11/4/2002	9/22/2003	10/29/2003	5/18/2004	6/22/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A2968201	A2A99704	A3908103	A3A48107	A4466001	A4591502
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A997	A39081	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ug/L	2.8 J	3.0	4.5 J	4.5 J	ND	41 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	36	54	66	84	35 J	450
71-55-6	1,1,1-Trichloroethane	5	ug/L	110	110 D	360	130	120	1700 J
79-01-6	Trichloroethene	5	ug/L	15	9.4	29	14	ND	1400 J
75-01-4	Vinyl chloride	2	ug/L	NA	NA	2.6 J	4.2 J	ND	ND
	SEMIVOLATILES								
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	4 J
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	ND	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
"D"= Compound was identified in an analysis at the secondary dilution factor
** = Dissolved concentration standard

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-12D	MW-12D	MW-12D	MW-12D-DUP	MW-12D	MW-12D-DUP	MW-12D	MW-12D	MW-12D-DUP
			Sampled	10/1/2002	11/4/2002	9/19/2003	9/19/2003	10/30/2003	10/30/2003	5/17/2004	6/21/2004	6/21/2004
			Validated			11/23/2003	11/23/2003	11/23/2003	11/23/2003	8/5/2004	8/6/2004	8/6/2004
			Lab Sample ID	A2968204	A2A88702	A3902704	A3902705	A3A53101	A3A53103	A4465005	A4589103	A4589104
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A887	A39027	A39027	A3A531	A3A531	A04-4650	A04-5891	A04-5891
CAS No	Compound	Standard*	Units									
	VOLATILES											
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	ND	ND	ND	ND	ND	ND	3.5 J	5.1 J	5.2 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
75-01-4	Vinyl chloride	2	ug/L	NA	NA	ND	ND	ND	ND	ND	ND	ND
	SEMIVOLATILES											
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	8 J	ND	ND	ND
	METALS											
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	NA	NA	NA	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	ND	ND	NA	NA	NA	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
** = Dissolved concentration standard

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D	MW-13D
			Sampled	10/1/2002	11/6/2002	9/22/2003	10/29/2003	5/19/2004	6/21/2004
			Validated			11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A2968202	A2A98401	A3908106	A3A48111	A4471607	A4589102
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A984	A39081	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ug/L	2.7 J	3.8 J	4.6 J	4 J	3.1 J	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	180	180	180	140	190	520
71-55-6	1,1,1-Trichloroethane	5	ug/L	3.3 J	5.3	3.7 J	3.8 J	2.3 J	ND
79-01-6	Trichloroethene	5	ug/L	38	36	24	20	14 J	33
75-01-4	Vinyl chloride	2	ug/L	NA	NA	120	71	76 J	110
	SEMIVOLATILES								
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND	ND
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	NA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.031	ND	NA	NA	NA	NA

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value
** = Dissolved concentration standard

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-14D	MW-14D	MW-14D-DUP	MW-14D	MW-14D
			Sampled	9/22/2003	10/29/2003	10/29/2003	5/17/2004	6/21/2004
			Validated	11/23/2003	11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A3908102	A3A48102	A3A48103	A4465004	A4589110
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A39081	A3A481	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units					
	VOLATILES							
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	ND	ND	ND	ND	ND
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND	ND	ND	ND
75-01-4	Vinyl chloride	2	ug/L	ND	ND	ND	ND	ND
	SEMIVOLATILES							
62-53-3	Aniline	5	ug/L	6 J	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-15D	MW-15D-DUP	MW-15D	MW-15D	MW-15D
			Sampled	9/23/2003	9/23/2003	10/29/2003	5/19/2004	6/21/2004
			Validated	11/23/2003	11/23/2003	11/23/2003	8/5/2004	8/6/2004
			Lab Sample ID	A3912201	A3912205	A3A48113	A4471608	A4589107
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A39122	A39122	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units					
	VOLATILES							
75-34-3	1,1-Dichloroethane	5	ug/L	220 J	200	250	260 J	150 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	8,100	6,600	6,800	9700 J	7700
71-55-6	1,1,1-Trichloroethane	5	ug/L	980	890	1,300	960 J	530
79-01-6	Trichloroethene	5	ug/L	4,000	3,600	3,900	1400 J	1000
75-01-4	Vinyl chloride	2	ug/L	220 J	210	260	360 J	160 J
	SEMIVOLATILES							
62-53-3	Aniline	5	ug/L	38	20	64	8 J	2 J
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-16D	MW-16D	MW-16D	MW-16-DUP	MW-16D
			Sampled	9/23/2003	10/29/2003	5/18/2004	5/18/2004	6/21/2004
			Validated	11/23/2003	11/23/2003	8/5/2004	8/5/2004	8/6/2004
			Lab Sample ID	A3912202	A3A48112	A4466006	A4466005	A4589101
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A39122	A3A481	A04-4650	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units					
	VOLATILES							
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	650	530	470	440	840
71-55-6	1,1,1-Trichloroethane	5	ug/L	2.3 J	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	20	23 J	12 J	12 J	9.8 J
75-01-4	Vinyl chloride	2	ug/L	30	22 J	15 J	13 J	24 J
	SEMIVOLATILES							
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-17D	MW-17D	MW-17D	MW-17D	MW-17D-DUP
			Sampled	9/22/2003	10/29/2003	5/18/2004	6/22/2004	6/22/2004
			Validated	11/23/2003	11/23/2003	8/5/2004	8/6/2004	8/6/2004
			Lab Sample ID	A3908105	A3A48104	A4466003	A4591503	A4591507
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A39081	A3A481	A04-4650	A04-5891	A04-5891
CAS No.	Compound	Standard*	Units					
	VOLATILES							
75-34-3	1,1-Dichloroethane	5	ug/L	1.9 J	2.3 J	1.1 J	1.6 J	1.2 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	17	40	14	13	9.9 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	21	23	9.6	14	8
79-01-6	Trichloroethene	5	ug/L	ND	1.7 J	1.1 J	18	ND
75-01-4	Vinyl chloride	2	ug/L	3.2 J	5.1	2.4 J	ND	ND
	SEMIVOLATILES							
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND	ND

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-18D	MW-18D
			Sampled	5/18/2004	6/22/2004
			Validated	8/5/2004	8/6/2004
			Lab Sample ID	A4466002	A4591506
			Source	STL Buffalo	STL Buffalo
			SDG	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units		
	VOLATILES				
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	ND	ND
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	3.1 J
75-01-4	Vinyl chloride	2	ug/L	ND	ND
	SEMIVOLATILES				
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value

Table 3

Ekonol Facility
Groundwater Analytical Summary
Bedrock Monitoring Wells
Wheatfield, New York

			Sample ID	MW-19D	MW-19D
			Sampled	5/27/2004	6/21/2004
			Validated	8/5/2004	8/6/2004
			Lab Sample ID	A4507301	A4589108
			Source	STL Buffalo	STL Buffalo
			SDG	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units		
	VOLATILES				
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	4.2 J	9.6 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	1.3 J
75-01-4	Vinyl chloride	2	ug/L	4.6 J	3.1 J
	SEMIVOLATILES				
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND

* = Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value

Table 4
Ekonol Facility
Groundwater Summary Table
Wheatfield, New York

Monitoring Well ID	Top of Well Casing Elevation (Feet)	Depth to Water 5/10/2004 (Feet TOC)	Water Table Elevation 5/10/2004 (Feet)	Depth to Water 6/3/2004 (Feet TOC)	Water Table Elevation 6/3/2004 (Feet)	Depth to Water 7/1/2004 (Feet TOC)	Water Table Elevation 7/1/2004 (Feet)
Shallow							
MW-1S	585.06	3.39	**581.67**	3.69	**581.37**	6.04	**579.02**
MW-2S	585.11	2.13	**582.98**	2.95	**582.16**	3.66	**581.45**
MW-3S	584.83	4.20	**580.63**	4.38	**580.45**	5.78	**579.05**
MW-4S	585.79	5.80	**579.99**	7.62	**578.17**	8.56	**577.23**
MW-5S	585.61	5.68	**579.93**	6.95	**578.66**	7.98	**577.63**
MW-6S	585.64	5.59	**580.05**	7.22	**578.42**	8.16	**577.48**
MW-7S	586.26	5.18	**581.08**	5.68	**580.58**	6.26	**580.00**
MW-8S	585.98	5.33	**580.65**	6.84	**579.14**	7.70	**578.28**
MW-9S	585.66	6.09	**579.57**	7.31	**578.35**	8.36	**577.30**
Deep							
MW-10D	585.47	na	**na**	6.98	**578.49**	8.02	**577.45**
MW-11D	588.42	8.26	**580.16**	10.09	**578.33**	11.06	**577.36**
MW-12D	585.85	6.15	**579.70**	7.35	**578.50**	8.40	**577.45**
MW-13D	587.89	7.85	**580.04**	10.74	**577.15**	11.54	**576.35**
MW-14D	587.70	7.73	**579.97**	9.00	**578.70**	10.06	**577.64**
MW-15D	585.76	6.39	**579.37**	7.95	**577.81**	9.03	**576.73**
MW-16D	586.96	8.57	**578.39**	11.19	**575.77**	12.34	**574.62**
MW-17D	587.31	7.27	**580.04**	8.86	**578.45**	9.87	**577.44**
MW-18D	587.07	-	-	8.40	**578.67**	9.41	**577.66**
MW-19D	585.44	-	-	7.02	**578.42**	7.99	**577.45**
RMW-1D	585.93	5.71	**580.22**	6.93	**579.00**	7.99	**577.94**
RMW-2D	586.14	5.53	**580.61**	6.88	**579.26**	7.93	**578.21**
RMW-3D	586.01	5.85	**580.16**	7.24	**578.77**	8.27	**577.74**
RMW-4D	586.26	5.82	**580.44**	7.16	**579.10**	8.21	**578.05**

MW-18D and MW-19D installed in May 2004.
MW's 1D, 2D, 3D, and 4D were abandoned and replaced.
The RMW series wells are the replacement wells.
- No measurement obtained, date is prior to well installation.

TABLE 5

SUMMARY OF CURRENT EXPOSURE PATHWAYS CONSIDERED FOR HUMAN RECEPTORS

EKONOL POLYESTER RESINS

WHEATFIELD, NEW YORK

Potentially-Exposed Receptor	Exposure Route and Medium	Pathway Potentially Complete	Explanation
CURRENT LAND USE: INDUSTRIAL			
On-site Worker	Inhalation of chemicals volatilized into indoor air from soil on site	No	Intact concrete slabs at grade, underlying clays, and contamination at depth, make it highly unlikely that VOCs from soil are having any significant impact on indoor air
	Inhalation of chemicals volatilized into outdoor air from soil on site	No	Based on site conditions VOCs in soil are not impacting outdoor air at the present time The VOCs in soil do not exceed TAGM 4046 recommended soil cleanup objectives
	Ingestion of chemicals in on-site soil	No	The concentrations of chemicals detected in soil samples did not exceed TAGM 4046 recommended cleanup objectives
	Dermal contact with chemicals in on-site soil	No	The concentrations of chemicals detected in soil samples did not exceed TAGM 4046 recommended cleanup objectives.
	Ingestion of groundwater	No	Groundwater at the site and downgradient is not used as a water source.
	Dermal contact with groundwater.	No	Groundwater at the site and downgradient is not used as a water source
	Inhalation of chemicals volatilized into indoor air from groundwater.	Yes	Groundwater at the site and downgradient is not used as a water source. Intact concrete slabs at grade, underlying clays, and contamination at depth, make it highly unlikely yet possible that VOCs are having an impact on indoor air
On-site Trespasser	Inhalation of chemicals volatilized into indoor air from soil on site.	No	Trespassers do not have access to the buildings on site. Intact concrete slabs at grade, and underlying clays make it unlikely that VOCs are having any significant impact on indoor air.
	Inhalation of chemicals volatilized into outdoor air from soil on site	No	Intact concrete slabs at grade and underlying clays allow for no VOCs impact in outdoor air at the present time
	Ingestion of chemicals in on-site soil	No	The concentrations of chemicals detected in soil samples did not exceed TAGM 4046 recommended cleanup objectives.
	Dermal contact with chemicals in on-site soil.	No	The concentrations of chemicals detected in soil samples did not exceed TAGM 4046 recommended cleanup objectives.
	Ingestion of groundwater.	No	Groundwater at the site and downgradient is not used as a water source.
	Dermal contact with groundwater	No	Groundwater at the site and downgradient is not used as a water source.
	Inhalation of chemicals volatilized into indoor air from groundwater	No	Groundwater at the site and downgradient is not used as a water source. Trespassers do not have access to the buildings on site Intact concrete slabs at grade, and underlying clays make it unlikely that VOCs are having any significant impact on indoor air.
Off-Site Resident	Inhalation of chemicals volatilized into indoor air from soil on site	No	Not relevant for off-site receptors, contamination is primarily around the former storage tank location onsite
	Inhalation of chemicals volatilized into outdoor air from soil on site	No	Not relevant for off-site receptors Contamination is primarily around the former storage tank location onsite and with underlying clays and an intact concrete slab it is unlikely that chemicals will volatilize into the air
	Ingestion of chemicals in on-site soil	No	Not relevant for off-site receptors. Soil impacts primarily around the former containment tank
	Dermal contact with chemicals in on-site soil	No	Not relevant for off-site receptors. Soil impacts primarily around the former containment tank
	Ingestion of groundwater	No	Groundwater at the site and downgradient is not used as a water source.
	Dermal contact with groundwater	No	Groundwater at the site and downgradient is not used as a water source
	Inhalation of chemicals volatilized into indoor air from groundwater	No	Based on current site conditions and data collected to date, it is not likely that the site is impacting shallow groundwater (i.e non-bedrock groundwater) offsite

TABLE 6

SUMMARY OF HYPOTHETICAL FUTURE EXPOSURE PATHWAYS CONSIDERED FOR HUMAN RECEPTORS

EKONOL POLYESTER RESINS

WHEATFIELD, NEW YORK

Potentially-Exposed Receptor	Exposure Route and Medium	Pathway Potentially Complete	Explanation
FUTURE LAND USE - INDUSTRIAL			
Off-Site Resident	Inhalation of chemicals volatilized into indoor air from soil downgradient of the site	No	Soils off-site are not impacted, impacts are near the source. Intact concrete slab and underlying clays make it unlikely for chemical volatilization into indoor air offsite
	Inhalation of chemicals volatilized into outdoor air from soil on site	No	It is highly unlikely that site VOCs transported in groundwater at depth would ever significantly impact outdoor air.
	Ingestion of chemicals in on-site soil.	No	Not relevant for off-site receptors
	Dermal contact with chemicals in on-site soil.	No	Not relevant for off-site receptors
	Ingestion of groundwater.	Yes	It is unlikely (yet possible) that groundwater downgradient of the site would ever be used as a domestic water source.
	Dermal contact with groundwater	Yes	It is unlikely (yet possible) that groundwater downgradient of the site would ever be used as a domestic water source.
	Inhalation of chemicals volatilized into indoor air from groundwater	Yes	Based on site conditions and data collected to date it is unlikely that groundwater downgradient of the site would impact indoor air.
Excavation Worker	Inhalation of chemicals volatilized into indoor air from soil on site	No	The excavation worker would be a temporary worker working outside only
	Inhalation of chemicals volatilized into outdoor air from soil on site.	No	It is highly unlikely that site VOCs transported in groundwater at depth would ever significantly impact outdoor air. Also, the VOCs in soil do not exceed TAGM 4046 recommended soil cleanup objectives
	Ingestion of chemicals in on-site soil	Yes	Incidental ingestion of chemicals present in soil during excavation activities is possible
	Dermal contact with chemicals in on site soil	Yes	Dermal contact with chemicals present in soil during excavation activities is possible
	Ingestion of groundwater	No	An excavation worker would have no opportunity to ingest groundwater
	Dermal contact with groundwater	Yes	Excavation activities may temporarily expose groundwater, incidental dermal contact is possible
	Inhalation of chemicals volatilized into indoor air from groundwater	No	Not a plausible exposure pathway for an on-site excavation worker.
On-site Worker	Inhalation of chemicals volatilized into indoor air from soil on site	No	Soils impacts are near the source. Intact concrete slab and underlying clays make it unlikely for chemical volatilization into indoor air
	Inhalation of chemicals volatilized into outdoor air from soil on site	No	On-site worker would be working indoors and have limited outdoor potential for exposure
	Ingestion of chemicals in on-site soil	No	Not a plausible exposure pathway for the onsite worker.
	Dermal contact with chemicals in on-site soil.	No	Not a plausible exposure pathway for the onsite worker. Intact concrete slab flooring limits the potential for exposure
	Ingestion of groundwater.	No	Worker would not be exposed to groundwater.
	Dermal contact with groundwater.	No	Worker would not be exposed to groundwater.
	Inhalation of chemicals volatilized into indoor air from groundwater	Yes	Not a likely exposure pathway based on site conditions, but still possible.

TABLE 7
SUMMARY OF PATHWAYS CONSIDERED FOR ECOLOGICAL RECEPTORS
EKONOL POLYESTER RESINS
WHEATFIELD, NEW YORK

Potentially-Exposed Receptor	Exposure Route and Medium	Pathway Potentially Complete	Explanation
LAND USE: INDUSTRIAL			
Terrestrial	Inhalation of chemicals volatilized into indoor a from soil on site	No	Not relevant for ecological receptors
	Inhalation of chemicals volatilized into outdoor from soil on site	No	Based on site conditions, VOCs are not impacting outdoor air at the present time The VOCs in soil do not exceed TAGM 4046 recommended soil cleanup objectives.
	Ingestion of chemicals in on-site soil.	No	The concentrations of chemicals detected in soil samples did not exceed TAGM 4046 recommended cleanup objectives
	Dermal contact with chemicals in on-site soil.	No	The concentrations of chemicals detected in soil samples did not exceed TAGM 4046 recommended cleanup objectives
	Ingestion of groundwater	No	Not relevant for ecological receptors.
	Dermal contact with groundwater	No	Not relevant for ecological receptors.
	Inhalation of chemicals volatilized into indoor air from groundwater.	No	Not relevant for ecological receptors.
Aquatic	All exposure routes and media	No	There are no aquatic receptors

TABLE 8
EKONOL, WHEATFIELD, NEW YORK
ESTIMATED POPULATION WITHIN ONE MILE[1]

Tract	Block	Area Fraction	Total Block Population	Adjusted Population
227.11	1001	0.01	58	1
	1002	0.10	49	5
	1003	1.00	21	21
	1004	1.00	23	23
	1005	1.00	28	28
	1006	0.95	42	40
	1007	0.30	0	0
	1011	0.50	39	20
	1013	1.00	55	55
	1014	0.15	21	3
	1016	0.05	61	3
	1017	0.30	87	26
	1019	0.20	34	7
	1020	1.00	8	8
	1021	1.00	10	10
227.11	2008	0.05	137	7
	2014	0.25	7	2
	2015	0.50	27	14
	2016	1.00	2	2
	2017	1.00	8	8
	2018	1.00	0	0
	2019	0.20	11	2
	2020	0.80	15	12
	2021	1.00	0	0
	2022	1.00	0	0
	2023	1.00	0	0
	2024	1.00	0	0
	2025	1.00	0	0
	2026	1.00	0	0
	2027	1.00	0	0
	2028	1.00	0	0
	2029	1.00	0	0
	2030	1.00	0	0
	2031	1.00	0	0
	2032	1.00	0	0
	2033	1.00	0	0
	2034	1.00	0	0
	2035	1.00	37	37
	2036	1.00	1	1
	2037	1.00	0	0
	2038	1.00	16	16
	2039	0.30	298	89

Tract	Block	Area Fraction	Total Block Population	Adjusted Population
227.12	8010	0.05	134	7
	8011	0.60	17	10
	8013	1.00	17	17
	8014	1.00	0	0
	8015	1.00	0	0
	8016	0.75	18	14
	8017	1.00	29	29
	8018	1.00	4	4
	8019	1.00	0	0
	8020	1.00	21	21
	8021	0.80	21	17
	8022	0.30	141	42
	8024	0.05	11	1
	8026	0.10	0	0
226.02	9008	0.20	212	42

TOTAL ESTIMATED POPULATION WITHIN 1 MILE OF SITE = 642

1) Based on U.S. Census Tract data. The area fractions were estimated visually.

REFERENCES

Aerial Photographs (1951, 1958, 1966, 1977), Niagara County Soil and Water Conservation District. Lockport, New York.

Ecology and Environment, Inc., Final 1999 Sampling/Monitoring Report, Installation-Wide Groundwater Monitoring Project; Niagara Falls IAP-ARS, Niagara Falls, New York; April 2000.

Environmental Data Resources, Inc. (EDR), The EDR-Radius Map with Geocheck® and Historical Topographic Map Report for the Ekonol Polyester Resins Facility, Wheatfield, New York. Inquiry Numbers: 518284.1s and 518284-4. July 2000.

Frontier Technical Associates, Inc., Draft Closure Plan for Underground Spill Collection and Secondary Containment Tank at Norton Performance Plastics Corp. Ekonol Plant, Wheatfield, New York. May 25, 1999.

Frontier Technical Associates, Inc., Tank Closure Report for Underground Spill Collection and Secondary Containment Tank at the Ekonol Facility, St.-Gobain Performance Plastics, Wheatfield, New York. August 2000.

Golder Associates, Final Report, RCRA Facility Investigation Neutralization Pond, Bell Aerospace Textron-Wheatfield Plant. June 1991.

Golder Associates, Annual Summary and System Performance, Off-site and On-site Groundwater Extraction Systems, Former Textron, Inc., Wheatfield, New York Facility. March 2001.

Parsons, Work Plan for a Site Investigation at the Ekonol Polyester Resin Facility, Wheatfield, New York. August 2000.

Parsons, Data Summary Report for Phase II Site Characterization at Ekonol Polyester Resins, Wheatfield, New York. March 2003.

Parsons, Work Plan for Phase III Investigation at the Ekonol Polyester Resins, Wheatfield, New York. August 2003.

Parsons, Report for Phase III Site Characterization at Ekonol Polyester Resins, Wheatfield, New York. January 2004.

Saint-Gobain employees, Personal Communication (6/02 – 7/02).

Shacklette and Boerngen. USGS Professional Paper 1270. Element Concentrations in Soils and Other Surficial Materials of the Conterminous US. 1984.

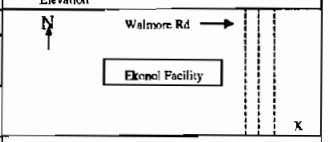
Town of Wheatfield Tax Accessor's Department, Tax Map Number 147.00, Town of Wheatfield, Niagara County, New York, March 1998.

ATTACHMENT A
DRILLING RECORDS

PARSONS
DRILLING RECORD

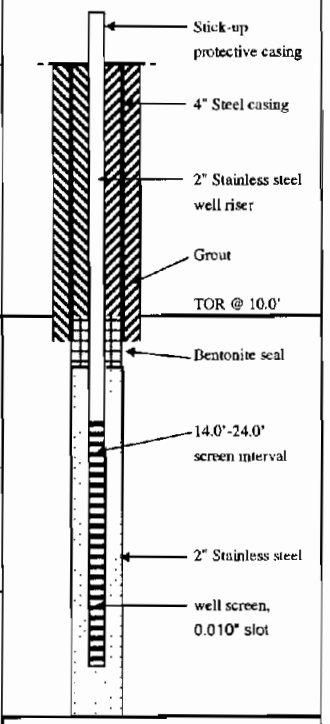
BORING NO. MW-18D

Contractor	SJB Services, Inc
Driller	Dale and Matthew Mathies
Inspector	Sara Chmara / Jeff Poulsen
Rig Type	ATV Drill Rig CME-55
Method	6.25" HSA/5.875" Roller Cone/HQ Coring
PROJECT NAME	Ekonol Facility
PROJECT NUMBER	737515/441237
Location	East of Ekonol Facility and Walmore Road
Elevation	
Weather	Sun 75 F
Date/Time Start Coring	05/11/04 1000
Date/Time Finish Coring	05/11/04 1445



HQ Core Run	Range	Depth	Rec. (%)	RQD (%)	FIELD IDENTIFICATION OF MATERIAL
		0			
		1			
		2			
		3			Description of overburden material is consistent with other well locations.
		4			
		5			
		6			
		7			
		8			
		9			
		10			
#1	11.00'-16.00'	11	100	22	
		12			grey dolomite, crystals in fracture, some mineralization
		13			
		14			grey dolomite, porous, some mineralization , vugging through out
		15			
		16			
#2	16.00'-21.00'	17	100	70	very broken zone, grey/dark grey dolomite, vugs through out, some stylliolitic horizons, some mineralization.
		18			
		19			grey to light grey dolomite, some stylliohtic horizons, some mineralization to break/end of run.
		20			
		21			
#3	21.00'-26.00'	22	100	99	grey/light grey dolomite, some stylliolitic horizons, some mineralization
		23			
		24			light grey/grey dolomite, more abundant stylliolitic horizons. vugs through out, mineralization, porous,
		25			lost circulation at 25.0' bgs.
		26			
		27			
		28			
		29			
		30			
		31			
		32			
		33			
		34			

WELL CONSTRUCTION DIAGRAM



STANDARD PENETRATION

TOR- TOP OF ROCK

SUMMARY: TOR was determined at HSA auger refusal

PARSONS
DRILLING RECORD

BORING NO. MW-19D

Contractor	SJB Services, Inc.
Driller	Dale and Matthew Mathes
Inspector	SMC/JSP
Rig Type	ATV Drill Rig CME-55
Method	6.25" HSA/5.875" Roller Cone/HQ Coring
PROJECT NAME	Ekonol Facility
PROJECT NUMBER	737515/441237
Location	South of St Gobain facility in parking
Elevation	
Weather	Sun 75 F
Date/Time Start Coring	05/25/04 1135
Date/Time Finish Coring	05/26/04 1030

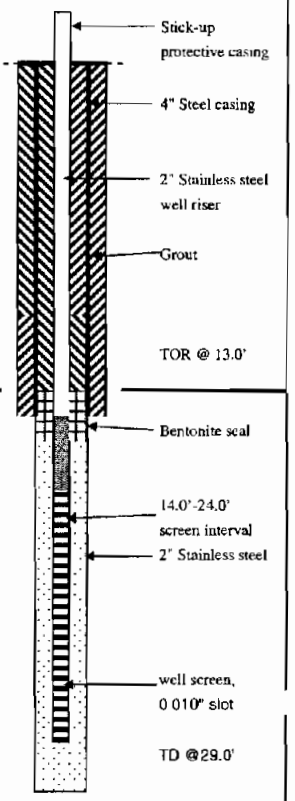
N — Walmore Rd. →

Ekonol Facility

X

HQ Core Run	Range	Depth	Rec. (%)	RQD (%)	FIELD IDENTIFICATION OF MATERIAL
		0			
		1			
		2			Description of overburden material is consistent with other well locations.
		3			
		4			
		5			
		6			
		7			
		8			
		9			
		10			
		11			
		12			
		13			
		14			
		15			grey/light grey dolomite, many clay seems/stylliolitic horizons, vertical fracture at 15.2'
#1	14.0'-19.0'	16	100.0	64.0	
		17			
		18			grey/light grey dolomite, fewer stylliolitic horizons to break.
		19			
		20			grey/light grey dolomite, little mineralization
#2	19.0'-24.0'	21	90.0	68.0	
		22			grey/light grey dolomite, mineralization, some stylliolitic horizons, dolomite mineral band deposits
		23			little to no vugging, lost circulation at 23.0'
		24			
		25			
#3	24.0'-29.45'	26	92.0	92.0	grey/light grey dolomite, some vugging, few stylliolitic horizons to break
		27			
		28			grey/light grey dolomite, some mineralization to break
		29			grey/light grey dolomite, few stylliolitic horizons to break/end of run.
		30			
		31			
		32			
		33			
		34			

WELL CONSTRUCTION DIAGRAM



STANDARD PENETRATION

TOR= TOP OF ROCK

SUMMARY: TOR was determined at HSA auger refusal.

ATTACHMENT B
PACKER TEST RESULTS

Formula

$$K = \frac{Q}{2(pi)LH} \text{ Log e } \frac{L}{r} \qquad L>=10r$$

K = Permeability
Q = Constant rate of flow (cm/s)
L = Length of test section (cm)
H = Differential Head of water (cm)
r = Radius of hole (cm)
log e = Natural logarithm

Test Zone 1 - 11 to 16 feet

All Test L = 5' = 152.4 cm
r = 1.89" = 0.157' = 4.80 cm

MW-18D Q = 1 gpm 63 cm3/s
Test 1 H = 3.33 feet 101.5 cm

$$K = \frac{63}{(2)(pi)(152.4)H} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{174.12}{(957)(H)}$$

K = 0.001791515 cm/s = 1.79×10^{-2} cm/sec

Q = 0.00 cm3/s
Test 2 H = 0.00 cm

$$K = \frac{189.24}{(957)(H)} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{523.03}{(957)(H)}$$

K = #DIV/0! cm/s =

Q = 0.00 cm3/s
Test 3 H = 0.00 cm

$$K = \frac{0}{957.5574H} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{0.00}{957.5574H}$$

K = #DIV/0! cm/s =

Formula

$$K = \frac{Q}{2(pi)LH} \text{ Log e } \frac{L}{r} \qquad L>=10r$$

K = Permeability
Q = Constant rate of flow (cm/s)
L = Length of test section (cm)
H = Differential Head of water (cm)
r = Radius of hole (cm)
log e = Natural logarithm

Test Zone 2 - 16 to 21 feet

All Test
L = 5' = 152.4 cm
r = 1.89" = 0.157' = 4.80 cm

MW-18D
Q = 1 gpm 63 cm3/s
Test 1 H = 2.73 feet 83.14 cm

$$K = \frac{63}{(2)(pi)(152.4)H} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{174.12}{(957)(H)}$$

K = 0.00218714 cm/s = 2.19×10^{-3} cm/sec

Q = 132.47 cm3/s
Test 2 H = 219.00 cm

$$K = \frac{189.24}{(957)(H)} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{523.03}{(957)(H)}$$

K = 0.002494106 cm/s = 2.49×10^{-2} cm/sec

Q = 220.50 cm3/s
Test 3 H = 465.86 cm

$$K = \frac{220.5}{957.5574H} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{762.47}{957.5574H}$$

K = 0.00170923 cm/s = 1.62×10^{-3} cm/s

Formula

$$K = \frac{Q}{2(pi)LH} \text{ Log e } \frac{L}{r} \qquad L>=10r$$

K = Permeability
Q = Constant rate of flow (cm/s)
L = Length of test section (cm)
H = Differential Head of water (cm)
r = Radius of hole (cm)
log e = Natural logarithm

Test Zone 3 - 21 to 26 feet

All Test L = 5' = 152.4 cm
r = 1.89" = 0.157' = 4.80 cm

MW-18D
Q = 0.9 gpm 56.7 cm3/s
Test 1 H = 0.89 feet 27.25 cm

$$K = \frac{56.7}{(2)(pi)(152.4)H} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{156.71}{(957)(H)}$$

K = 0.006005686 cm/s = 6.01×10^{-3} cm/sec

Q = 132.47 cm3/s
Test 2 H = 22.35 cm

$$K = \frac{189.24}{(957)(H)} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{523.03}{(957)(H)}$$

K = 0.02443889 cm/s = 2.44×10^{-2} cm/sec

Q = 189.00 cm3/s
Test 3 H = 40.68 cm

$$K = \frac{189}{957.5574H} \text{ Log e } \frac{152.4}{4.80}$$

$$K = \frac{653.54}{957.5574H}$$

K = 0.01677751 cm/s = 1.67×10^{-2} cm/s

ATTACHMENT C
GROUNDWATER SAMPLING RECORDS

Supplemental Phase III

May 2004

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *RMW-2D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	30.10	feet
Initial Static Water Level (TOC)	6.00	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1445*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 30.10 - 6.00 x 0.16
3.9 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1605*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.15*	*7.17*	*7.16*	*7.15*
Temp. (C)	*12.73*	*12.72*	*12.79*	*12.8*
Spec. Cond. (mS/cm)	*3.14*	*3.13*	*3.14*	*3.12*
Turbidity (NTU)	*-*	*-*	*< 50 vis*	*< 50 vis*
Dissolved Oxygen (DO)	*0.38*	*0.34*	*0.32*	*0.4*
ORP	*-245*	*-243*	*-246*	*-246*
Nitrate (mg/L)	*-*	*-*	*-*	*0.0*
Ferrous Iron (mg/L)	*-*	*-*	*-*	*0.0*
Sulfate (mg/L)	*-*	*-*	*-*	*260*

Comments: *Water was clear with chemical odor and spotty sheen*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *RMW-3D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	26.82	feet
Initial Static Water Level (TOC)	6.32	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1425*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *26.82* - *6.32* x *0.16*
3.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10.5* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1545*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.46*	*8.40*	*8.40*	*8.40*
Temp. (C)	*12.3*	*12.5*	*12.3*	*12.3*
Spec. Cond. (mS/cm)	*3.06*	*3.06*	*3.11*	*3.09*
Turbidity (NTU)	*124*	*1.4*	*0*	*3*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*-238*	*-246*	*-246*	*-250*
Nitrate (mg/L)	-	-	-	*0.00*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*220*

Comments: *Water was clear with a sulfuric odor*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-1S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	14.76	feet
Initial Static Water Level (TOC)	3.46	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1030*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 14.76 - 3.46 x 0.16
1.8 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *6* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1100*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.36*	*7.41*	-	*7.46*
Temp. (C)	*10.53*	*10.94*	-	*11.34*
Spec. Cond. (mS/cm)	*3.81*	*3.63*	-	*3.42*
Turbidity (NTU)	*134*	*89.1*	-	*<50 vis*
Dissolved Oxygen (DO)	*1.47*	*0.55*	-	*6.49*
ORP	*2.4*	*2.3*	-	*2.2*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0*
Sulfate (mg/L)	-	-	-	*240 D*

Comments: *well dry after 2 volumes - let recharge, remove third volume, collected sample.*
**Sudan IV test negative*
Sulfate was analyzed under dilution.

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-2S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	12.15	feet
Initial Static Water Level (TOC)	1.4	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1200*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 12.15 - 1.4 x 0.16
1.7 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *5* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1240*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.99*	*7.79*	*7.73*	*7.69*
Temp. (C)	*12.3*	*11.6*	*11.8*	*11.8*
Spec. Cond. (mS/cm)	*5.3*	*5.28*	*5.2*	*5.23*
Turbidity (NTU)	*3.2*	*2.9*	*16.5*	*26.8*
Dissolved Oxygen (DO)	*0.75*	*0.59*	*4.79*	*4.7*
ORP	*-151*	*-151*	*-137*	*-140*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*4.2*
Sulfate (mg/L)	-	-	-	*96*

Comments: *Water was clear, little sheen, chemical/sulfuric odor, well dry, will let recharge before sampling.*
**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-3S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	12.02	feet
Initial Static Water Level (TOC)	4.1	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 0900*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *12.02* - *4.1* x *0.16*
1.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *4* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 0930*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.98*	*7.02*	*7.29*	*7.31*
Temp. (C)	*11.2*	*10.9*	*11.1*	*11.3*
Spec. Cond. (mS/cm)	*33.1*	*34.1*	*45.6*	*38.7*
Turbidity (NTU)	*21.1*	*0*	*4.8*	*3.8*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*75*	*66*	*37*	*20*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*228*

Comments: *Water is clear, no odors, no sheen, went dry after 3 volumes, let recharge and sampled.*
**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-4S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	12.80	feet
Initial Static Water Level (TOC)	6.41	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1100*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 12.80 - 6.41 x 0.16
1.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *3* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1130*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.72*	*7.78*	*7.89*	*7.89*
Temp. (C)	*12*	*12.1*	*12.1*	*12.1*
Spec. Cond. (mS/cm)	*6.47*	*6.23*	*5.81*	*5.4*
Turbidity (NTU)	*5*	*0.5*	*2*	*0*
Dissolved Oxygen (DO)	*0*	*0.9*	*0*	*1.31*
ORP	*-68*	*-107*	*-145*	*-145*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*168*

Comments: *Water is clear, no odors*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

PARSONS

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-5S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	14.41	feet
Initial Static Water Level (TOC)	6.45	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1430*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *14.41* - *6.45* x *0.16*
1.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1530*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.17*	*7.17*	*7.17*	*7.16*
Temp. (C)	*11.03*	*11.25*	*11.45*	*11.8*
Spec. Cond. (mS/cm)	*3.72*	*3.31*	*3.21*	*3.21*
Turbidity (NTU)	*> 50*	*> 50*	*< 50 vis*	*< 50 vis*
Dissolved Oxygen (DO)	*0.41*	*0.37*	*0.36*	*0.35*
ORP	*-130*	*-123*	*-124*	*-122*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.8*
Sulfate (mg/L)	-	-	-	*177*

Comments: *Turbidity not working on Horriba, measurements are based on visual observations.*
**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-6S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	13.94	feet
Initial Static Water Level (TOC)	6.5	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1315*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *13.94* - *6.5* x *0.16*
1.2 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *3.6* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1400*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.73*	*7.04*	*7.07*	*7.12*
Temp. (C)	*11.6*	*11.5*	*11.7*	*11.7*
Spec. Cond. (mS/cm)	*5.51*	*5.48*	*5.27*	*5.32*
Turbidity (NTU)	*103*	*21*	*23*	*10.7*
Dissolved Oxygen (DO)	*0.77*	*0.52*	*0*	*-10.00*
ORP	*-18*	*26*	*0*	*0*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.4*
Sulfate (mg/L)	-	-	-	*240*

Comments: *Water was clear, no odor or sheen, went dry while starting to sample, let recharge before filling sample bottles*
**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-7S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	12.48	feet
Initial Static Water Level (TOC)	5.28	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1540*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 12.48 - 5.28 x 0.16
1.2 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *3.5* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1615*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.10*	*8.24*	*7.66*	*7.51*
Temp. (C)	*12*	*11.9*	*12.1*	*12.2*
Spec. Cond. (mS/cm)	*4.58*	*4.57*	*4.57*	*4.57*
Turbidity (NTU)	*9.4*	*10.9*	*25.2*	*24.8*
Dissolved Oxygen (DO)	*1.57*	*0.19*	*0.25*	*0.2*
ORP	*62*	*-4*	*47*	*49*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*288*

Comments: *Water is clear to cloudy, slight sulfur odor, had to replace tubing in well*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

PARSONS

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-8S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	13.52	feet
Initial Static Water Level (TOC)	6.21	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1445*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *13.52* - *6.21* x *0.16*
1.2 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *3.5* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1525*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*11.99*	*11.38*	*10.61*	*10.20*
Temp. (C)	*12.1*	*12.1*	*12.5*	*12.7*
Spec. Cond. (mS/cm)	*7.35*	*6.88*	*6.89*	*6.93*
Turbidity (NTU)	*519*	*147*	*92.9*	*90*
Dissolved Oxygen (DO)	*5.83*	*2.04*	*0.002*	*0.0*
ORP	*-134*	*-117*	*-103*	*-96*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*268*

Comments: *cloudy (white sediment), no odors*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-9S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	14.40	feet
Initial Static Water Level (TOC)	6.4	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1400*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 14.40 - 6.4 x 0.16
1.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *3.6* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1525*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.26*	*7.19*	*7.17*	*7.18*
Temp. (C)	*11.7*	*11.6*	*12.1*	*12.3*
Spec. Cond. (mS/cm)	*5.01*	*4.59*	*5.60*	*5.86*
Turbidity (NTU)	*124*	*29.4*	*27.9*	*30.3*
Dissolved Oxygen (DO)	*0.09*	*1.11*	*0.47*	*1.28*
ORP	*-1*	*-7*	*-27*	*-34*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*1.2*
Sulfate (mg/L)	-	-	-	*216*

Comments: *cloudy to clear, no odors*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *RMW-1D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	31.61	feet
Initial Static Water Level (TOC)	6.65	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1300*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *31.61* - *6.65* x *0.16*
4.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1345*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.40*	*7.19*	*7.22*	*7.21*
Temp. (C)	*12.68*	*11.87*	*11.8*	*11.8*
Spec. Cond. (mS/cm)	*0.01*	*3.14*	*2.90*	*2.87*
Turbidity (NTU)	*150*	*86.5*	*168*	*160*
Dissolved Oxygen (DO)	*1.38*	*0.42*	*0.37*	*0.4*
ORP	*253*	*-303*	*-307*	*-309*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.4*
Sulfate (mg/L)	-	-	-	*117*

Comments:

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *RMW-4D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	29.00	feet
Initial Static Water Level (TOC)	6.25	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1355*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *29.00* - *6.25* x *0.16*
3.6 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1500*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.14*	*7.13*	*7.12*	*7.12*
Temp. (C)	*13.0*	*13.1*	*13.2*	*13.1*
Spec. Cond. (mS/cm)	*3.33*	*3.35*	*3.34*	*3.33*
Turbidity (NTU)	-	-	-	*< 50 vis*
Dissolved Oxygen (DO)	*0.39*	*0.39*	*0.36*	*0.3*
ORP	*-284*	*-281*	*-280*	*-279*
Nitrate (mg/L)	-	-	-	*0.00*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*232*

Comments: *clear*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-10D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	30.79	feet
Initial Static Water Level (TOC)	2.60	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1150*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 30.79 - 2.60 x 0.16
4.5 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1345*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.03*	*7.07*	*7.08*	*7.09*
Temp. (C)	*13.8*	*13.8*	*13.8*	*13.8*
Spec. Cond. (mS/cm)	*2.86*	*2.86*	*2.84*	*2.85*
Turbidity (NTU)	-	-	*12.5*	*< 50 vis*
Dissolved Oxygen (DO)	*0.67*	*0.4*	*0.41*	*0.3*
ORP	*-268*	*-271*	*-269*	*-268*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.8*
Sulfate (mg/L)	-	-	-	*200*

Comments: *Water was clear with sulfur odor. Duplicate sample collected (MW-Dup 1)*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-11D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	30.71	feet
Initial Static Water Level (TOC)	9.38	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 0948*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 30.71 - 9.38 x 0.16
3.4 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10.2* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1020*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	1 Volume	2 Volume	3 Volume	Sample
pH	8.49	8.50	8.50	8.50
Temp. (C)	11.7	11.6	11.7	11.6
Spec. Cond. (mS/cm)	2.90	2.88	2.85	2.83
Turbidity (NTU)	19	20.9	33	43
Dissolved Oxygen (DO)	0.008	0.2	0	0.0
ORP	-263	-272	-275	-276
Nitrate (mg/L)	-	-	-	0.0
Ferrous Iron (mg/L)	-	-	-	0.0
Sulfate (mg/L)	-	-	-	200

Comments: *Water was clear with sulfur odor, MS and MSD quantity collected from this location*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

PARSONS

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-12D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	32.00	feet
Initial Static Water Level (TOC)	7.10	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1045*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot

= 32.00 - 7.10 x 0.16

4.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *12* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *10-30-03 / 0920*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.39*	*8.34*	*8.35*	*8.36*
Temp. (C)	*15.2*	*15.2*	*15.0*	*15.1*
Spec. Cond. (mS/cm)	*2.77*	*2.83*	*2.84*	*2.84*
Turbidity (NTU)	*22.7*	*139*	*31.4*	*13.3*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*-332*	*-339*	*-340*	*-341*
Nitrate (mg/L)	-	-	-	*7.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*240*

Comments: *Water was clear with sulfur odor.*

**Sulfate was analyzed under dilution.*

Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-13D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	31.70	feet
Initial Static Water Level (TOC)	8.74	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 0930*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *31.70* - *8.74* x *0.16*
3.7 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1100*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.02*	*7.10*	*7.11*	*7.11*
Temp. (C)	*10.8*	*10.9*	*11.0*	*10.8*
Spec. Cond. (mS/cm)	*4.80*	*4.78*	*4.78*	*4.71*
Turbidity (NTU)	-	-	-	*< 50 vis*
Dissolved Oxygen (DO)	*2.4*	*0.37*	*0.3*	*0.3*
ORP	*-201*	*-221*	*-227*	*-234*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*232*

Comments: *Water was clear with sulfur odor, MS and MSD quantity collected*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-14D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	32.25	feet
Initial Static Water Level (TOC)	4.80	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1530*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *32.25* - *4.80* x *0.16*
4.4 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-17-04 / 1625*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.15*	*7.13*	*7.12*	*7.12*
Temp. (C)	*10.7*	*10.7*	*10.8*	*10.8*
Spec. Cond. (mS/cm)	*3.08*	*3.13*	*3.14*	*3.14*
Turbidity (NTU)	-	-	-	*< 50 vis*
Dissolved Oxygen (DO)	*4.1*	*0.4*	*0.3*	*0.3*
ORP	*-278*	*-287*	*-287*	*-289*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*4.0*
Sulfate (mg/L)	-	-	-	*222*

Comments: *Water is clear*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-15D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	29.30	feet
Initial Static Water Level (TOC)	6.70	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1115*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *29.30* - *6.70* x *0.16*
3.6 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-19-04 / 1215*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.03*	*7.00*	*6.99*	*6.99*
Temp. (C)	*13.6*	*13.7*	*13.7*	*13.9*
Spec. Cond. (mS/cm)	*3.13*	*3.13*	*3.11*	*3.09*
Turbidity (NTU)	*30.6*	*12.9*	*50.9*	*59.7*
Dissolved Oxygen (DO)	*0.5*	*0.3*	*0.3*	*0.3*
ORP	*-171*	*-185*	*-183*	*-180*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.6*
Sulfate (mg/L)	-	-	-	*180*

Comments: *clear*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-16D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	31.70	feet
Initial Static Water Level (TOC)	9.13	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1415*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 31.70 - 9.13 x 0.16
3.6 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1510*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	1 Volume	2 Volume	3 Volume	Sample
pH	7.19	7.18	7.16	7.16
Temp. (C)	7.0	11.1	10.9	11.0
Spec. Cond. (mS/cm)	3.38	3.35	3.31	3.36
Turbidity (NTU)	4.46	38.7	-	< 50 vis
Dissolved Oxygen (DO)	7.70	5.21	-	0.42
ORP	-104	-77	-69	-190
Nitrate (mg/L)	-	-	-	1.0
Ferrous Iron (mg/L)	-	-	-	0.8
Sulfate (mg/L)	-	-	-	136

Comments: *Water was clear with sulfur odor, Duplicate sample collected from this location (MW-DUP-2)*
**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-17D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	33.25	feet
Initial Static Water Level (TOC)	8.01	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1140*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 33.25 - 8.01 x 0.16
4.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *12* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1330*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.33*	*8.35*	*8.36*	*8.34*
Temp. (C)	*11.5*	*11.5*	*11.4*	*11.4*
Spec. Cond. (mS/cm)	*2.77*	*2.74*	*270.00*	*2.78*
Turbidity (NTU)	*10.4*	*97.3*	*81.7*	*37.7*
Dissolved Oxygen (DO)	*0.00*	*0.00*	*0.00*	*0.00*
ORP	*-250*	*-255*	*-258*	*-259*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.3*
Sulfate (mg/L)	-	-	-	*385*

Comments: *Water was clear, sulfur odor*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-18D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	28.44	feet
Initial Static Water Level (TOC)	6.64	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1000*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 28.44 - 6.64 x 0.16
3.5 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *20* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-18-04 / 1120*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.04*	*7.15*	*7.17*	*7.18*
Temp. (C)	*10.5*	*10.4*	*10.4*	*10.5*
Spec. Cond. (mS/cm)	*2.88*	*2.89*	*2.89*	*2.89*
Turbidity (NTU)	-	*34*	*56.6*	*47.3*
Dissolved Oxygen (DO)	*1.15*	*0.30*	*0.28*	*0.32*
ORP	*-168*	*-188*	*-200*	*-250*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.4*
Sulfate (mg/L)	-	-	-	*40**

Comments: *Water was clear.*

**Sulfate was analyzed under dilution.*
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 737515/441237* Well ID *MW-19D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	27.00	feet
Initial Static Water Level (TOC)	6.20	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *05-27-04 / 1517*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot

= *27.00* - *6.20* x *0.16*

3.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *05-27-04 / 1630*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.63*	*7.40*	-	*7.37*
Temp. (C)	*15.8*	*15.8*	-	*15.6*
Spec. Cond. (mS/cm)	*4.68*	*4.93*	-	*4.98*
Turbidity (NTU)	*223*	*86.8*	-	*45*
Dissolved Oxygen (DO)	*0.04*	*0.01*	-	*0.07*
ORP	*3*	*2*	-	*3*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.8*
Sulfate (mg/L)	-	-	-	*126*

Comments: *Water was clear, no odors, no sheen.*

**Sulfate was analyzed under dilution.*

Sudan IV test possible positive

PARSONS

Supplemental Phase III

June 2004

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-1S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	14.76	feet
Initial Static Water Level (TOC)	4	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1000*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 14.76 - 4 x 0.16
2.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *12* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1040*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.00*	*8.19*	*8.11*	*8.27*
Temp. (C)	*12.65*	*13.35*	*14.18*	*14.2*
Spec. Cond. (mS/cm)	*4.18*	*4.29*	*4.27*	*4.47*
Turbidity (NTU)	*24.6*	*25.5*	*22.4*	*22.1*
Dissolved Oxygen (DO)	*0.26*	*-*	*3.96*	*2.99*
ORP	*-97*	*-141*	*-124*	*-100*
Nitrate (mg/L)	*-*	*-*	*-*	*0.0*
Ferrous Iron (mg/L)	*-*	*-*	*-*	*0*
Sulfate (mg/L)	*-*	*-*	*-*	*> 70*

Comments: *Water is clear*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-2S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	12.5	feet
Initial Static Water Level (TOC)	3.3	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1015*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 12.50 - 3.3 x 0.16
1.5 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *8* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1100*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.87*	*7.07*	-	*7.73*
Temp. (C)	*13.74*	*19.41*	-	*15.51*
Spec. Cond. (mS/cm)	*5.15*	*5.11*	-	*5.46*
Turbidity (NTU)	*73.2*	*23.1*	-	*91.6*
Dissolved Oxygen (DO)	*2.64*	*7.13*	-	*6.37*
ORP	*-127*	*-120*	-	*-70*
Nitrate (mg/L)	-	-	-	-
Ferrous Iron (mg/L)	-	-	-	-
Sulfate (mg/L)	-	-	-	-

Comments: *Water was clear, well dry 5 gallons*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-3S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	12.1	feet
Initial Static Water Level (TOC)	5.7	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1335*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *12.10* - *5.7* x *0.16*
1.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *3* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1530*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.8*	*6.92*	-	*6.8*
Temp. (C)	*14.49*	*15.79*	-	*14.31*
Spec. Cond. (mS/cm)	*20.7*	*21.3*	-	*21.9*
Turbidity (NTU)	*57.7*	*27*	-	*19.3*
Dissolved Oxygen (DO)	*1.12*	*3.89*	-	*0.0*
ORP	*50*	*53*	-	*-76*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water is clear, slight sulfuric odor, dry at 2.0 gallons - let recharge before collecting sample.*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-4S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	12.50	feet
Initial Static Water Level (TOC)	8.41	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 0950*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *12.50* - *8.41* x *0.16*
0.7 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *2* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1020*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	1 Volume	2 Volume	3 Volume	Sample
pH	7.59	7.54	7.49	7.53
Temp. (C)	13.91	13.93	13.82	13.9
Spec. Cond. (mS/cm)	7.8	7.65	7.69	7.66
Turbidity (NTU)	89.7	21.5	8.4	6.1
Dissolved Oxygen (DO)	0	0	0	0.00
ORP	-42	-31	-24	-62
Nitrate (mg/L)	-	-	-	0.0
Ferrous Iron (mg/L)	-	-	-	0.0
Sulfate (mg/L)	-	-	-	> 70

Comments: *Water is clear, no sheen, sulfuric odor*

PARSONS

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-5S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	15.10	feet
Initial Static Water Level (TOC)	7.82	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1545*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *15.10* - *7.82* x *0.16*
1.2 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *12* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1620*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.10*	*7.85*	*7.83*	*7.83*
Temp. (C)	*11.08*	*11.02*	*11.01*	*10.99*
Spec. Cond. (mS/cm)	*4.31*	*3.98*	*3.97*	*3.94*
Turbidity (NTU)	*96.8*	*58.5*	*25.6*	*31.7*
Dissolved Oxygen (DO)	-	-	-	-
ORP	*-156*	*-159*	*-160*	*-160*
Nitrate (mg/L)	-	-	-	*4.0*
Ferrous Iron (mg/L)	-	-	-	*0.8*
Sulfate (mg/L)	-	-	-	*>70*

Comments: *Turbidity not working on Horriba, measurements are based on visual observations.*
Sulfate was analyzed under dilution.
Sudan IV test negative

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-6S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	14.80	feet
Initial Static Water Level (TOC)	8.08	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1445*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *14.80* - *8.08* x *0.16*
1.1 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *5* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1545*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.80*	*7.51*	-	*7.50*
Temp. (C)	*14.22*	*13.5*	-	*13.09*
Spec. Cond. (mS/cm)	*8.64*	*7.42*	-	*6.61*
Turbidity (NTU)	*175*	*34*	-	*19.2*
Dissolved Oxygen (DO)	*7.23*	*5.64*	-	*5.17*
ORP	*-41*	*-16*	-	*6*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was clear, no odor or sheen, went dry at 5.0 gallons*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-7S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	13.00	feet
Initial Static Water Level (TOC)	6.05	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 0915*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 13.00 - 6.05 x 0.16
1.1 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *7* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1000*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.72*	-	-	*7.49*
Temp. (C)	*15.01*	-	-	*14.44*
Spec. Cond. (mS/cm)	*1.86*	-	-	*5.71*
Turbidity (NTU)	*431*	-	-	*112*
Dissolved Oxygen (DO)	*8.38*	-	-	*3.5*
ORP	*-35*	-	-	*2*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water is cloudy, dry at 5.0 gallons, recharged then sampled*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-8S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	14.20	feet
Initial Static Water Level (TOC)	7.44	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1100*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 14.20 - 7.44 x 0.16
1.1 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *5* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1130*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.42*	-	-	*8.51*
Temp. (C)	*13.29*	-	-	*13.76*
Spec. Cond. (mS/cm)	*8.44*	-	-	*8.74*
Turbidity (NTU)	*19.9*	-	-	-
Dissolved Oxygen (DO)	*0*	-	-	*3.9*
ORP	*-37*	-	-	*-22*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *water is clear, dry at 5.0 gallons*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-9S*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	14.20	feet
Initial Static Water Level (TOC)	8.18	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 0900*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 14.20 - 8.18 x 0.16
1.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1000*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.62*	*6.60*	*6.64*	*6.60*
Temp. (C)	*13.28*	*13.18*	*13.9*	*13.18*
Spec. Cond. (mS/cm)	*5.37*	*6.15*	*6.13*	*6.14*
Turbidity (NTU)	*54.9*	*28.7*	*43.9*	*42*
Dissolved Oxygen (DO)	*0.98*	*0*	*0*	*0.00*
ORP	*-99*	*-85*	*-90*	*-90*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*1.8*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *cloudy to clear, no odors*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *RMW-1D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	30.00	feet
Initial Static Water Level (TOC)	7.83	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1100*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 30.00 - 7.83 x 0.16
3.5 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1145*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.71*	*8.78*	*8.85*	*8.81*
Temp. (C)	*12.18*	*12.36*	*12.07*	*12.4*
Spec. Cond. (mS/cm)	*3.84*	*3.49*	*3.30*	*3.25*
Turbidity (NTU)	*25*	*102*	*139*	*25*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*-313*	*-325*	*-327*	*-326*
Nitrate (mg/L)	-	-	-	*3.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*>70*

Comments: *water was clear*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *RMW-2D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	32.50	feet
Initial Static Water Level (TOC)	7.76	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1100*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 32.50 - 7.76 x 0.16
4.0 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1200*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.73*	*6.96*	*6.93*	*6.94*
Temp. (C)	*13.39*	*13.18*	*13.21*	*13.13*
Spec. Cond. (mS/cm)	*3.48*	*3.13*	*3.20*	*3.20*
Turbidity (NTU)	-	-	*> 50 visual*	*> 50 visual*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*-350*	*-338*	*-334*	*-334*
Nitrate (mg/L)	-	-	-	*1.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was clear, Chemical odor, no visual product present*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *RMW-3D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	28.24	feet
Initial Static Water Level (TOC)	8.10	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1405*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *28.24* - *8.10* x *0.16*
3.2 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1515*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*7.03*	*7.02*	*7.02*	*7.04*
Temp. (C)	*13.05*	*13.01*	*13.04*	*13.1*
Spec. Cond. (mS/cm)	*2.96*	*2.94*	*2.92*	*2.91*
Turbidity (NTU)	*19.8*	*20.6*	*18.2*	*15.9*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*-205*	*-203*	*-202*	*-202*
Nitrate (mg/L)	-	-	-	*0.00*
Ferrous Iron (mg/L)	-	-	-	*0.6*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was clear with a sulfuric odor*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *RMW-4D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	29.00	feet
Initial Static Water Level (TOC)	8.10	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1030*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *29.00* - *8.10* x *0.16*
3.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-23-04 / 1140*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.27*	*8.19*	*8.21*	*8.22*
Temp. (C)	*13.27*	*13.09*	*13.22*	*13.61*
Spec. Cond. (mS/cm)	*3.67*	*3.66*	*3.65*	*3.64*
Turbidity (NTU)	*17.0*	*18.0*	*23.1*	*28.4*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*-292*	*-291*	*-289*	*-284*
Nitrate (mg/L)	-	-	-	*0.00*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *water is clear, has chemical odor.*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-10D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	31.50	feet
Initial Static Water Level (TOC)	7.75	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 0810*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *31.50* - *7.75* x *0.16*
3.8 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 0900*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.10*	*8.10*	*8.08*	*8.07*
Temp. (C)	*13.47*	*13.47*	*13.45*	*13.47*
Spec. Cond. (mS/cm)	*3.04*	*3.10*	*2.98*	*2.98*
Turbidity (NTU)	*42.8*	*79.6*	*108*	*101*
Dissolved Oxygen (DO)	-	-	-	-
ORP	*-290*	*-293*	*-293*	*-293*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.8*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was clear with sulfur odor.*

PARSONS

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-11D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	30.74	feet
Initial Static Water Level (TOC)	10.91	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 0930*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 30.74 - 10.91 x 0.16
3.2 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1040*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	1 Volume	2 Volume	3 Volume	Sample
pH	6.97	6.95	6.95	6.97
Temp. (C)	11.69	11.70	11.70	11.73
Spec. Cond. (mS/cm)	2.98	2.93	2.88	2.94
Turbidity (NTU)	53.6	58.0	38.0	32.0
Dissolved Oxygen (DO)	0	0	0	0.0
ORP	-175	-187	-190	-192
Nitrate (mg/L)	-	-	-	0.0
Ferrous Iron (mg/L)	-	-	-	0.4
Sulfate (mg/L)	-	-	-	>70

Comments: *Water was clear with sulfur odor, MS and MSD quantity collected from this location.*

PARSONS

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-12D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	35.00	feet
Initial Static Water Level (TOC)	8.23	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1300*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *35.00* - *8.23* x *0.16*
4.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1345*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.65*	*8.59*	*8.62*	*8.60*
Temp. (C)	*14.68*	*14.66*	*14.66*	*14.0*
Spec. Cond. (mS/cm)	*3.61*	*3.59*	*3.55*	*3.58*
Turbidity (NTU)	*40.3*	*46.5*	*64*	*70*
Dissolved Oxygen (DO)	*0*	*0*	*0*	*0.0*
ORP	*-339*	*-339*	*-339*	*-337*
Nitrate (mg/L)	-	-	-	*6.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was clear with sulfur odor, Duplicate quantity collected (MW-Dup1 @ 1201).*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-13D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	31.46	feet
Initial Static Water Level (TOC)	11.69	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1135*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 31.46 - 11.69 x 0.16
3.2 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1330*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.84*	*6.89*	*6.99*	*6.99*
Temp. (C)	*11.86*	*12.16*	*11.96*	*11.98*
Spec. Cond. (mS/cm)	*4.57*	*4.73*	*4.76*	*4.77*
Turbidity (NTU)	*2.6*	*3.5*	*2.4*	*2.6*
Dissolved Oxygen (DO)	*0.0*	*0.00*	*0.0*	*0.0*
ORP	*-156*	*-162*	*-165*	*-165*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.9*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was clear with sulfur odor, MS and MSD quantity collected*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-14D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	31.25	feet
Initial Static Water Level (TOC)	9.88	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1415*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *31.25* - *9.88* x *0.16*
3.4 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1500*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*9.09*	*8.96*	*8.90*	*8.91*
Temp. (C)	*10.93*	*10.97*	*11.01*	*11.02*
Spec. Cond. (mS/cm)	*3.78*	*3.76*	*3.73*	*3.76*
Turbidity (NTU)	*27.9*	*31.5*	*38.9*	*34.2*
Dissolved Oxygen (DO)	-	-	-	-
ORP	*-316*	*-311*	*-309*	*-309*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water is clear*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-15D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	29.30	feet
Initial Static Water Level (TOC)	8.88	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1415*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= *29.30* - *8.88* x *0.16*
3.3 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1530*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	1 Volume	2 Volume	3 Volume	Sample
pH	6.97	6.95	6.93	6.93
Temp. (C)	14.36	14.39	14.35	14.36
Spec. Cond. (mS/cm)	2.81	2.82	2.80	2.87
Turbidity (NTU)	55.2	21.6	37.0	40.3
Dissolved Oxygen (DO)	0.0	0.0	0.0	0.0
ORP	-133	-136	-139	-141
Nitrate (mg/L)	-	-	-	0.0
Ferrous Iron (mg/L)	-	-	-	0.5
Sulfate (mg/L)	-	-	-	> 70

Comments: *water is clear, sulfuric odor*

PARSONS

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-16D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	31.50	feet
Initial Static Water Level (TOC)	12.29	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 0950*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 31.50 - 12.29 x 0.16
3.1 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1115*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	*-*	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.91*	*6.89*	*6.90*	*6.87*
Temp. (C)	*11.13*	*11.12*	*11.22*	*11.3*
Spec. Cond. (mS/cm)	*4.32*	*4.27*	*4.25*	*4.27*
Turbidity (NTU)	*8.1*	*6.4*	*10.2*	*9.03*
Dissolved Oxygen (DO)	*0.00*	*0.00*	*0.00*	*0.00*
ORP	*-122*	*-134*	*-141*	*-144*
Nitrate (mg/L)	*-*	*-*	*-*	*0.0*
Ferrous Iron (mg/L)	*-*	*-*	*-*	*0.8*
Sulfate (mg/L)	*-*	*-*	*-*	*> 70*

Comments: *Water was clear with sulfur odor*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-17D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	33.27	feet
Initial Static Water Level (TOC)	9.68	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1110*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 33.27 - 9.68 x 0.16
3.8 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *12* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1245*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	1 Volume	2 Volume	3 Volume	Sample
pH	6.93	6.96	6.95	6.90
Temp. (C)	11.71	11.83	11.90	12.92
Spec. Cond. (mS/cm)	2.58	2.66	2.61	2.72
Turbidity (NTU)	32.6	48.7	60.4	24.6
Dissolved Oxygen (DO)	0.00	0.00	0.00	0.00
ORP	-174	-179	-178	-178
Nitrate (mg/L)	-	-	-	0.0
Ferrous Iron (mg/L)	-	-	-	0.0
Sulfate (mg/L)	-	-	-	> 70

Comments: *Water was clear, sulfur odor, Duplicate quantity collected from this location (MW-DUP2 @ 1201)*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-18D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	26.00	feet
Initial Static Water Level (TOC)	9.20	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1330*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 26.00 - 9.20 x 0.16
2.7 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *15* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-22-04 / 1400*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*8.22*	*8.14*	*8.17*	*8.17*
Temp. (C)	*10.39*	*10.40*	*10.42*	*10.4*
Spec. Cond. (mS/cm)	*3.28*	*3.26*	*3.25*	*3.25*
Turbidity (NTU)	*110*	*69.9*	*85.1*	*79.1*
Dissolved Oxygen (DO)	*0.00*	*0.00*	*0.00*	*0.00*
ORP	*-226*	*-235*	*-240*	*-241*
Nitrate (mg/L)	-	-	-	*0.1*
Ferrous Iron (mg/L)	-	-	-	*0.0*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was clear with sulfuric odor*

WELL SAMPLING RECORD

Site Name *Ekonol Facility 441237* Well ID *MW-19D*

Samplers *Jeff Poulsen*
Sara Chmura

Total Well Depth (TOC)	26.98	feet
Initial Static Water Level (TOC)	7.87	feet
Well Diameter	2.0	inches

Purging Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1532*

Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot
= 26.98 - 7.87 x 0.16
3.1 gallons

Casing Volumes (gal/ft.):					
1-inch	0.041	1.5-inch	0.092	2-inch	0.16
3-inch	0.36	4-inch	0.64	6-inch	1.4
8-inch	2.5			10 inch	4

Volume of Purge Water Removed *10* gallons

Sampling Data

Method *Peristaltic Pump* Date/Time *06-21-04 / 1630*

Parameters	Bottle	Pres.	Method
TCE; 1,2-DCE;	*2-40ml vials*	*HCl*	*8260*
1,1-DCA; 1,1,1-TCA;			
VC			
phenol & aniline	*2-1L amber bottles*	-	*8270*

Field Parameters	*1 Volume*	*2 Volume*	*3 Volume*	*Sample*
pH	*6.74*	*6.71*	*6.69*	*6.69*
Temp. (C)	*15.40*	*15.44*	*15.59*	*15.51*
Spec. Cond. (mS/cm)	*6.20*	*6.16*	*6.24*	*6.19*
Turbidity (NTU)	*136*	*62.8*	*50.0*	*50.0*
Dissolved Oxygen (DO)	*0.00*	*0.00*	*0.00*	*0.00*
ORP	*-118*	*-112*	*-110*	*-108*
Nitrate (mg/L)	-	-	-	*0.0*
Ferrous Iron (mg/L)	-	-	-	*2.5*
Sulfate (mg/L)	-	-	-	*> 70*

Comments: *Water was cloudy at first, clearer by second volume.*

PARSONS

ATTACHMENT D
DATA USABILITY SUMMARY REPORTS

DATA USABILITY SUMMARY REPORT

EKONOL FACILITY – MAY 2004 SAMPLING

Prepared For:

Group Environmental Management Company

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Prepared By:

PARSONS

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REVIEWED AND APPROVED BY:

Project Manager: George Heimaster 9/29/04
Date

Technical Manager: George Heimaster for Maryanne Kosciewicz 9/29/04
Date

AUGUST 2004

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SECTION 1

DATA USABILITY SUMMARY

Groundwater samples were collected from the Ekonol site in Wheatfield, New York from May 17, 2004 through May 27, 2004. Analytical results from these samples were reviewed by Parsons for usability with respect to the following requirements:

- Work Plan,
- NYSDEC Analytical Services Protocol (ASP), and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Severn Trent Laboratories, Inc. (STL).

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 15 days on average for the Ekonol samples.

The data packages received from STL were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, shipped under a COC record, and received at STL within one day of sampling. All samples were received intact and in good condition at STL with the exception of those samples collected on 5/19/04 and 5/27/04 in which ice was absent from the shipping containers.

1.3 LABORATORY ANALYTICAL METHODS

The groundwater samples collected from the Ekonol site were analyzed for the volatile organic compounds (VOCs) 1,1-dichloroethane, total 1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and vinyl chloride; and the semivolatile organic compounds (SVOCs) phenol and aniline. Summaries of issues concerning these laboratory analyses are presented in Subsections 1.3.1 through 1.3.2. The data qualifications resulting from the data review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

1.3.1 Volatile Organic Analysis

The groundwater samples collected from the Ekonol site were analyzed by STL for certain VOCs using the NYSDEC ASP 8260B analytical method. Certain reported results for the VOC samples were qualified as estimated due to noncompliant sample preservation. Therefore, the reported VOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

1.3.2 Semivolatile Organic Analysis

The groundwater samples collected from the Ekonol site were analyzed by STL for certain SVOCs using the NYSDEC ASP 8270C analytical method. Certain reported SVOC results were qualified as estimated due to noncompliant matrix spike blank recoveries, sample holding times, and sample preservation. Therefore, the reported SVOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

SECTION 2

DATA VALIDATION REPORT

2.1 GROUNDWATER

Data review has been completed for data packages generated by STL containing groundwater samples collected from the Ekonol site. The specific samples contained in these data packages, the analyses performed, and a usability summary are presented in Table 2.1-1. All of these samples were shipped under a COC record and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A.

Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs and the NYSDEC ASP for organic and inorganic data review. This data validation and usability report is presented by analysis type.

2.1.1 Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Matrix spike blank (MSB) recoveries
- Laboratory method blank and trip blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy.

MS/MSD Precision and Accuracy

All MS/MSD precision results (relative percent differences; RPDs) and accuracy results (percent recoveries; %Rs) were considered compliant and within QC acceptance limits during spiked analyses with the exception of the high MSD recovery for 1,1,1-trichloroethane (122%R; QC limit 82-116%R) during the spiked analyses of MW-13D; the precision result for vinyl chloride (20%RPD; QC limit 0-20%RPD) during the spiked analysis of MW-13D; and the precision result for trichloroethene (29%RPD; QC limit 0-15% RPD) during the spiked analysis of RMW-2D. Validation qualification of MW-13D and RMW-2D was not warranted since surrogate recoveries and internal standard responses in these samples were compliant confirming the absence of matrix effects.

Usability

All volatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile groundwater data presented by STL were 100% complete with all volatile data considered usable and valid. The validated volatile laboratory data are tabulated and presented in Attachment A.

It was noted that ice was not present in shipping containers for samples collected on 5/19/04 and 5/27/04. These samples were received by the laboratory at 18.4°C and 17.2°C, respectively. As a result, all results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.1.2 Semivolatiles

The following items were reviewed for compliancy in the semivolatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- MSB recoveries
- Laboratory method blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times

- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of holding times, MSB recoveries, and blank contamination.

Holding Times

All samples were extracted and analyzed within holding time requirements with the exception of the reanalyzed samples MW-10D, 11D, 16D, 9S, DUP 1, and DUP 2 which were reextracted one to three days beyond the 5-day holding time requirement. Therefore, the results for these samples were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ".

MSB Recoveries

All MSB recoveries were compliant and within QC acceptance limits with the exception of the low MSB recovery for aniline (20%R; QC limit 37-120%R) associated with samples MW-12D, 14D, 1S, 5S, 6S, 7S, 8S, and RMW-1D. Therefore, all aniline results for these samples were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ".

Blank Contamination

The laboratory method blank A4B1018202 associated with samples MW-2S, 3S, 4S, 13D, 15D, RMW-2D, 3D, 4D, and 2D DL contained phenol at 4 µg/L. Therefore, all phenol results for these samples less than the validated action concentration of 20 µg/L were considered not detected and qualified "U".

Usability

All semivolatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The semivolatile data presented by STL were 100% complete with all data considered usable and valid. The validated semivolatile laboratory data are tabulated and presented in Attachment A.

It was noted that ice was not present in shipping containers for samples collected on 5/19/04 and 5/27/04. These samples were received by the laboratory at 18.4°C and 17.2°C, respectively. As a result, all results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

TABLE 2.1-1

SUMMARY OF SAMPLE ANALYSES AND USABILITY
EKONOL

SAMPLE ID	MATRIX	SAMPLE DATE	VOCs	SVOCs
MW-1S	WATER	5/17/04	OK	OK
MW-5S	WATER	5/17/04	OK	OK
MW-6S	WATER	5/17/04	OK	OK
MW-7S	WATER	5/17/04	OK	OK
MW-8S	WATER	5/17/04	OK	OK
MW-12D	WATER	5/17/04	OK	OK
MW-14D	WATER	5/17/04	OK	OK
TRIP BLANK	WATER	5/17/04	OK	
RMW-1D	WATER	5/17/04	OK	OK
MW-9S	WATER	5/18/04	OK	OK
MW-10D	WATER	5/18/04	OK	OK
MW-11D	WATER	5/18/04	OK	OK
MW-16D	WATER	5/18/04	OK	OK
MW-17D	WATER	5/18/04	OK	OK
TRIP BLANK	WATER	5/18/04	OK	
MW-18D	WATER	5/18/04	OK	OK
MW-DUP1	WATER	5/18/04	OK	OK
MW-DUP2	WATER	5/18/04	OK	OK
MW-2S	WATER	5/19/04	OK	OK
MW-3S	WATER	5/19/04	OK	OK
MW-4S	WATER	5/19/04	OK	OK
MW-13D	WATER	5/19/04	OK	OK
MW-15D	WATER	5/19/04	OK	OK
RMW-2D	WATER	5/19/04	OK	OK
RMW-3D	WATER	5/19/04	OK	OK
RMW-4D	WATER	5/19/04	OK	OK
MW-19D	WATER	5/27/04	OK	OK
TRIP BLANK	WATER	5/27/04	OK	
TOTAL SAMPLES			28	25

NOTES: OK - Sample analysis considered valid and usable.

ATTACHMENT A

VALIDATED LABORATORY DATA

Ekonol Facility Analytical Summary Wheatfield, New York Validated Groundwater Analytical Data May 2004		Sample ID: Lab Sample Id Source: SDG: Matrix: Sampled: Validated:	MW-1S A4465001 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	MW-2S A4471601 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	MW-3S A4471602 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	MW-4S A4471603 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	MW-5S A4465003 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	MW-6S A4465006 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	MW-7S A4465007 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	MW-8S A4465008 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	MW-9S A4466008 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004	MW-10D A4466004 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004
CAS NO.	COMPOUND	UNITS:										
	VOLATILES											
75-34-3	1,1-Dichloroethane	UG/L	5 U	25000 UJ	5 UJ	68 J	5 U	5.6	5 U	5 U	5 U	120 U
540-59-0	1,2-Dichloroethene (Total)	UG/L	130	780000 J	10 UJ	6800 J	1.5 J	24	1.5 J	10 U	51	2200
71-55-6	1,1,1-Trichloroethane	UG/L	5 U	25000 UJ	5 UJ	710 J	5 U	5 U	5 U	5 U	5 U	230
79-01-6	Trichloroethene	UG/L	24	25000 UJ	5 UJ	1600 J	5 U	5 U	5 U	5 U	5 U	4700
75-01-4	Vinyl chloride	UG/L	25	35000 J	5 UJ	1000 J	5 U	190	5 U	5 U	84	62 J
	SEMIVOLATILES											
62-53-3	Aniline	UG/L	10 UJ	390 UJ	10 UJ	44 J	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 J
108-95-2	Phenol	UG/L	10 U	28000 J	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 UJ	10 UJ

Ekonol Facility Analytical Summary Wheatfield, New York Validated Groundwater Analytical Data May 2004		Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	Dup of MW-10D MW-DUP1 A4466007 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004	MW-11D A4466001 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004	MW-12D A4465005 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	MW-13D A4471607 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	MW-14D A4465004 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	MW-15D A4471608 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	MW-16D A4466006 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004	Dup of MW-16D MW-DUP2 A4466005 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004	MW-17D A4466003 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004	MW-18D A4466002 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004
CAS NO.	COMPOUND	UNITS:										
	[redacted]											
75-34-3	1,1-Dichloroethane	UG/L	120 U	50 U	5 U	3.1 J	5 U	260 J	20 U	20 U	1.1 J	5 U
540-59-0	1,2-Dichloroethene (Total)	UG/L	2200	35 J	3.5 J	190 J	10 U	9700 J	470	440	14	10 U
71-55-6	1,1,1-Trichloroethane	UG/L	220	120	5 U	2.3 J	5 U	960 J	20 U	20 U	9.6	5 U
79-01-6	Trichloroethene	UG/L	4500	50 U	5 U	14 J	5 U	1400 J	12 J	12 J	1.1 J	5 U
75-01-4	Vinyl chloride	UG/L	64 J	50 U	5 U	76 J	5 U	360 J	15 J	13 J	2.4 J	5 U
	[redacted]											
62-53-3	Aniline	UG/L	10 J	10 UJ	10 UJ	10 UJ	10 UJ	8 J	10 UJ	10 UJ	10 U	10 U
108-95-2	Phenol	UG/L	10 UJ	10 UJ	10 U	10 UJ	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U

Ekonol Facility Analytical Summary Wheatfield, New York Validated Groundwater Analytical Data May 2004		Sample ID: Lab Sample Id Source: SDG: Matrix: Sampled: Validated:	MW-19D A4507301 STL Buffalo A04-4650 WATER 5/27/2004 8/5/2004	RMW-1D A4465002 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	RMW-2D A4471606 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	RMW-3D A4471604 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	RMW-4D A4471605 STL Buffalo A04-4650 WATER 5/19/2004 8/5/2004	TRIP BLANK A4465009 STL Buffalo A04-4650 WATER 5/17/2004 8/5/2004	TRIP BLANK A4465009 STL Buffalo A04-4650 WATER 5/18/2004 8/5/2004	TRIP BLANK A4465009 STL Buffalo A04-4650 WATER 5/27/2004 8/5/2004
CAS NO.	COMPOUND	UNITS:								
	VOLATILES									
75-34-3	1,1-Dichloroethane	UG/L	5 UJ	5 U	5000 UJ	40 J	1000 UJ	5 U	5 U	5 U
540-59-0	1,2-Dichloroethene (Total)	UG/L	4.2 J	91	2300 J	470 J	11000 J	10 U	10 U	10 U
71-55-6	1,1,1-Trichloroethane	UG/L	5 UJ	5 U	5400 J	3900 J	4500 J	5 U	5 U	5 U
79-01-6	Trichloroethene	UG/L	5 UJ	5 U	100000 J	170 J	29000 J	5 U	5 U	5 U
75-01-4	Vinyl chloride	UG/L	4.6 J	5 U	5000 UJ	100 UJ	360 J	5 U	5 U	5 U
	SEMIVOLATILES									
62-53-3	Aniline	UG/L	10 UJ	10 UJ	410 J	10 UJ	210 J			
108-95-2	Phenol	UG/L	10 UJ	10 U	100 J	10 UJ	400 UJ			

DATA USABILITY SUMMARY REPORT

EKONOL FACILITY – JUNE 2004 SAMPLING

Prepared For:

Group Environmental Management Company

4850 East 49th Street
MBC 3-147
Cuyahoga Heights, Ohio 44125

Prepared By:

PARSONS

180 Lawrence Bell Drive, Suite 100
Williamsville, New York 14221
Phone: (716) 633-7074
Fax: (716) 633-7195

REVIEWED AND APPROVED BY:

Project Manager: George Hemence 9/29/04
Date

Technical Manager: George Hemence for Maryanne Kosciewicz 9/29/04
Date

AUGUST 2004

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LIST OF TABLES

LIST OF ATTACHMENTS

SECTION 1

DATA USABILITY SUMMARY

Groundwater samples were collected from the Ekonol site in Wheatfield, New York from June 21, 2004 through June 23, 2004. Analytical results from these samples were reviewed by Parsons for usability with respect to the following requirements:

- Work Plan,
- NYSDEC Analytical Services Protocol (ASP), and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Severn Trent Laboratories, Inc. (STL).

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 29 days on average for the Ekonol samples.

The data packages received from STL were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, properly preserved, shipped under a COC record, and received at STL within one day of sampling. All samples were received intact and in good condition at STL.

1.3 LABORATORY ANALYTICAL METHODS

The groundwater samples collected from the Ekonol site were analyzed for the volatile organic compounds (VOCs) 1,1-dichloroethane, total 1,2-dichloroethene, 1,1,1-trichloroethane, trichloroethene, and vinyl chloride; and the semivolatile organic compounds (SVOCs) phenol and aniline. Summaries of issues concerning these laboratory analyses are presented in Subsections 1.3.1 through 1.3.2. The data qualifications resulting from the data review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

1.3.1 Volatile Organic Analysis

The groundwater samples collected from the Ekonol site were analyzed by STL for certain VOCs using the NYSDEC ASP 8260B analytical method. Certain reported results for the VOC samples were qualified as estimated due to sample vial headspace. Therefore, the reported VOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

1.3.2 Semivolatile Organic Analysis

The groundwater samples collected from the Ekonol site were analyzed by STL for certain SVOCs using the NYSDEC ASP 8270C analytical method. The reported SVOC results did not require an estimated qualification resulting from review of the data. Therefore, the reported SVOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by STL. PARCC requirements were met overall.

SECTION 2

DATA VALIDATION REPORT

2.1 GROUNDWATER

Data review has been completed for data packages generated by STL containing groundwater samples collected from the Ekonol site. The specific samples contained in these data packages, the analyses performed, and a usability summary are presented in Table 2.1-1. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A.

Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs and the NYSDEC ASP for organic and inorganic data review. This data validation and usability report is presented by analysis type.

2.1.1 Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Matrix spike blank (MSB) recoveries
- Laboratory method blank and trip blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy and blank contamination.

MS/MSD Precision and Accuracy

All MS/MSD precision results (relative percent differences; RPDs) and accuracy results (percent recoveries; %Rs) were considered compliant and within QC acceptance limits during spiked analyses with the exception of the low MS/MSD recoveries for total 1,2-dichloroethene, 1,1,1-trichloroethane, and trichloroethene during the spiked analyses of MW-11D. Validation qualification of MW-11D was not warranted since surrogate recoveries and internal standard responses in this sample were compliant confirming the absence of matrix effects.

Blank Contamination

The laboratory method blank VBLK43 associated with samples MW-11D, 2D, 4D DL, 4S DL, and DUP2 contained trichloroethene at a concentration of 1 µg/L. Therefore, the associated trichloroethene results less than the validation action concentration of 5 µg/L were considered not detected and qualified "U" for these samples.

Usability

All volatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile groundwater data presented by STL were 100% complete with all volatile data considered usable and valid. The validated volatile laboratory data are tabulated and presented in Attachment A.

It was noted that the sample vials used for the volatile analysis of MW-10D and MW-11D DL contained headspace. Therefore, the volatile results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.1.2 Semivolatiles

The following items were reviewed for compliancy in the semivolatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- MSB recoveries
- Laboratory method blank contamination
- GC/MS instrument performance
- Sample result verification and identification

- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of blank contamination.

Blank Contamination

The laboratory method blank A4B1204103 associated with samples MW-2S, 2SD2, and 2SDL contained phenol at 3 µg/L. Therefore, all phenol results for these samples less than the validated action concentration of 15 µg/L were considered not detected and qualified "U".

Usability

All semivolatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The semivolatile data presented by STL were 100% complete with all data considered usable and valid. The validated semivolatile laboratory data are tabulated and presented in Attachment A.

TABLE 2.1-1

SUMMARY OF SAMPLE ANALYSES AND USABILITY
EKONOL

SAMPLE ID	MATRIX	SAMPLE DATE	VOCs	SVOCs
MW-1S	WATER	6/21/04	OK	OK
MW-5S	WATER	6/21/04	OK	OK
MW-13D	WATER	6/21/04	OK	OK
MW-14D	WATER	6/21/04	OK	OK
MW-15D	WATER	6/21/04	OK	OK
MW-16D	WATER	6/21/04	OK	OK
MW-12D	WATER	6/21/04	OK	OK
TRIP BLANK	WATER	6/21/04	OK	
MW-19D	WATER	6/21/04	OK	OK
MW-DUP1	WATER	6/21/04	OK	OK
RMW-1D	WATER	6/21/04	OK	OK
RMW-3D	WATER	6/22/04	OK	OK
MW-10D	WATER	6/22/04	OK	OK
MW-11D	WATER	6/22/04	OK	OK
TRIP BLANK	WATER	6/22/04	OK	
MW-17D	WATER	6/22/04	OK	OK
MW-18D	WATER	6/22/04	OK	OK
MW-6S	WATER	6/22/04	OK	OK
MW-7S	WATER	6/22/04	OK	OK
MW-8S	WATER	6/22/04	OK	OK
MW-DUP2	WATER	6/22/04	OK	OK
MW-3S	WATER	6/22/04	OK	OK
MW-9S	WATER	6/23/04	OK	OK
MW-2S	WATER	6/23/04	OK	OK
MW-4S	WATER	6/23/04	OK	OK
RMW-2D	WATER	6/23/04	OK	OK
RMW-4D	WATER	6/23/04	OK	OK
TRIP BLANK	WATER	6/23/03	OK	
TOTAL SAMPLES			28	25

NOTES: OK - Sample analysis considered valid and usable.

ATTACHMENT A

VALIDATED LABORATORY DATA

Ekonol Facility Analytical Summary Wheatfield, New York Validated Groundwater Analytical Data June 2004		Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-1S A4589105 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	MW-2S A4595302 STL Buffalo A04-5891 WATER 6/23/2004 8/6/2004	MW-3S A4591510 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	MW-4S A4595303 STL Buffalo A04-5891 WATER 6/23/2004 8/6/2004	MW-5S A4589109 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	MW-6S A4591504 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	MW-7S A4591505 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	MW-8S A4591508 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	MW-9S A4595301 STL Buffalo A04-5891 WATER 6/23/2004 8/6/2004	MW-10D A4591501 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004
CAS NO.	COMPOUND	UNITS:										
	VOLATILES											
75-34-3	1,1-Dichloroethane	UG/L	5 U	25000 U	5 U	100 U	5 U	6.6	5 U	5 U	5 U	12 J
540-59-0	1,2-Dichloroethene (total)	UG/L	66	600000	10 U	4200	1.8 J	52	9.4 J	2.4 J	72	1800 J
71-55-6	1,1,1-Trichloroethane	UG/L	5 U	25000 U	5 U	43 J	5 U	2 J	1.2 J	5 U	5 U	53 J
79-01-6	Trichloroethene	UG/L	8	7300 J	2.4 J	250	5 U	11	12	4.3 J	5 U	1000 J
75-01-4	Vinyl chloride	UG/L	7	26000	5 U	410	5 U	120	5 U	5 U	120	66 J
	SEMIVOLATILES											
62-53-3	Aniline	UG/L	10 U	40	10 U	50	10 U	10 U	10 U	10 U	10 U	0.8 J
108-95-2	Phenol	UG/L	10 U	35000	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Ekonol Facility Analytical Summary Wheatfield, New York Validated Groundwater Analytical Data June 2004		Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	MW-11D A4591502 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	MW-12D A4589103 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	Dup of MW-12D MW-DUP1 A4589104 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	MW-13D A4589102 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	MW-14D A4589110 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	MW-15D A4589107 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	MW-16D A4589101 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	MW-17D A4591503 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	Dup of MW-17D MW-DUP2 A4591507 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	MW-18D A4591506 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004
CAS NO.	COMPOUND	UNITS:										
	VOLATILES											
75-34-3	1,1-Dichloroethane	UG/L	41 J	5 U	5 U	25 U	5 U	150 J	25 U	1.6 J	1.2 J	5 U
540-59-0	1,2-Dichloroethene (total)	UG/L	450	5.1 J	5.2 J	520	10 U	7700	840	13	9.9 J	10 U
71-55-6	1,1,1-Trichloroethane	UG/L	1700 J	5 U	5 U	25 U	5 U	530	25 U	14	8	5 U
79-01-6	Trichloroethene	UG/L	1400	5 U	5 U	33	5 U	1000	9.8 J	18	5 U	3.1 J
75-01-4	Vinyl chloride	UG/L	50 U	5 U	5 U	110	5 U	160 J	24 J	5 U	5 U	5 U
	SEMIVOLATILES											
62-53-3	Aniline	UG/L	4 J	10 U	10 U	10 U	10 U	2 J	10 U	10 U	10 U	10 U
108-95-2	Phenol	UG/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Ekonol Facility Analytical Summary Wheatfield, New York Validated Groundwater Analytical Data June 2004		Sample ID: Lab Sample Id: Source. SDG: Matrix: Sampled: Validated:	MW-19D A4589108 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	RMW-1D A4589106 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	RMW-2D A4595305 STL Buffalo A04-5891 WATER 6/23/2004 8/6/2004	RMW-3D A4591509 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	RMW-4D A4595304 STL Buffalo A04-5891 WATER 6/23/2004 8/6/2004	TRIP BLANK A4589111 STL Buffalo A04-5891 WATER 6/21/2004 8/6/2004	TRIP BLANK A4589111 STL Buffalo A04-5891 WATER 6/22/2004 8/6/2004	TRIP BLANK A4589111 STL Buffalo A04-5891 WATER 6/23/2004 8/6/2004
CAS NO.	COMPOUND	UNITS:								
	VOLATILES									
75-34-3	1,1-Dichloroethane	UG/L	5 U	5 U	4000 U	130 J	210 J	5 U	5 U	5 U
540-59-0	1,2-Dichloroethene (total)	UG/L	9 6 J	65	16000	690	15000	10 U	10 U	10 U
71-55-6	1,1,1-Trichloroethane	UG/L	5 U	5 U	2500 J	9900	1800	5 U	5 U	5 U
79-01-6	Trichloroethene	UG/L	1.3 J	5 U	110000	1200	130000	5 U	5 U	5 U
75-01-4	Vinyl chloride	UG/L	3.1 J	5 U	1400 J	250 U	720 J	5 U	5 U	5 U
	SEMIVOLATILES									
62-53-3	Aniline	UG/L	10 U	10 U	430	10 U	470			
108-95-2	Phenol	UG/L	10 U	10 U	75	10 U	10 U			

ATTACHMENT E
WASTE MANIFESTS

NYH0643851

STATE OF NEW YORK
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.

07-23-04 (Hazardous Waste Manifest 5/00)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA No. NYR000103382	Manifest Doc. No. 43851	2. Page 1 of 1	Information within heavy bold line is not required by Federal Law.

3. Generator's Name and Mailing Address
GROUP ENVIRONMENTAL MANAGEMENT
4850 EAST 49TH STREET
MBC3 - 147
CAYAHOGA HEIGHTS, OH 41125

4. Generator's Telephone Number (216) 271-8038

A. NYH0643851

B. Generator's ID 6600 WALMORE ROAD WHEATFIELD, NY 14304

5. Transporter 1 (Company Name): ONYX ENVIRONMENTAL SVCS L.L.C.
6. US EPA ID Number: NJD080631369

C. State Transporter's ID P206997-IL
D. Transporter's Telephone (973) 347-7111

7. Transporter 2 (Company Name): Frank's Vacuum Truck Service
8. US EPA ID Number: NYD982792814

E. State Transporter's ID AK 39290 NY
F. Transporter's Telephone 716 284-2132

9. Designated Facility Name and Site Address
ONYX ENVIRONMENTAL SVCS,L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449

10. US EPA ID Number: OHD093945293

G. State Facility ID: SAME
H. Facility Telephone (937) 859-6101

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers Number	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, HAZARDOUS WASTE, LIQUID, n.o.s., (WATER WITH TRICHLOROETHYLENE, DICHLOROETHANE), 9, NA3082, III, (D040,D028,D043) (ERG171)	006	DM	02400	P	EPA D040 STATE
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials listed Above
a. L/E;SRRNEUTRAL-HAZ/510610;#1; 6X55G;(#3,4,8,24,25,28)
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. 501 T
b.
c.
d.

15. Special Handling Instructions and Additional Information
PACKING SLIPS ATTACHED FOR CLARIFICATION - ONYX EMERGENCY NUMBER-INFOTRAC: 1-800-535-5053
(ONYX-TONAWANDA, NY2# 1-800-786-0566) ....***(NEED CERTIFICATES OF DISPOSAL)***

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 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 smaller 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: James W Schuetz for Atlantic Richfield Company | Signature: [signature] for Atlantic Richfield Company | Mo. Day Year 07 07 04

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: MICHAEL FOSE | Signature: [signature] | Mo. Day Year 07 07 04

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: Carl J Lyon | Signature: [signature] | Mo. Day Year 07 16 04

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: Linda L. Jarvis | Signature: [signature] | Mo. Day Year 07 23 04

COPY 1 - DISPOSER STATE MAILED BY TSD FACILITY

C

ONYX ENVIRONMENTAL SERVICES

ONYX

07-23-04

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: N Y R 0 0 0 1 0 3 3 0 2 — Manifest Document No.: 3 6 5 9 9
2. Page 1 of 1

A. Non-hazardous Manifest Document Number: Z 136599

3. Generator's Name and Mailing Address:
GROUP ENVIRONMENTAL MANAGEMENT
4850 EAST 49TH STREET
MBC3 - 147
CAYAHOGA HEIGHTS, OH 44125

B. State Generator's ID: 5600 WALMORE ROAD, WHEATFIELD, NY 14304

4. Generator's Phone (216) 271-6039

5. Transporter 1 Company Name: ONYX ENVIRONMENTAL SVCS L.L.C.
6. US EPA ID Number: N J D 0 8 0 6 3 1 3 6 9

C. State Trans. ID P206007 14
D. Transporter's Phone (973) 347-7111

7. Transporter 2 Company Name: Frank's Vacuum Truck Service
8. US EPA ID Number: N Y D 9 8 2 7 5 2 8 1 4

E. State Trans. ID AK 39290 NY
F. Transporter's Phone 716 284-2132

9. Designated Facility Name and Site Address:
ONYX ENVIRONMENTAL SVCS L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449

10. US EPA ID Number: O H D 0 9 3 9 4 5 2 9 3

G. State Facility's ID: SAME
H. Facility's Phone (937) 859-8101

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON-REGULATED MATERIAL PER 40 & 49 CFR, (NON HAZARDOUS GROUND WATER), NONE, NONE		0 1 9	D M	0 7 6 0 0	P	N O N E
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
a. LA, SRRNEUTRAL-NH/509713 #1COM; 19X55GAL
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. S01
b.
c.
d.

15. Special Handling Instructions and Additional Information
PACKING SLIPS ATTACHED FOR CLARIFICATION - ONYX EMERGENCY NUMBER INFOTRAC: 1-800-535-5053
(ONYX-TONAWANDA, NY2// 1-800-786-0566)
(DRUM #S: 1,2,5,7,8,9,11,12,13,14,15,16,17,18,19,20,23,26,27)

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

I hereby certify that the above-named material is not hazardous waste as defined by 40 CFR Part 261 or any applicable state law.

Printed/Typed Name	Signature	Month	Day	Year
James W Schultz for Atlantic Richfield Company	[signature] for Atlantic Richfield Company	07	07	04

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
MICHAEL J. FOSE / MICHAEL FOSE	[signature]	07	07	04

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Carl J Lyon	[signature]	07	16	04

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Linda L Jarvis	Linda L Jarvis	07	23	04

4-TSDF COPY

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

ONYX ENVIRONMENTAL SERVICES

ONYX

(8)

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NYR000133823 Manifest Document No. 36598
2. Page 1 of 1

3. Generator's Name and Mailing Address
GROUP ENVIRONMENTAL MANAGEMENT
4650 EAST 49TH STREET
MBC3 - 147
CAYAHOGA HEIGHTS, OH 44125
4. Generator's Phone (216) 271-8038

A. Non-hazardous Manifest Document Number: Z 136598
B. State Generator's ID: 8500 WALMORE ROAD WHEATFIELD, NY 14304

5. Transporter 1 Company Name: ONYX ENVIRONMENTAL SVCS L.L.C.
6. US EPA ID Number: NJD008031389
C. State Trans. ID P206887
D. Transporter's Phone (973) 347-7111
E. State Trans ID NJ7630NY

7. Transporter 2 Company Name: Franks Vacuum Truck Service
8. US EPA ID Number: NYD987979814
F. Transporter's Phone (716) 284-7152
G. State Facility's ID SAME

9. Designated Facility Name and Site Address
CWM CHEMICAL SERVICES, L.L.C
1550 BALMER ROAD
MODEL CITY, NY 14107
10. US EPA ID Number: NYD049836879
H. Facility's Phone (716) 754-8231

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) HM	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol	L Waste No
GENERATOR a.	NON-REGULATED MATERIAL PER 40 & 49 CFR, (PLASTIC, PPE), NONE, NONE	001	DM	00250	P	NONE
b.	NON-REGULATED MATERIAL PER 40 & 49 CFR, (SOIL, DIRT), NONE, NONE	003	DM	01500	P	NONE
c.						
d.						

J. Additional Descriptions for Materials Listed Above
a. SA 487493;#2;55GAL; (DRUM#28) — 11
b. SA 510608;#1COM;3X55GAL;(#10,21,22) — 12
c.
d.

K. Handling Codes for Wastes Listed Above
a. L
c.
b.
d.

15. Special Handling Instructions and Additional Information
PACKING SLIPS ATTACHED FOR CLARIFICATION -ONYX EMERGENCY NUMBER-INFOTRAC 1-800-535-5053
(ONYX-TONAWANDA, NY)// 1-800-786-0566)

81586557

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

I hereby certify that the above-named material is not hazardous waste as defined by 40 CFR Part 261 or any applicable state law.

	Printed/Typed Name	Signature	Month Day Year
GENERATOR	James W Schultz for Atlantic Richfield Company	for Atlantic Richfield Company	07 07 04

TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials		
	Printed/Typed Name: MICHAEL FOSE	Signature	Month Day Year: 07 07 04
	18. Transporter 2 Acknowledgement of Receipt of Materials		
	Printed/Typed Name: Alfonso Cutaia	Signature	Month Day Year: 07 12 04

FACILITY	19. Discrepancy Indication Space		
	20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in Item 19.		
	Printed/Typed Name: AD Acqua	Signature	Month Day Year: 07 12 04

4-TSDF COPY

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES