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 III 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 X 10⁻² cm/sec in the first cored interval (11 to 16 feet bgs), to 9.6 X 10⁻³ cm/sec in the deeper second interval cored (16 to 21 feet bgs), and 1.6 X 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 μ g/L in TMW-4 (adjacent to MW-18D) to 3.6 μ g/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 μ g/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 μ g/L each; vinyl chloride at 2 μ g/L; aniline at 5 μ g/L; phenol at 1 μ g/L; zinc (total) at 2 μ g/L; and lead (total) at 0.025 μ g/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 AWOS. Detected concentrations ranged from 25 to 35,000 µg/L (MW-2S).
- Aniline was detected in MW-4S (44 $\mu g/L$) 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 $\mu g/L$) and MW-4S (50 $\mu g/L$). 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 μ g/L at MW-13D to 54,000 μ g/L at MW-2D. The concentration of 1,1,1-TCA exceeded the NYSDEC AWQS (5 μ g/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 hercin, 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

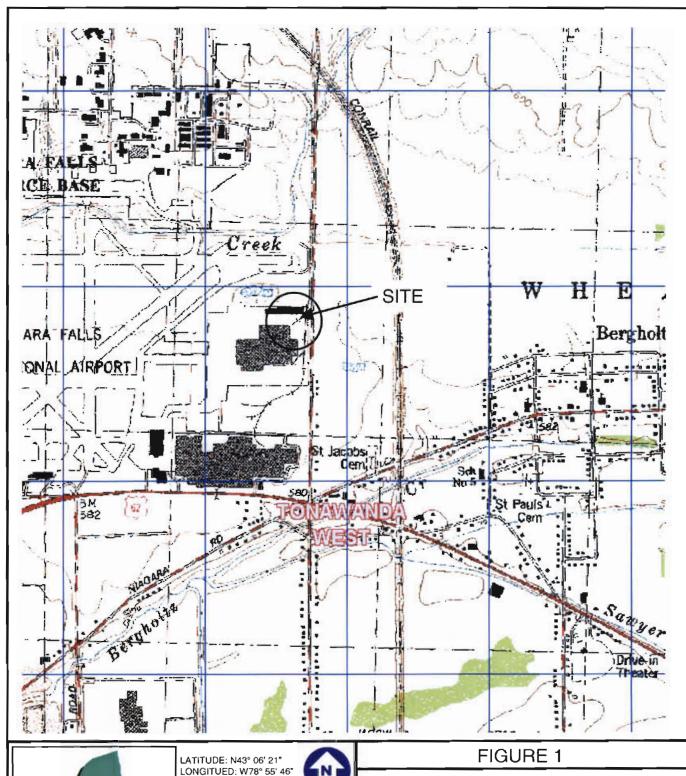
4.1 CONCLUSIONS

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



SOURCE: DeLORME 3-D TOPOQUAD PROGRAM

EKONOL POLYESTER RESINS FACILITY WHEATFIELD, NEW YORK

SITE LOCATION MAP

PARSONS

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

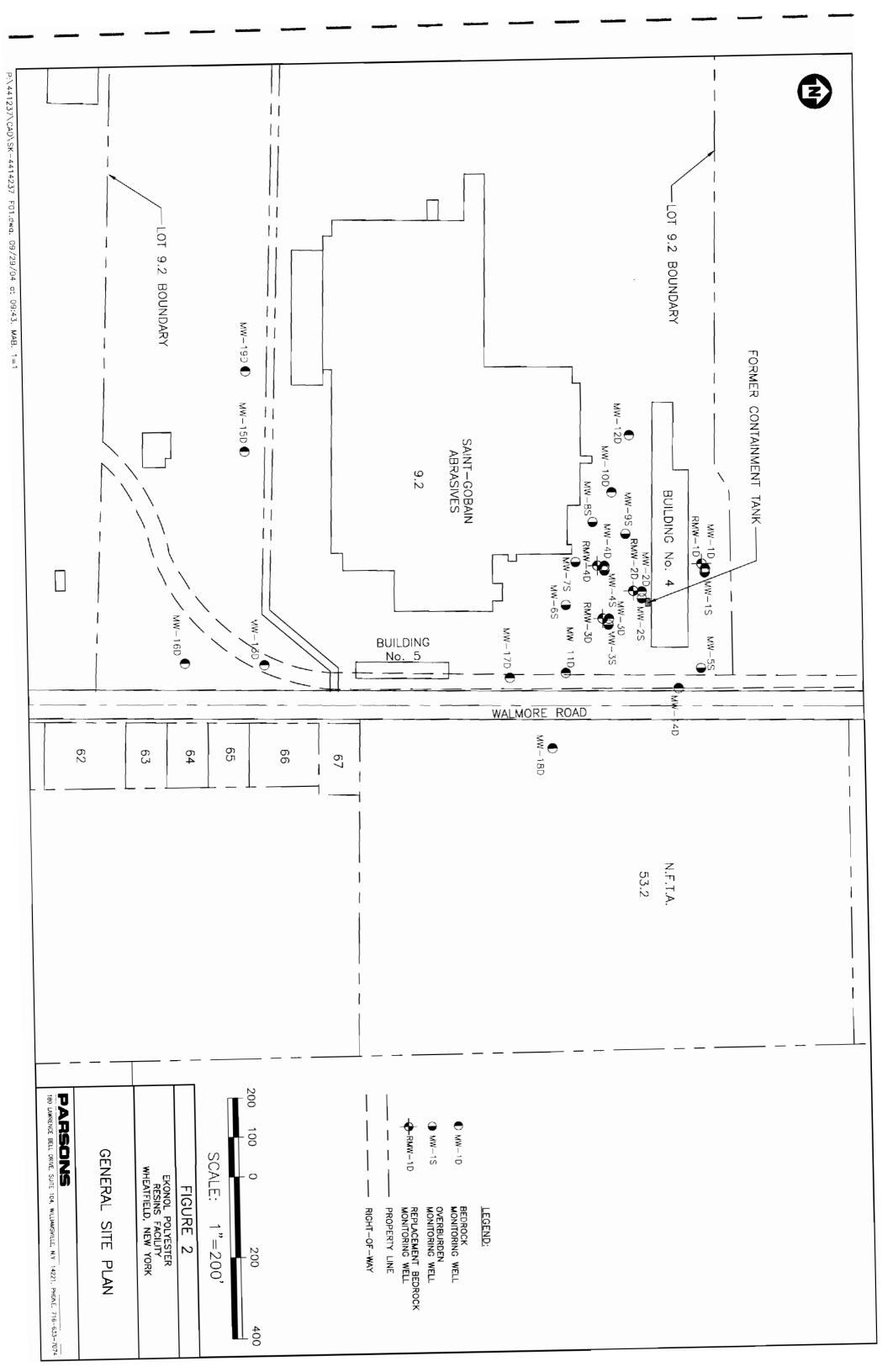
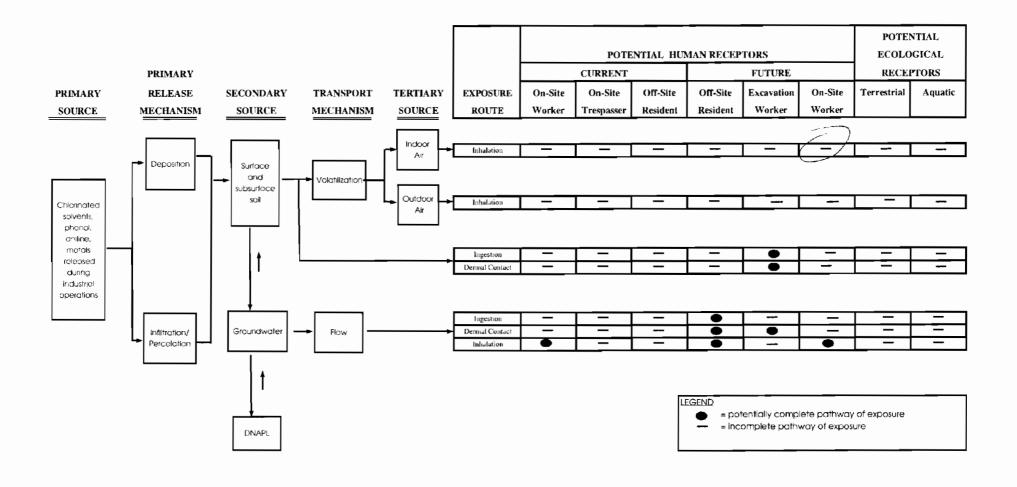
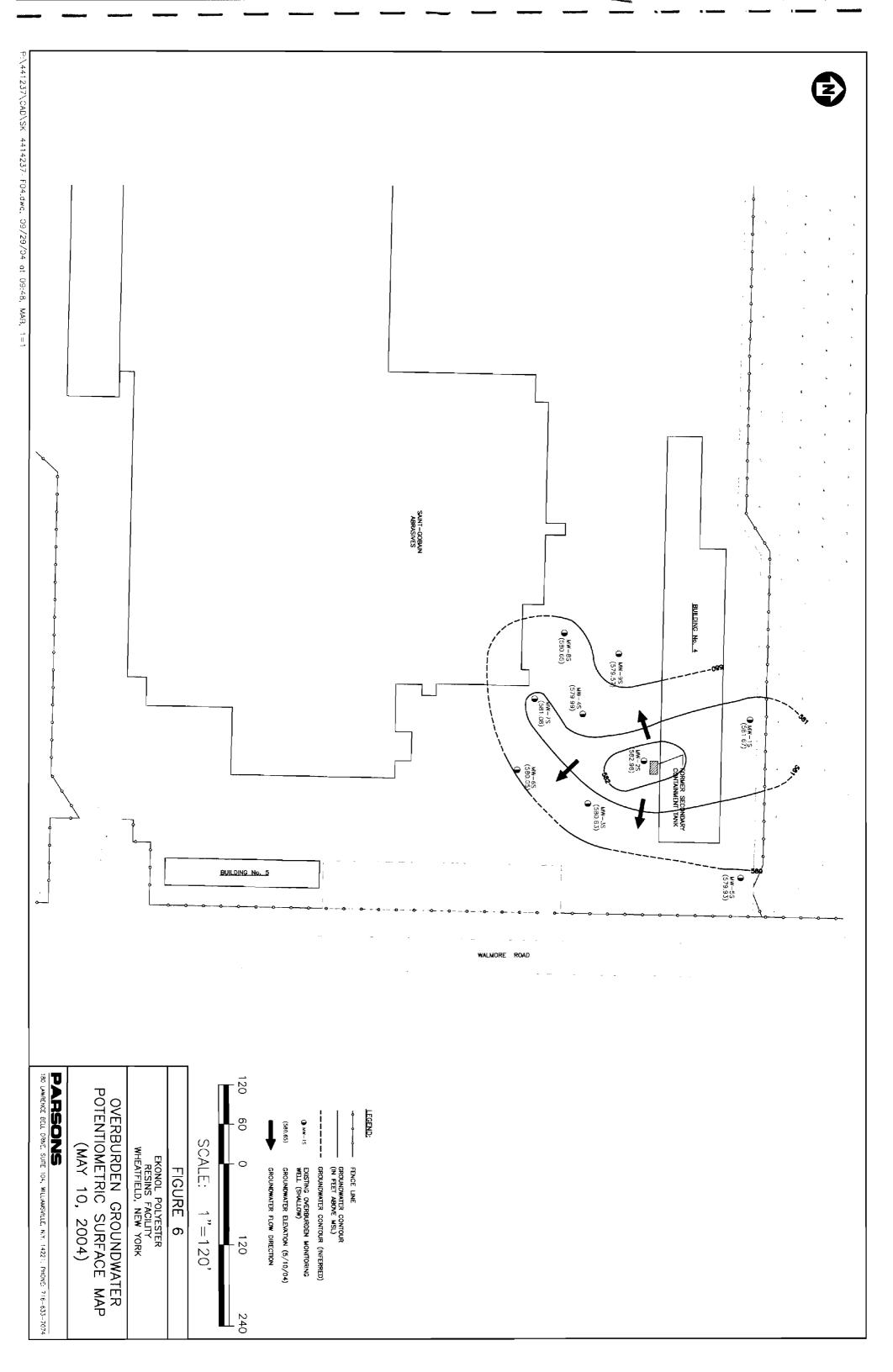
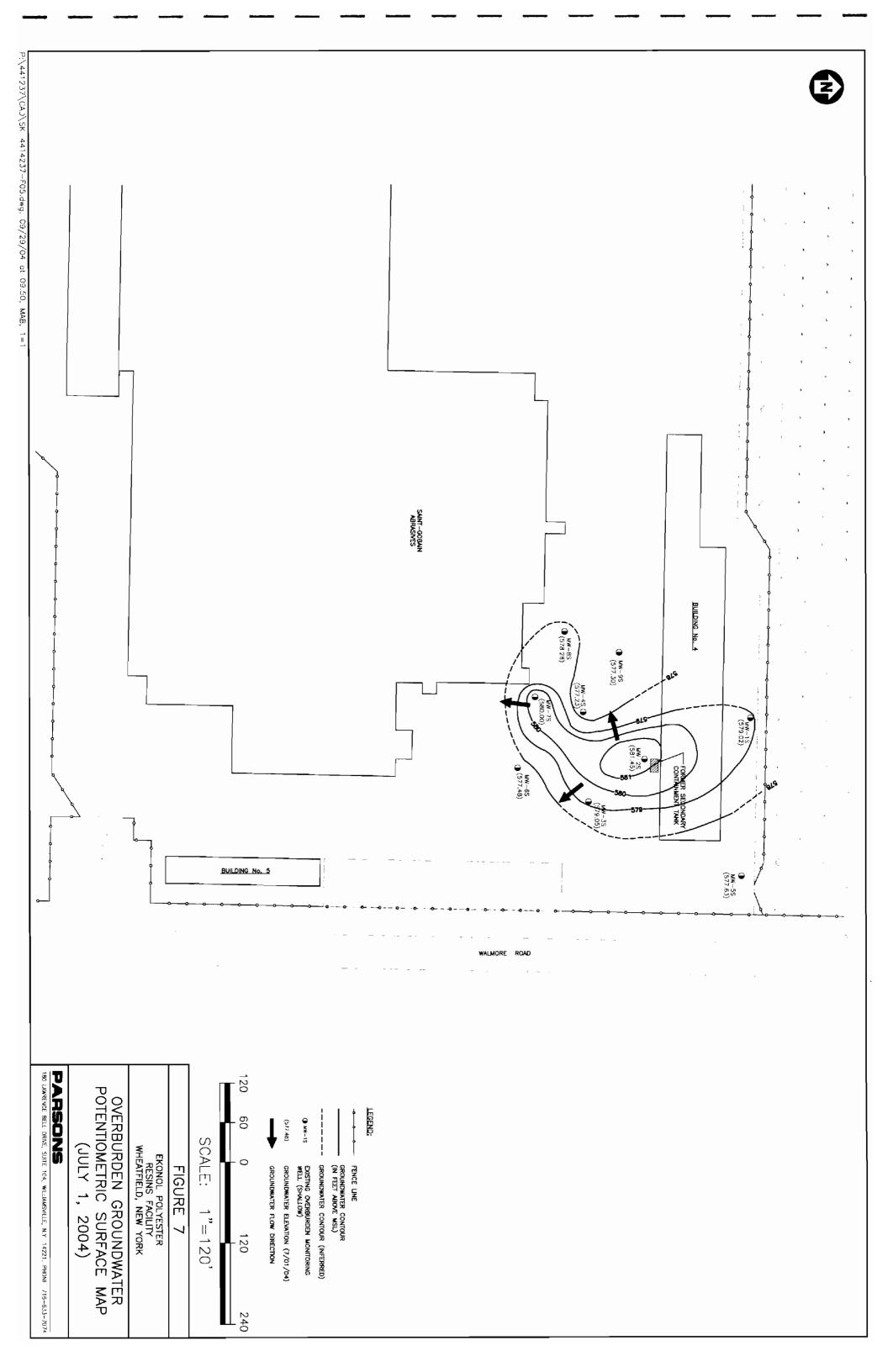
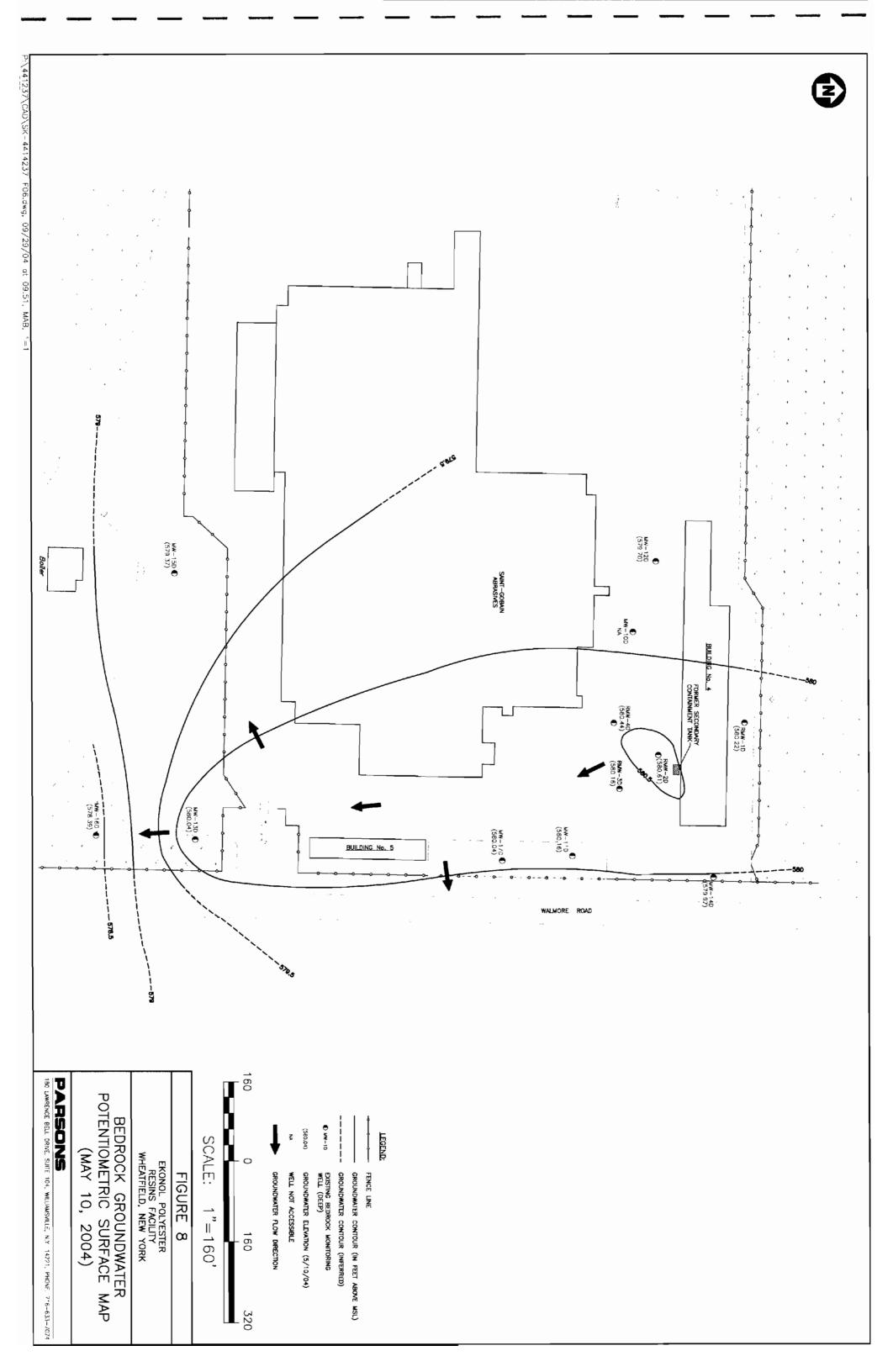


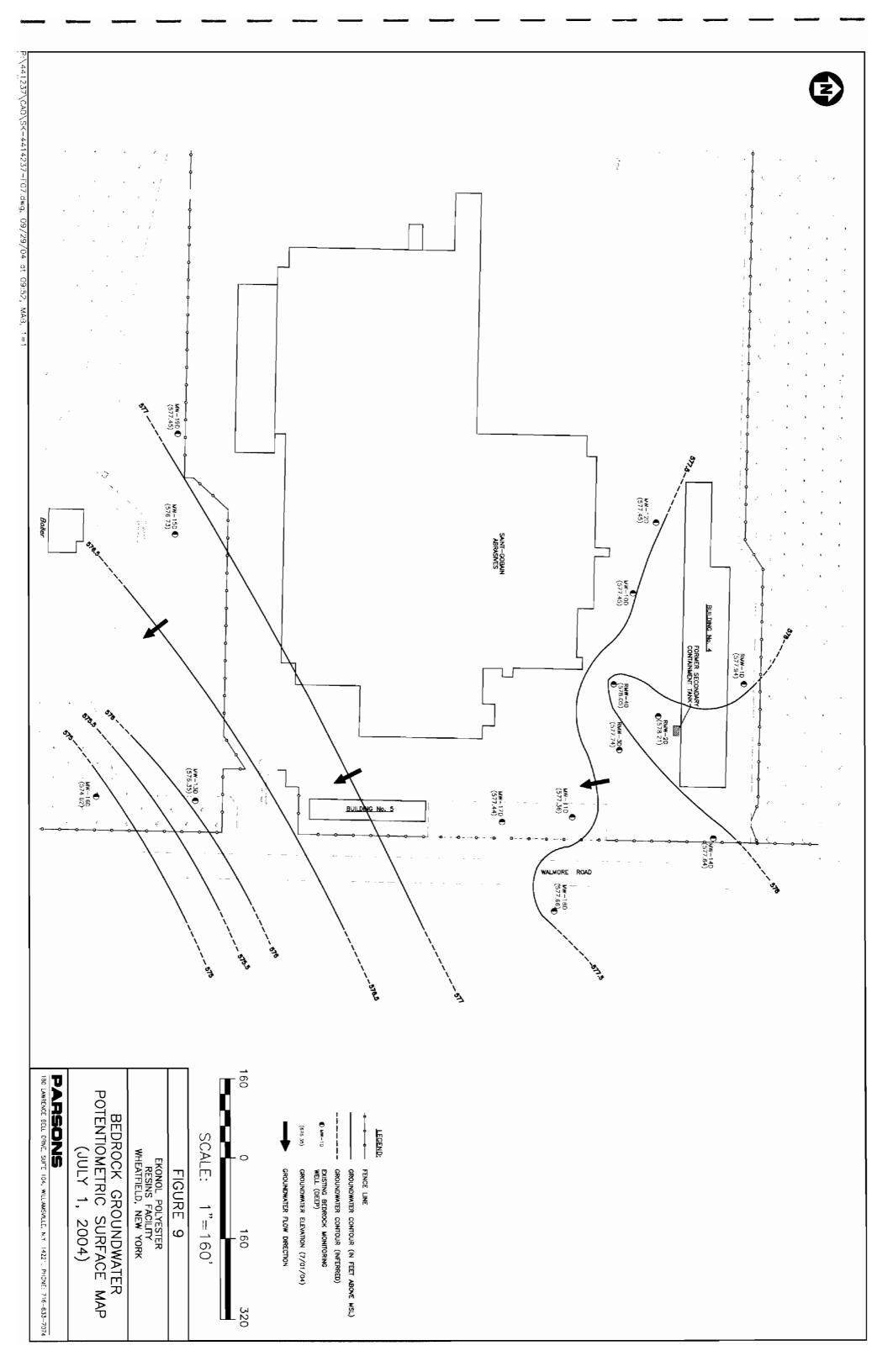
FIGURE 5 CONCEPTUAL SITE MODEL EKONOL POLYESTER RESINS WHEATFIELD, NEW YORK

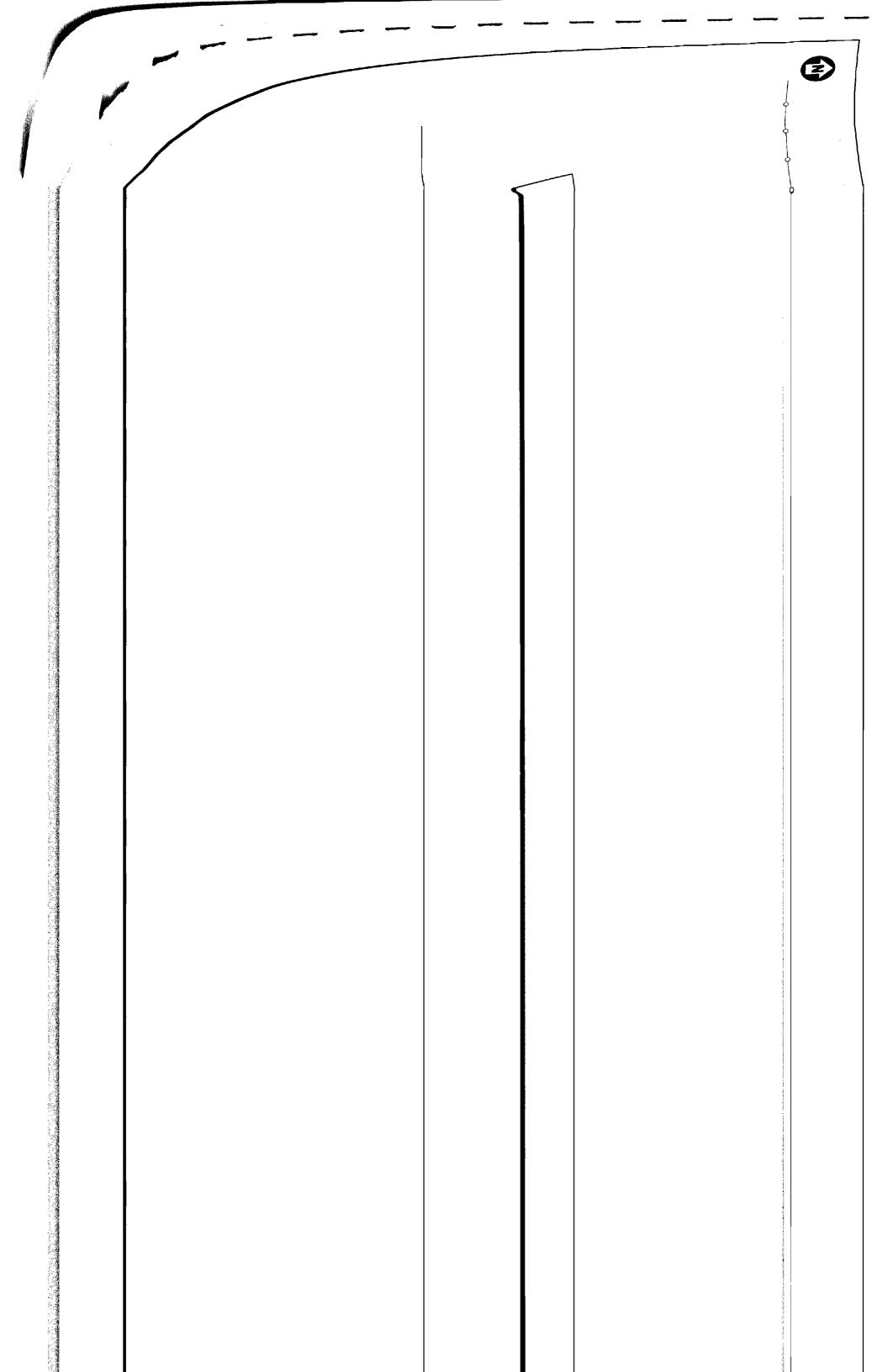


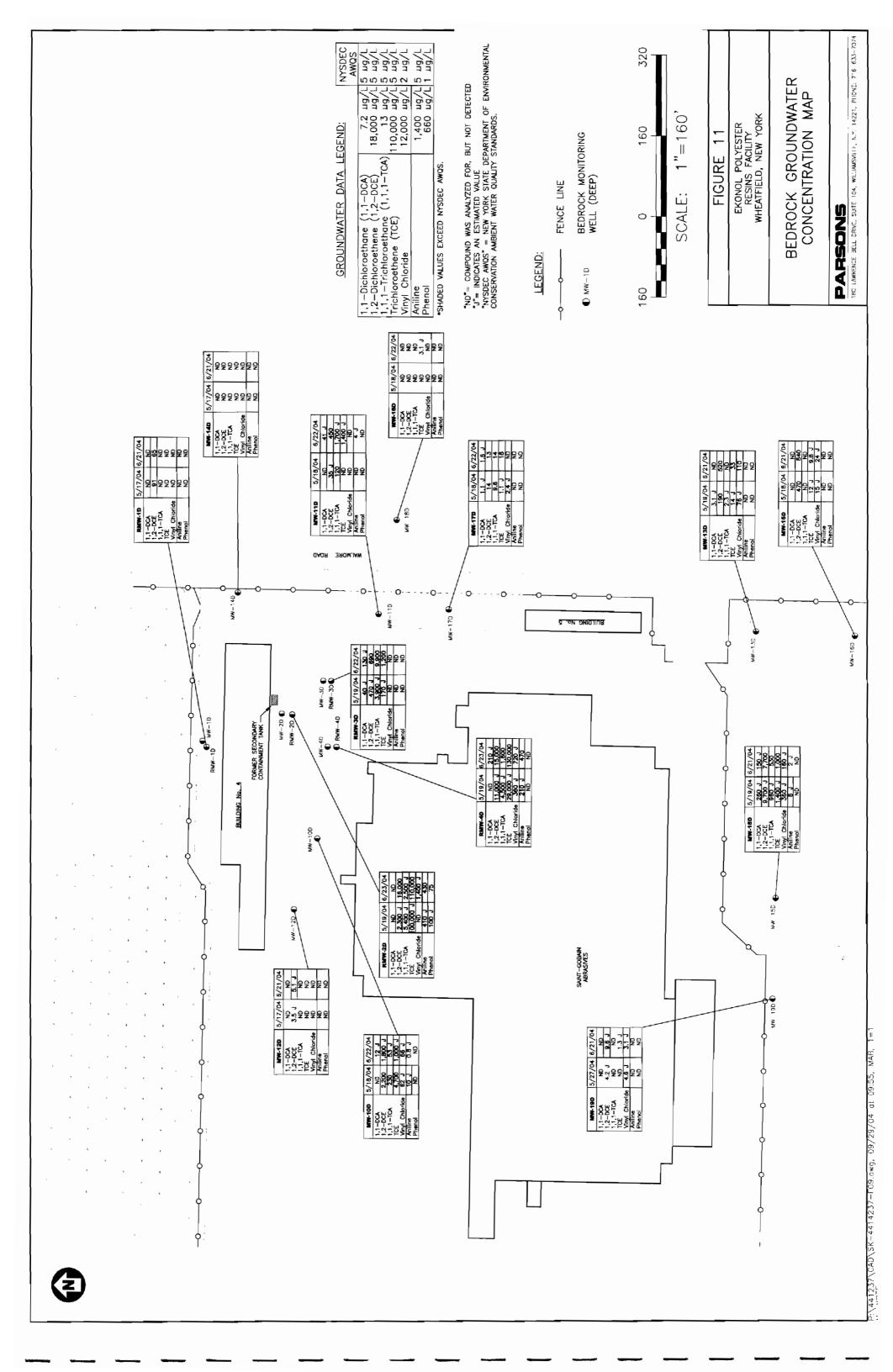


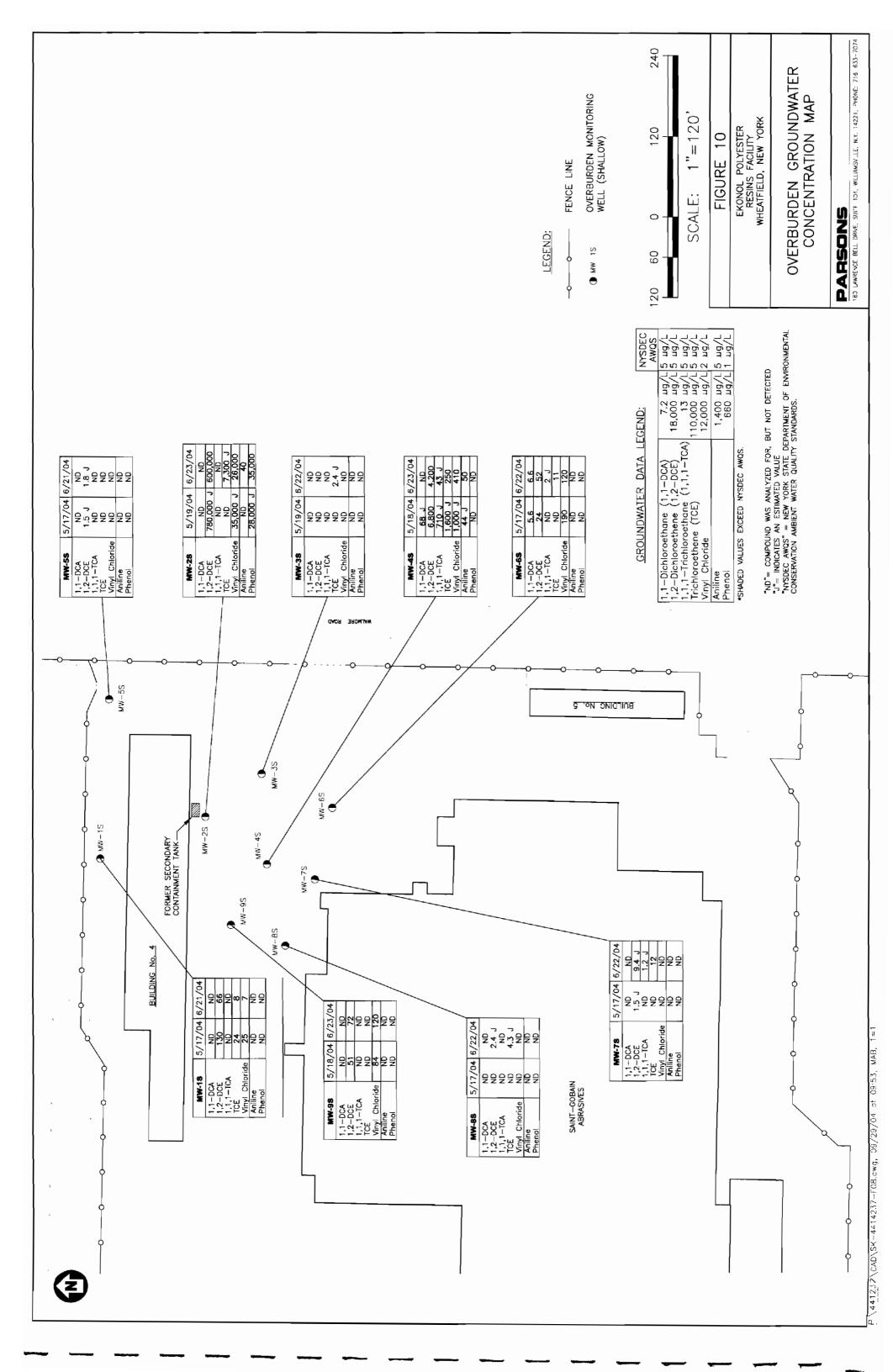












TABLES PARSONS P:\441237\WP\41237R03.DOC SEPTEMBER 29, 2004

Table 1

Ekonol Facility Groundwater Field Screening Summary Wheatfield, New York

Field Screening	Date	VOH Result
Location ID	Sampled	(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-18	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	2	ug/L	2	Q.	Q	Q	Q	QN	QN	2
540-59-0	1,2-Dichloroethene (Total)	2	ng/L	190	180	71	97 D	Ր 69	120	130	99
71-55-6	1,1,1-Trichloroethane	2	ng/L	Q	2	2	Q	Q	9	Ω	Q
79-01-6	Trichloroethene	2	ng/L	32	28	6.9	우	7.8	17	24	ω
75-01-4	Vinyl chloride	2	ng/L	¥	Å.	ΝΑ	Ą	18	19	25	7
	SEMIVOLATILES				The second secon						
62-53-3	Aniline	2	ng/L	Q	QN	Q	QN	QN	QN	QN	QN
108-95-2	Phenol	-	ng/L	Q	Q.	Q	Q	ND	ND	ND	QN
	S SEE STREET										
7439-92-1	Lead - Total	0.025**	∏/gш	QN	g	QN	QN	ΝΑ	Ϋ́	∀ Z	ΑN
7441-66-6	Zinc - Total	0	mg/L	QN	0.088	0.023	QN	NA	Ā	ΑN	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

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	ა	ng/L	58	QN	QN	ON	Q	QN	QN	QV
540-59-0	1,2-Dichloroethene (Total)	Ŋ	ug/L	480,000 D	630,000	740,000	780,000	780,000	000'069	780000 J	000009
71-55-6	1,1,1-Trichloroethane	r.	ng/L	QN	QN	9	Q	9	2	2	Q
79-01-6	Trichloroethene	വ	ng/L	140,000 BD	200,000	Q	5,600 J	Q	2	2	7300 J
75-01-4	Vinyt chloride	2	ng/L	NA	ΑN	Ā	Ϋ́	30,000	32,000	35000 J	26000
	SEMIVOLATILES										
62-53-3	Aniline	5	ng/L	450 D	QN	2,000	QN	2600	ď	QN	40
108-95-2	Phenol	-	ug/L	25,000 D	42,000 D	000'99	53,000 B	26,000	39,000 JN	28000 J	35000
The second section of the section	postalista se seguina de la compania de la compania O de la compania de l					CANADA TO THE STREET STREET STREET STREET STREET					
7439-92-1	Lead - Total	0.025**	mg/L	QN	QN	0.38	QN	NA	NA	ΑΝ	NA
7441-66-6	Zinc - Total	0	mg/L	QN	0.091	1.7	0.026	ΑN	ΑN	¥	NA
*	- Chandards taken than Ambient Wester Oilelis. Standards	4111	Charles and Charles	1000	1	000					

* = 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

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 Buffato
			SDG	A01-A872	A01-C132	A02-9572	A02A997	A38982	A3A474	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES						的一种,这种是一种,可以是一种的一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种的一种,可以是一种,可以是一种,可以是一种,可以是一种的一种,可以是一种,可以可以是一种,可以可以是一种,可以可以是一种,可以可以是一种,可以可以是一种,可以可以是一种,可以可以是一种,可以可以是一种,可以可以是一种,可以可以可以可以可以可以可以可以可以可以可以可以可以可以可以可以可以可以可以				
75-34-3	1,1-Dichloroethane	ည	ng/L	ð	Q.	9	Q	Q	QN	Q	QN
540-59-0 1,	1,2-Dichloroethene (Total)	c)	ng/L	1.3 J	9	9	0.58 J	Q	Q	2	QN
71-55-6	1,1,1-Trichloroethane	S	ng/L	Q	Q	9	Q	Q	Q	2	QN
79-01-6	Trichloroethene	Ŋ	ng/L	4.3 BJ	2.3 J	വ	2	Q	Q	2	2.4 J
75-01-4	Vinyl chloride	8	ng/L	ΑN	Ą	Ą	٩Z	Q	Q	9	QN
	SEMIVOLATILES		TO SELECTION OF THE PROPERTY O				では、日本の			日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日	
62-53-3	Aniline	2	ng/L	QN	Q.	Q	Q	Q	Q	Ð	QN
108-95-2	Phenol	-	ng/L	Q	2)	Q	Q	g	Q	Ð	2
	METALS	1000年,2000年的1000年,1000年的1000年,2000年的1000年		1864 in sprinske mennt in				的,这是一个,"我们是我们的是一个," "我们的是一个,"我们的是们是一个,"我们是一个。"	#3-44 BEREEF FEET OF BEREEF ELS.	नाक नाक आहे. साथ ताथ नाम जाता है। न बाजा में में हो किन्द्र कुट जाते में हो कि हैं कि है कि कि जाता है।	
7439-92-1	Lead - Total	0.025**	mg/L	0.025	QN	QN	QN	ΝΑ	NA	AN	۸N
7441-66-6	Zinc - Total	2	mg/L	0.14	0.094	2	0.048	Ą	Ϋ́	Ϋ́	۷ ۷
*	Control of the Contro		C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		, v C C -	000					

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

** = Dissolved concentration standard

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

			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 Butfalo	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								
190 (A)	VOLATILES	1810 1810 1810 1810 1810 1810 1810 1810									
75-34-3	1,1-Dichloroethane	.C	ug/L	7.2	QN	Q	13 J	QN	QN	f 89	QN
540-59-0	1,2-Dichloroethene (Total)	rO	ng/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	2	ng/L	13	Q	Q	150	100	100	710 J	43 J
79-01-6	Trichloroethene	5	ng/L	110,000 BD	46,000	4,100	O 000'6	961	130	1600 J	250
75-01-4	Vinyl chloride	2	ng/L	ΝΑ	NA	NA	ΑN	230	320	1000 J	410
	SEMIVOLATILES										
62-53-3	Aniline	2	ng/L	1,400 D	10	120	400 D	L Z	91	44 J	50
108-95-2	Phenol	-	ng/L	099	8	8	32	2	9	QN	QN
	METALS	100 (00 to 100 t									
7439-92-1	Lead - Tolal	0.025**	mg/L	0.15	0.045	QN	ΩN	AN	ΑN	۷N	NA
7441-66-6	Zinc - Total	2	mg/L	0.12	90.0	ND	0.02	AN	NA	NA	NA
* - Standarde	* - Standards taken from the Ambient Water Auglity Standards and Guidance Values (Class GA) - 1008	2 ville in O rate	Standarde and G	idance Values	Close GA) 100	86					

= 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

			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		The last of the state of the st	A CONTRACTOR OF THE STATE OF TH					
75-34-3	1,1-Dichloroethane	5	ng/L	QN	QN	Q	QN	QN	ND
540-59-0	1,2-Dichloroethene (Total)	2	ng/L	5.4	4.4 J	2	Q	1.5 J	1.8 J
71-55-6	1,1,1-Trichloroethane	2	ng/L	Q	Q	2	QN	Q	2
79-01-6	Trichloroethene	2	ng/L	QN	Q	2	Ð	QN	2
75-01-4	Vinyl chloride	2	ng/L	NA	NA	Q	Q	Q	QN
	SEMIVOLATILES								
62-53-3	Aniline	5	ng/L	QN	QN	QN	QΝ	QN	QN
108-95-2	Phenol	1	ug/L	ND	ND	QN	QN	ND	2
7439-92-1	Lead - Total	0.025**	mg/L	ΩN	QN	AN	NA	NA	ΑN
7441-66-6	Zinc - Total	2	mg/L	Q	Q	ΑN	ΝΑ	ΑN	Ϋ́
* = Standards	= Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998	iter Quality S	tandards and Gui	idance Values (CI	ass GA) - 1998				
"NA"= Compo	"NA"= Compound was not analyzed.								
		Landa de la de							

[&]quot;ND"= Compound was analyzed for, but not detected

[&]quot;J"= Indicates an estimated value
** = Dissolved concentration standard

								_		_	_	_						
WW-6S	6/22/2004	8/6/2004	A4591504	STL Buffalo	A04-5891			9.9	52	27	=	120		QN	ND		AN	NA
WW-6S	5/17/2004	8/5/2004	A4465006	STL Buffalo	A04-4650			5.6	24	Q	Q	190		ΩN	QN		۷N	Ϋ́
MW-6S	10/29/2003	11/23/2003	A3A48109	STL Buffalo	A3A481			4.4 J	44	QN	3.9 J	140	ez-sanda sara serial dendez-ran dendez-ran en	QN	QN	. Dev a de la live de	VΑ	Ϋ́
MW-6S	9/18/2003	11/23/2003	A3898204	STL Buffalo	A38982			5.4	36	Q	3.4 J	210	enilakoakoakoakoakoakoakoakoakoakoakoakoakoa	QN	QN		NA	Ϋ́
WW-6S	11/4/2002		A2A99703	STL Buffalo	A02A997		acija moja deserbijiči iliških kolikaturistici. Albuma Tresi i populos populos populos i	1.6	17	Q	0.68 ქ	ΑN		QN	Q		QN	0.034
MW-6S	9/27/2002		A2961401	STL Buffalo	A02-9614			QN	30	Q	29	ΝΑ	CALLER TO CARCANA AND AND AND AND AND AND AND AND AND	QN	Q	THE TOTAL STATE OF THE THE THE TAX AND THE	QN	0.046
Sample ID	Sampled	Validated	Lab Sample ID	Source	SDG	Units		∏/gn	ug/L	ng/L	ng/L	ug/L		ng/L	ng/L		mg/L	mg/L
						Standard*		5	Ŋ	2	2	0		2	-		0.025**	7
						Compound	VOLATILES	1,1-Dichloroethane	1,2-Dichloroethene (Total)	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	SEMIVOLATILES	Aniline	Phenol		Lead - Total	Zinc - Total
						CAS No.		75-34-3	540-59-0	71-55-6	79-01-6	75-01-4		62-53-3	108-95-2		7439-92-1	7441-66-6

* = 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

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

			Sample ID	WW-7S	WW-7S	MW-7S	WW-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					
			SDG	A02-9614	A02A887	A38982	A3A481	A04-4650	A04-5891
CAS No.	Compound	Slandard*	Units						
	VOLATILES					300			
75-34-3	1,1-Dichloroethane	2	ng/L	QV	QN	QN	QN	QV	Q
540-59-0	1,2-Dichloroethene (Total)	ß	ng/L	4.6 J	2.4 J	Q	3.8 J	1.5 J	9.4 J
71-55-6	1,1,1-Trichloroethane	ιΩ	ng/L	9	Q	Q	2	Q	1.2 J
79-01-6	Trichloroethene	S	ng/L	Q	2	2	2.9 J	QN	12
75-01-4	Vinyl chloride	2	ng/L	NA	NA	QN	Q	ND	QN
	SEMIVOLATILES								
62-53-3	Aniline	2	ng/L	QN	QN	ΩN	ΩN	QN	QN
108-95-2	Phenol	-	ng/L	2	Q	QN	QN	Q	2
	PATALON METALS STATES THE								
7439-92-1	Lead - Total	0.025**	mg/L	0.14	0.013	AN	NA	NA	ΑN
7441-66-6	Zinc - Total	7	mg/L	0.71	0.086	NA	NA	NA	Ϋ́

^{* =} Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

[&]quot;NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected

[&]quot;J"= Indicates an estimated value
** = Dissolved concentration standard

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

			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					
			SDG	A02-9614	A02A887	A38982	A3A474	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ng/L	QN	QN	QN	QN	2	QN
540-59-0	1,2-Dichloroethene (Total)	5	ng/L	1.6 J	3.1 J	2	Q	Q	2.4 J
71-55-6	1,1,1-Trichloroethane	2	ng/L	Q	Q	2	QV	Q	Q.
79-01-6	Trichloroethene	5	ng/L	Q	Q	QV	Q	Q	4.3 J
75-01-4	Vinyl chloride	2	ng/L	NA	NA	QN	QN	Q	QN
	SEMIVOLATILES	18.00							
62-53-3	Aniline	2	ng/L	QN	QN	QN	QN	9	S
108-95-2	Phenol	-	ng/L	Q	Q	2	Q.	2	Q.
	STATEM IN THE								
7439-92-1	Lead - Total	0.025**	mg/L	0.07	QN	VΝ	ΝA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.37	Q	ΑN	ΑN	ΑN	ΑN

* = 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

			Cl alumba	MW-00	SO-WW	MW.0S	MW-0S	30-WW	WW.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		100000000000000000000000000000000000000						
75-34-3	1,1-Dichloroethane	5	ng/L	Q	Q	9	Q	Ð	2
540-59-0	1,2-Dichloroethene (Total)	2	ng/L	4.4 J	6.0	2.4 J	11.0	51	72
71-55-6	1,1,1-Trichloroethane	2	ng/L	Q	QN	2	QN	QN	QN
79-01-6	Trichloroethene	2	ng/L	N	QN	Q	Q	Q	Q
75-01-4	Vinyl chloride	2	ng/L	NA	ΑΝ	Q	22	84	120
	SEMIVOLATILES				The state of the s			「	
62-53-3	Aniline	5	ng/L	QN	Q	Q	Q	QN	QN
108-95-2	Phenol	-	ug/L	QN	QN	9	Q	Ð	Q
7439-92-1	Lead - Total	0.025**	_1/gш	0.011	0.014	ΝΑ	NA	۸N	ΑΝ
7441-66-6	Zinc - Total	2	mg/L	690.0	0.073	ΑN	ΑΝ	NA	Ϋ́
17.07.040	Other design of the second sec			()	140				

= 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

PARSONS

			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 Buffaio	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	J/Bn	33	Q	Q	QV	2	Q	QN	Q
540-59-0	1,2-Dichloroethene (Total)	5	ng/L	12,000 DJ	2	2	7,000 J	24000 J	Q	2300 J	16000
71-55-6	1,1,1-Trichloroethane	5	ng/L	32	Q.	Q	Q	2900 J	Q.	5400 J	2500 J
79-01-6	Trichloroethene	S.	ng/L	440,000 BD	950,000	410,000	400,000	480,000	640,000	100000	110000
75-01-4	Vinyl chloride	2	ng/L	۷A	NA	۷A	NA	2	QN	QN	1400 J
2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	SEMIYOLATILES							10年代の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の			
62-53-3	Aniline	5	ng/L	10,000 D	14.000	5,400 D	3,800	13,000	6,200	410 J	430
108-95-2	Phenol	-	ng/L	3,100 D	8,400	1,600 D	710 B	Q	9	1001	75
				FORCES SEED STREET							
7439-92-1	Lead - Total	0.025**	mg/L	QN	QN	0.25	ΩN	¥	ΑN	ΝΑ	NA
7441-66-6	Zinc - Total	2	mg/L	ND	Q	0.76	Q	Ϋ́	Ϋ́	Ą	ΥN
* - Ctondords	* - Chandards taken from the Ambient Wester Ottolity Standards and Colins	Total Cupita	Stondarde and C.	100 and 100 an	4000						

* = 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
"J"= Indicates an estimated value
"B"= 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

			Sample ID	MW-3D	MW-3D	MW-3D	MW-3D	MW-3D	RMW-3D	RMW-3D	HMW-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	STI. Buffalo
			SDG	A01-A872	A01-C132	A02-9656	A02B042	A39081	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units								
	VOLATILES	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			6.5 1.1 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.						
75-34-3	1,1-Dichloroethane	5	ng/L	1,200 DJ	ΩN	Q	110 J	100 J	72.)	40 J	130 J
540-59-0	1,2-Dichloroethene (Total)	2	ng/L	2,200 DJ	1,000	€000	920	670 J	460 J	470 J	069
71-55-6	1,1,1-Trichloroethane	2	J/gn	87,000 D	44,000	25,000	16,000 D	11,000	6,200	3900 ח	0066
79-01-6	Trichloroethene	5	ng/L	30,000 BD	20,000	5,500	4,600	1,600	810	170 J	1200
75-01-4	Vinyl chloride	5	ng/L	NA VA	A	Ą	Ą	Q	Q	9	Q
のでは、 は、 は	SEMIVOLATILES	STATE OF STA			Total Control of the		おおける からい 日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日			The state of the s	
62-53-3	Aniline	2	ng/L	72	11	Q	2.3	Q	QN	QN	Ð
108-95-2	Phenol	-	J/gn	20	2	9	5 BJ	Q.	4 ي	Q	9
	THE VERNEY OF THE PARTY OF THE				A CONTRACTOR OF THE PARTY OF TH				The state of the s		
7439-92-1	Lead - Total	0.025**	mg/L	QN	QN	QN	QN	NA	NA	ΑN	ΑN
7441-66-6	Zinc - Total	0	mg/L	2	2	Q	9	NA	ĄN	Ϋ́	Y.
the Charles and a Land Control of	21 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				140						

[&]quot;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

			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 Buffato	STL Buffalo	STL Buffalo	STL Buffaio	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				The state of the s	TO THE REAL PROPERTY.				の では、 一、 では、 では、 では、 では、 では、 では、 では、 では、 では、 では	
75-34-3	1,1-Dichloroethane	5	ng/L	21	ΩN	QN	2	QN	9	Q	210 J
540-59-0	1,2-Dichloroethene (Total)	2	ng/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	2	ug/L	56	Q	1,300 J	3,300	4,200	2,800	4500 J	1800
79-01-6	Trichloroethene	2	ng/L	250,000 BD	190,000	61,000	58,000	31,000	72,000	29000 J	130000
75-01-4	Vinyl chloride	2	ng/L	NA	NA	NA	ΑN	780 J	Q	360 J	720 J
	SEMIYOLATILES										
62-53-3	Aniline	2	ng/L	3,300 DE	1,200	089	580	390	2,700	210 J	470
108-95-2	Phenol	-	ug/L	1,000 D	240	36	40	Q	2	2	2
	METALS							Commence of the commence of th		アー ははないはい はないは	
7439-92-1	Lead - Total	0.025**	mg/L	QN	QN	QN	QN	ΝA	NA	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.026	0.024	Q	Q	ΑN	ΝΑ	NA	ΑN
* - Standards	= Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998	ter Origity S	tandards and Guir	Jance Values	Clace GA) - 100	ac.					

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

			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	A296B203	A2A98402	A3908101	A3A48108	A4466004	A4466007	A4591501
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffato	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A984	A39081	A3A4B1	A04-4650	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units							
	VOLATICS	200 - 170 -				STATE OF THE STATE	10.000.0000000000000000000000000000000	。 - 1866年第18年第18年第18年第18年第18年第18年 - 1868年第18年第18年第18年第18年第18年第18年第18年第18年第18年第1		
75-34-3	1,1-Dichloroethane	ည	ng/L	14	Q.	28 J	46	QN	QN	12 J
540-59-0	1,2-Dichloroethene (Total)	2	ug/L	1,500 D	2,600	2,700	2,700	2200	2200	1800 J
71-55-6	1,1,1-Trichloroethane	လ	ng/L	43	140 J	230	200 J	230	220	53 J
79-01-6	Trichloroethene	S.	ng/L	4,300 D	5,400	2,500	3,700	4700	4500	1000 J
75-01-4	Vinyl chloride	2	ng/L	ΑN	NA	f 99	130	62 J	64 J	66 J
のでは、 では、 では、 では、 では、 では、 では、 では、	SEMIVOLATILES		2. Company (1) 12. L. 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (September of the part of the p	THE REPORT OF THE PARTY OF THE		The second secon			
62-53-3	Aniline	5	ng/L	6.3	QN	ΔN	51	10 J	10 J	0.8 J
108-95-2	Phenol	-	ng/L	QN	ON	ND	5 J	ND	ND	2
	METALS									
7439-92-1	Lead - Total	0.025**	mg/L	QN	QN	ΥZ	ΑN	ΝΑ	ΝΑ	NA
7441-66-6	Zinc - Total	2	mg/L	QN	ND	NA	ΑN	NA	NA	NA
* - Standarde	- Standards taken from the Ambient Water Ouglity Standards and	Jator Oslality 6		idence Values	Guidance Values (Class GA) - 1998	α				

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

[&]quot;D"= Compound was identified in an analysis at the secondary dilution factor ** = Dissolved concentration standard

			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					
			SDG	A02-9682	A02A997	A39081	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	5	ng/L	2.8 J	3.0	4.5 J	4.5 J	QN	41 J
540-59-0	1,2-Dichloroethene (Total)	5	ng/L	36	54	99	84	35 J	450
71-55-6	1,1,1-Trichloroethane	2	ng/L	110	1100	360	130	120	1700 J
79-01-6	Trichloroethene	5	ng/L	15	9.4	59	14	Q	1400 J
75-01-4	Vinyl chloride	2	ng/L	AN	NA	2.6 J	4.2 J	ND	Q
	SEMIVOLATILES								
62-53-3	Aniline	5	T/6n	QN	QN	QN	QN	QN	4 J
108-95-2	Phenol	-	ng/L	QN	ND	QN	Q	QN	QN
	STELLEM								
7439-92-1	Lead - Total	0.025**	mg/L	QN	9	VΑ	ΑN	NA	NA
7441-66-6	Zinc - Total	Ø	mg/L	ND	QN	NA	NA	NA	NA
	THE A IT A IT	0	-	0,	100				

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

[&]quot;NA"= Compound was not analyzed.
"ND"= Compound was analyzed for, but not detected

[&]quot;J"= Indicates an estimated value "D"= Compound was identified in an analysis at the secondary dilution factor ** = Dissolved concentration standard

			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					是多一种的特別的特別的特別的				100 000 000 000 000 000 000 000 000 000		
75-34-3	1,1-Dichloroethane	2	ng/L	Q	Q	ΩN	QN	QN	Q	2	9	Q
540-59-0	1,2-Dichloroethene (Total)	S.	1/6n	<u>Q</u>	2	Q	2	2	9	3.5 J	513	5.2 J
71-55-6	1,1,1-Trichloroethane	5	J/6n	Q	2	Q	9	Q	2	<u>Q</u>	Q	Q
79-01-6	Trichloroethene	2	J/ôn	2	9	Q	9	2	Q	<u>Q</u>	9	Q
75-01-4	Vinyl chloride	5	ng/L	Ϋ́	NA	<u>Q</u>	Ð	Q	2	2	Q	ND
	SEMIVOLATILES	A CONTRACTOR OF THE CONTRACTOR										
62-53-3	Aniline	5	ng/L	ND	QN	QN	QN	S	QN	Q	Q	QV
108-95-2	Phenol	-	ng/L	ND	QN	Q	ND	Ŋ	8	2	2	Q
	METALS	通信を 一般の関係のできる										
7439-92-1	Lead - Total	0.025**	mg/L	QN	Q	ΝA	NA	ΑN	NA	ΑN	NA	NA
7441-66-6	Zinc - Total	2	mg/L	QN N	2	AN	ΝΑ	ΑN	AN	ΑN	NA	NA
* Chandordo	= Chandords to los the Ambiest Weter Outlife Plandards and Cuidence Values Ambies Anna	atter Oursita	Chandrade ond	C) actually accept	4000							

* = 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

			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						
	NOLATILES								
75-34-3	1,1-Dichloroethane	5	ng/L	2.7 J	3.8 J	4.6 J	4 J	3.1 J	QN
540-59-0	1,2-Dichloroethene (Total)	2	ng/L	180	180	180	140	190	520
71-55-6	1,1,1-Trichloroethane	2	ng/L	3.3 J	5.3	3.7 J	3.8 J	2.3 J	QN
79-01-6	Trichloroethene	2	ng/L	38	36	24	20	14 J	33
75-01-4	Vinyl chloride	2	ng/L	ΑN	NA	120	71	76 J	110
	SEMIVOLATILES								
62-53-3	Aniline	2	ng/L	ND	QN	QN	QN	QN	QN
108-95-2	Phenol	-	ug/L	QN N	QN	9	Q	QN	QN
	METALS								
7439-92-1	Lead - Total	0.025**	mg/L	ΔN	QΝ	NA	ΝΑ	NA	NA
7441-66-6	Zinc - Total	2	mg/L	0.031	QN	NA	NA	NA	NA
* - Standards	* - Standards taken from the Ambient Water Ouglity Standards and Guidance Values (Class GA) - 1008	Por Ouslity 6	Standarde and Gu	Change Values (C)	lace (24) - 1008				

^{* =} Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998 "NA" = Compound was not analyzed.

[&]quot;ND"= Compound was analyzed for, but not detected

[&]quot;J"= Indicates an estimated value
** = Dissolved concentration standard

PARSONS

Table 3

							erir essen	_						_	
MW-14D	6/21/2004	8/6/2004	A4589110	STL Buffalo	A04-5891			Q	Q.	Q.	Q	ND		Q N	DN
MW-14D	5/17/2004	8/5/2004	A4465004	STL Buffalo	A04-4650			ND	N	N	N	ND		Q	ND
MW-14D-DUP	10/29/2003	11/23/2003	A3A48103	STL Buffalo	A3A481			2	2	2	2	ND		QN.	Q.
MW-14D	10/29/2003	11/23/2003	A3A48102	STL Buffalo	A3A481			QN	Q	2	Q	ND		QN	QN
MW-14D	9/22/2003	11/23/2003	A3908102	STL Buffalo	A39081			QN	Q	Q	Q	Q		6.3	2
Sample ID	Sampled	Validated	Lab Sample ID	Source	SDG	Units		ng/L	ng/L	ng/L	ug/L	ug/L		ng/L	ng/L
						Standard*		2	S	2	2	7		2	-
						Compound	VOLATILES	1,1-Dichloroethane	1,2-Dichloroethene (Total)	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	SEMIVOLATILES	Aniline	Phenol
						CAS No.		75-34-3	540-59-0	71-55-6	79-01-6	75-01-4	100 mm	62-53-3	108-95-2

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

[&]quot;J"= Indicates an estimated value

			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				
			SDG	A39122	A39122	A3A481	A04-4650	A04-5891
CAS No.	Compound	Standard*	Units					
	VOLATILES							
75-34-3	1,1-Dichloroethane	5	ng/L	220 J	200	250	260 J	150 J
540-59-0	1,2-Dichloroethene (Total)	2	ng/L	8,100	009'9	6,800	6 00 Z6	7700
71-55-6	1,1,1-Trichloroethane	2	ng/L	980	890	1,300	f 096	530
79-01-6	Trichloroethene	5	ng/L	4,000	3,600	3,900	1400 J	1000
75-01-4	Vinyl chloride	2	ng/L	220 J	210	260	360 J	160 J
	SEMIVOLATILES F							
62-53-3	Aniline	5	ng/L	38	20	64	8 J	2 J
108-95-2	Phenol	_	ng/L	Q	QN	QN	S	Q

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

[&]quot;J"= Indicates an estimated value

				_		640				_		00 cp.04		_
MW-16D 6/21/2004	8/6/2004	A4589101	STL Buffalo	A04-5891			QN	840	Q	9.8 ე	24 J		Q.	ND
MW-16-DUP 5/18/2004	8/5/2004	A4466005	STL Buffalo	A04-4650			ΩN	440	Q	12 J	13 J		QΝ	ND
MW-16D 5/18/2004	8/5/2004	A4466006	STL Buffalo	A04-4650			QN	470	Q	12 J	15 J		ΩN	ND
MW-16D 10/29/2003	11/23/2003	A3A48112	STL Buffalo	A3A481			QN	530	Q	23 J	22 J		ON	ND
MW-16D 9/23/2003	11/23/2003	A3912202	STL Buffalo	A39122			QV	650	2.3 J	8	တ္တ		QN	QN
Sample ID Sampled	Validated	Lab Sample ID	Source	SDG	Units		ng/L	ng/L	ng/L	ng/L	ng/L		ng/L	ug/L
					Standard*		5	2	5	2	2		9	1
					Compound	VOLATILES	1,1-Dichloroethane	1,2-Dichloroethene (Total)	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	SEMIVOLATILES	Aniline	Phenol
					CAS No.		75-34-3	540-59-0	71-55-6	79-01-6	75-01-4		62-53-3	108-95-2

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

[&]quot;ND"= Compound was analyzed for, but not detected

[&]quot;J"= Indicates an estimated value

			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 Buffato	STL Buffalo	STL Buffalo
			SDG	A39081	A3A481	A04-4650	A04-5891	A04-5891
CAS No.	Compound	Standard*	Units					
	SET LES IN THE SET OF							
75-34-3	1,1-Dichloroethane	5	ng/L	1.9 J	2.3 J	1.1 J	1.6 J	1.2 J
540-59-0	1,2-Dichloroethene (Total)	2	ng/L	17	40	14	13	9.9 J
71-55-6	1,1,1-Trichloroethane	2	ug/L	21	23	9.6	14	ω
79-01-6	Trichloroethene	2	ng/L	Q	1.7 J	1.1 J	18	9
75-01-4	Vinyl chloride	7	ng/L	3.2 J	5.1	2.4 J	g	9
	SEMIVOLATILES							
62-53-3	Aniline	2	ng/L	QN	QN	QN	QN	Q
108-95-2	Phenol	-	ng/L	Q	Q.	Q	9	9

^{* =} 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

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

							Carried Carried					_	2400 m		
MW-18D	6/22/2004	8/6/2004	A4591506	STL Buffalo	A04-5891			QN	<u>Q</u>	Q	3.1 J	QN		Q	2
MW-18D	5/18/2004	8/5/2004	A4466002	STL Buffalo	A04-4650			QN	Q	Q	Q	ND		QN	Q
Sample ID	Sampled	Validated	Lab Sample ID	Source	SDG	Units		ng/L	ug/L	ug/L	ng/L	ug/L		ng/L	ng/L
						Standard*		2	2	2	2	2	- 21-5-15-5 Year Area and a second a second and a second	9	-
						Compound	VOLATILES	1,1-Dichloroethane	1,2-Dichloroethene (Total)	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	SEMIVOLATILES	Aniline	Phenol
						CAS No.		75-34-3	540-59-0	71-55-6	79-01-6	75-01-4		62-53-3	108-95-2

^{* =} 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

		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
Compound	Standard*	Units		
VOLATILES				
1,1-Dichloroethane	5	ng/L	QN	QN
,2-Dichloroethene (Total)	5	ng/L	4.2 J	9.6 J
,1,1-Trichloroethane	5	ng/L	QN	QN
Trichloroethene	5	ng/L	QN	1.3 J
Vinyl chloride	7	ng/L	4.6 J	3.1 J
SEMIVOLATILES				
Aniline	5	ng/L	ΠN	QN
Phenol	1	ng/L	QN	QV.
	Compound Vol.ATILES 1,1-Dichloroethane Dichloroethene (Total) 1,1-Trichloroethene Trichloroethene Vinyl chloride SEMIVOLATILES Aniline Phenol		Standard* 5 5 5 7 7	Standard* Lab Sample ID Source SDG SDG SDG STandard* Units 5 ug/L 5 ug/L 5 ug/L 5 ug/L 5 ug/L 7 ug/L 7 ug/L 7 ug/L 7 ug/L 7 ug/L

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

[&]quot;J"= Indicates an estimated value

Table 4
Ekonol Facility
Groundwater Summary Table
Wheatfield, New York

Monitoring Well ID	Top of Well Casing Elevation	Depth to Water 5/10/2004	Water Table Elevation 5/10/2004	Depth to Water 6/3/2004	Water Table Elevation 6/3/2004	Depth to Water 7/1/2004	Water Table Elevation 7/1/2004
	(Feet)	(Feet TOC)	(Feet)	(Feet TOC)	(Feet)	(Feet TOC)	(Feet)
Shallow							
MW-1S	585.06	3.39	581.67	3.69	581.37	6.04	579.02
MW-2S	585.1 1	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. 7 8	579.05
MW-4S	585. 7 9	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
u Deep							A POST to 4 1 to 40 to 10 to 40 to 40 to 40 to 10 to 1
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	1 2.34	574.62
MW-17D	587.31	7.2 7	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		Pathway	
Potentially-Exposed Receptor	Exposure Route and Medium	Patentially Complete	() Explanation
CURRENT LAND USE:	INDUSTRIAL	•	
On-site Worker	Inhalation of chemicals volatifized into indoor or from soil on site	No	intact concrete slabs at grade, underlying clays, and contamination at depth, make It highly unlikely that VOCs fram sail are having any significant impact on indoor oir
	Inhalation of chemicals valatilized into outdoor air from soil on site	No	Based on site conditions VOCs in soil are not impacting outdoor oir 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	Na	The concentrations of chemicals detected in sail 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 graundwater.	Na	Groundwater at the site and downgradient is not used as a water source
	Inholation of chemicols valatilized into indoor a r fram groundwater.	Yes	Groundwater at the site and downgradient is not used as a water source. Intact concrete slabs at grade, underlying clays, and contamination of depth, make It highly unlikely yet possible that VOCs are having an impact on indoor air
On-site Trespasser	inholation of chemicols volatilized into indoor air from soll on site.	No	Trespossers do not have access to the buildings an site. Intact concrete slabs at grade, and underlying clays make it unlikely that VOCs are having any significant impact on inadar air.
	Inhalation of chemicals valatilized into autdoor air from soil on site	No	Intact concrete slabs at grade and underlying clays allow for no VOCs impact in outdoor our at the present time
	Ingestion of chemicals in on-site soil	No	The concentrations of chemicols detected in soil samples did not exceed IAGM 4046 recammended 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.
	Derma: contact with graundwater	No	Groundwater at the site and downgradient is not used as a water source.
	Inhalation of chemicals voialilized into indoor air from groundwater	No	Groundwater at the site and downgradient is not used as o water source. Trespassers do not have access to the buildings on site. Intact concrete slobs at grade, and underlying clays make it unlikely that VOCs are having any significant impact on indoor air.
Off-Site Resident	Inhalation of chemicals valatilized into indoor air from soil on site	No	Not relevant for off-site receptors, contamination is primarily around the farmer storage tank location onsite
	Inhalation of chemicals volatilized into outdoor air from soil on site	Na	Not relevant for aff-site receptors. Conformation is primarily around the farmer storage tank location ansite and with underlying clays and an Intact concrete slob it is unlikely that chemicals will voiatilize into the air.
	Ingestion of chemicals in on-site soil	No	Not relevant for off-site receptors. Soil impacts primarily around the former containment Iani
	Dermal contact with chemicals in on-site soil	No	Not relevant for off-site receptors. Soil impacts primarily around the former containment ton
	Ingestion of groundwater	No	Groundwater at the site and downgradient is not used as a water source.
	Dermal contact with groundwater	No	Graundwater of 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	Pothway Potentially Complete	Explanat an
FUTURE LAND USE IN	idustrial		
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 slob and underlying clays make it unlikely for chemical volatilization into indoor or offsite
	Inhalation of chemicals volahized into outdoor oir from soil on site	No	It is highly unikely that site VOCs transported in groundwater at depth would ever significantly impact outdoor air.
	Ingestion of chemicals in on-site sail.	No	Not relevant for off-site receptors
	Dermal contact with chemicals in on-site sail.	No	Not relevant for aff-site receptors
	Ingestion of groundwater.	Yes	It is unlikely (yet possible) that groundwater downgrodient of the site would ever be used as a domestic water source.
	Dermal contact with groundwater	Yes	It is unlikely (yet possible) that grounowater downgradient of the site would ever be used as a domestic water source.
	Inhalation of chemicals valatilized into indoor air from groundwater	Yes	Bosed 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 warker would be a temporary worker working outside only
1	Inhalation of chemicals volotilized into autdoor air from soil an site.	No	It is highly unlikely that site VOCs transported in groundwater of depth would ever significantly impact outdoor air. Also, the VOCs in soil as not exceed TAGM 4046 recommended soil cleanup objectives.
	Ingestion of chemicals in on-site soi	Yes	Incidental ingestion of chemicals present in soll during excavation activities is passible
	Dermal contact with chemicals in on site soil	Yes	Dermal contact with chemicals present in soil during excavat an activities is possible
	Ingestion of groundwoter	No	An excavation worker would have no opportunity to ingest groundwater
	Dermal contact with groundwater	Yes	Excavation activities mov temporarily expose groundwater, incidental dermal contact is possible
	inhalation of chemicals volatilized into indoor oir from groundwater	No	Not a plausible exposure pathway for an an-site excavation worker.
On-site Worker	Inhalation of chemicals vokatilized into indoor oir from soit on site	No	Soils impacts are near the source. Intact concrete slab and underlying clays make it unlikely for chernical volatilization into indoor air.
	inhalation of chemicals volatilized into outdoor air from soil on site	No	On-site worker would be working incoors and have limited outdoor patential for exposure
	Ingestion of ahemicals in an-site soil	No	Not a plausible exposure pothway far the ansite warker.
	Dermal contact with chemicals in on-site soil.	No	Not a plausible exposure pathway for the onsite warker. Intact concrete slab flooring limits the potential for exposure
	Ingestion of groundwoter.	No	Worker would not be exposed to groundwater.
	Dermal contact with groundwater.	No	Worker would not be exposed to groundwater.
	Inholation of chemicals valatilized into indoor air from groundwater	Yes	Not a likely exposure politiwoy bosed on sile conditions, but shili possible.

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

Potentially-Exposed Receptor LAND USE: INDUSTRIAL	Exposure Route and Medium	Pathway Potentially Complete	Explanation
Terrestrial	Inharation of chemicals volatilized into indoor a from soil on site	No	Not relevant for ecological receptors
	Inhalation of chemicals valotilized into outdoor from soil on site		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 chemicols 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 4045 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	Ali exposure routes and media	No	There are no aquatic receptors

TABLE 8 EKONOL, WHEATFIELD, NEW YORK ESTIMATED POPULATION WITHIN ONE MILE¹

		İ	Total	
		Area	Block	Adjusted
Tract	Block	Fraction	Population	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
	1014	0.15	61	3
	1017	0.30	87	26
	1019	0.20	34	7
	1020	1.00	8	8
	1020	1.00	10	10
	1021	1.00	10	10
227.11	2008	0.05	137	7
22/.11	2014	0.05	7	2
	2015	0.50	27	14
	2016	1.00	2	2
	2017	1.00	8	8
	2017	1.00	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
	2023	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
	2030	1.00	0	0
	2032	1.00	0	
	2033	1.00	0	
	2034	1.00	0	0
	2034	1.00	37	37
	2036	1.00	1	1
	2037	1.00	0	0
	2037	1.00	16	16
	2039	0.30	298	89
	2009	0.30	290	09

	, —			
			Total	
_		Area		Adjusted
Tract	Block		Population	Population
227.12	8010	0.05	1 34	7
	8011	0.60	17	10
	8013	1.00	17	1 7
	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	
	8020	1.00	21	21
		0.80	21	
	8021 8022	0.80		17
_			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.

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ATTACHMENT A DRILLING RECORDS PARSONS P:\441237\WP\41237R03.DOC SEPTEMBER 28, 2004

					PARSONS	
Contractor.	SJB Services, Inc				DRILLING RECORD	BORING NO. MW-18D
Driller	Dale and Matthew	is and Matthew Mathies				
Inspector.	Sara Chmurs / Jeff	Poulsen			PROJECT NAME Ekonol Facility	
Rig Type:	ATV Drill Rig CM	IE-55			PROJECT NUMBER 737515/441237	Location. East of Ekonol Facility and Walmore Re
Method:	6.25" HSA/5.875"	Rolles Co	nc/HQ Co	onng		Elevation
					Weather Sun 75 F	N Walmore Rd
				<u> </u>		'
				_	Date/Time Start Coring 05/11/04 1000	Ekonol Pacility
		<u></u>		<u> </u>		
				_	Date/Time Finish Coring	
HQ Core	Renge	Depth	Rec.	RQD	FIELD IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DIAGRAM
Run			(%)	(%)		
		_		├		D4 - 00-1
		_		<u> </u>		Stick-up
		0	<u> </u>	 		protective casing
-		1	<u> </u>	-		11 Sand and a
		2			Description of overburden material is consistent with other well locations.	4" Steel casing
		3	-		Description of overouncen material is consistent with other wen locations.	
		5		_		2" Stainless steel
		6				well riser
		7	-			
		8				Grout
		9	-	 		
		10		T		TOR @ 10.0'
#1	11.00"-16.00		100	22		
		12			grey dolomite, crystals in fracture, some mineralization	Bentonite seal
		13	\vdash	_		
		14			grey dolomite, porous, some mineralization, vugging through our	
		15				14.0'-24.0'
		16				screen interval
#2	16.00 -21.00	17	100	70	very broken zone, grey/dark grey dolomite, vugs through out, some stylliolitic horizons, some	2" Stainless steel well screen, 0.010" slot
		18		ļ	mineralization.	
		19	L		grey to light grey dolomite, some stylliohtic horizons, some mineralization to break/end of run.	
		20		<u> </u>		2" Stainless steel
		21		-		- : = ,,
#3	21.00'-26.00	_	100	99	grey/light grey dolomite, some stylliolitic horizons, some mineralization	well screen, 0.010" slot
		23		-	light grey/grey dolomite, more abundant stylliolitic horizons, vugs through out, mineralization, porous,	0.010 5101
		24			lost circulation at 25.0° bgs.	
		26		┢┈	los enegration at 25.0 bys.	1 : 1
		27		 		
		28		 		TD @26.0'
		29		1		
		30		 		
		31				
		32				
		33				
		34				
			<u> </u>	-		
			<u> </u>	₩		
				-		
-			 	┼		
				+		
		\vdash		 		
\vdash				1		
	STANDARD	PRNETT	LATION	_		
	TOR- TO				SUMMARY: TOR was determined at HSA auger refusal	
	104 10	_ J. KC				

Date of Market Publish PROJECT NAME Ekonol Facility		CID Commerc Inc				PARSONS DRILLING RECORD	BORING NO. MW-19D
PRODUCT NAME PRODUCT NAME Product Product Product Name		SIB Services, Inc.				DRIELING RECORD	BORING NO. WW-1919
No No No No No No No No			Plantes			PROJECT NAME Ekonol Facility	
STANDAN PENTRALES STAN							Location South of St Gobain facility in parking
Date/Time Start Cering 05/25/04 1135 Date/Time Flitch Coring 05/25/04 1135 Date/Time Flitch Coring 05/25/04 1010 X WRILL CONSTRUCTION SHAREAM WRILL CONSTRUCTION SHAREAM Sick-up processors Sick-up processors Sick-up processors Sick-up processors Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. TOR © 13. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. TOR © 13. TOR © 13. TOR © 13. Signification of overburden material is consistent with other well locations. TOR © 13. TOR © 13. Signification of overburden material is consistent with other well locations. TOR © 13. TOR © 13. Signification of overburden material is consistent with other well locations. TOR © 13. TOR © 13. Signification of overburden material is consistent with other well locations. TOR © 13. TOR © 13. Signification of overburden material is consistent with other well locations. TOR © 13. TOR © 13. Signification of overburden material is consistent with other well locations. TOR © 15. Signification of overburden material is consistent with other well locations. TOR © 15. Signification of overburden material is consistent with other well locations. TOR © 15. Signification of overburden material is consistent with other well locations. TOR © 15. Signification of overburden material is consistent with other well locations. TOR © 15. Signification of overburden material is consistent with other well locations. TOR © 15. Signification of overburden material is consistent with other well locations. TOR © 15. Signification of overburden material is consistent with other well locati					nting		
Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. Description of overburden material is consistent with other well locations. TOR © 13. Description of overburden material is consistent with other well locations. TOR © 13. Description of overburden material is consistent with other well locations. TOR © 13. TOR © 13. TOR © 13. Description of overburden material is consistent with other well locations. TOR © 13.			l			Weather Sun 75 F	Ŋ Walmore Rd. →
Deptition Deptition Deptition Faith Coing OSGAGA 1030 X							─ <u></u> `
10 10 10 10 10 10 10 10						Date/Time Start Coring 05/25/04 1135	Ekonol Facility
See							
New 16 16 16 16 16 16 16 1							
Sick-up protective x		Range	Depth	l	ı	FIELD IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DIAGRAM
Description of overburden material is consistent with other well locations. 1	Kun		-	(%)	(%)		
Description of overburden material is consistent with other well locations. 1							Stick-up
Description of overburden material is consistent with other well locations. 4' Steel cas 4' Steel cas 4' Steel cas 2' Stainless 2' Stainless 2' Stainless 2' Stainless 4' Steel cas 4' Steel cas 4' Steel cas 4' Steel cas 2' Stainless 4' Steel cas 4' Steel cas 2' Stainless 4' Steel cas 2' Stainless 4' Steel cas 4' Steel cas 2' Stainless 4' Steel cas 2' Stainless 4' Steel cas 2' Stainless 4' Steel cas 2' Stainless 4' Steel cas 5' Stainless 4' Steel cas 4' Steel cas 4' Steel cas 4' Steel cas 5' Stainless 4' Steel cas 4' Steel cas 4' Steel cas 5' Stainless 6' Stainless 6' Stainless 6' Stainl			0				protective casing
Description of overhurden material is consistent with other well locations. 2" Smindes well riser Gross: TOR @ 13. 10. 11. 12. 13. 14. 15. 16. 17. 18. 18. 27. 27. 28. 28. 29. 20. 20. 20. 20. 20. 20. 20			1				
2. Sminless well riser TOR @ 13. 10. 11. 11. 11. 11. 11. 11.			2				4" Steel casing
2. Stainless well riser 7			3			Description of overburden material is consistent with other well locations.	
## well riser Force Forc			_				
Grout Grout Grout Grout TOR @ 13. TOR @ 15. TOR @ 13. TOR @ 15. TOR @ 13. TOR @ 15. TOR @			_				2" Stainless steel
Grox: Grox: Grox: Grox: Grox: Grox: Grox: Grox: Grox: TOR @ 13. TOR @ 13. TOR @ 13. TOR @ 13. 14.0-190° 16. 15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17			_				well riser
10		-					
TOR @ 13. 11							Groun
TOR @ 13. 11 12 13 14 15 15 16 160.0 G4.0 17 18 19 19 19 19 19 19 19			_				
13	-						
# 1 14.0°.19.0° 16 100.0 64.0 # 1 14.0°.19.0° 16 100.0 64.0 # 1 14.0°.19.0° 16 100.0 64.0 # 1 18			12				TOR @ 13.0°
#1 14.0°.19 0 16 1000 64.0 #1 14.0°.19 0 16 1000 64.0 #2 18			13				
# 1 140°190° 16 100.0 64.0 19			14				
17						grey/light grey dolomite, many clay seems/stylliohtic horizons, vertical fracture at 15.2'	Bentonite scal
18	#1	14.0'-19 0'		100.0	64.0		
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34		_	$\overline{}$			La company to the company of the com	
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34				_		grey/light grey dolorite, fewer stylliolitic horizons to break.	14.0*-24.0*
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34						grey/light grey dolomire, luttle mineralization	2" Stainless steel
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34	# 2	19.0'-24.0'		90.0	68.0	Breyingth grey continue, the mineral and	
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34						grey/light grey dolomite, mineralization, some stylliohtic horizons, dolomite mineral band deposits	
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34			23			lattle to no vugging, lost circulation at 23.0'	
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34			_				_ : : :
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34							well screen,
grey/light grey dolomate, some mineralization to break 29 grey/light grey dolomate, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 34 34 34 34 34 34 34 34 34 34	#3	24.0' -29.45'	-	92.0	92.0	grey/light grey dolumule, some vugging, few stylliolitic horizons to break	0 010" slot
29 grey/light grey dolomite, few stylliolitic horizons to break/end of run. 30 31 32 33 34 34 5TANDARD PENETRATION					<u> </u>	are whight are valuable some mineralization to break	
30 31 32 33 34 34 34 34 34 34						* * * * * *	15 923.0
31 32 33 34 34 34 34 34 34						<u> </u>	
33 34 34 34 34 34 34 34 34 34 34 34 34 3							
STANDARD PENETRATION							
STANDARD PENETRATION							
			34				
			L		<u> </u>		
TUR* 107 OF NACE SUSHMART: JUE Was determined at HAA auger retusal.						CINVARY. TVP Asserted at 116A array for 1	
		10K= 10I	OF KO	C.K.		JOR was ocientiated at 150% auger returns.	

ATTACHMENT B PACKER TEST RESULTS PARSONS

P:\441237\WP\41237R03.DOC SEPTEMBER 28, 2004

Formula			Q			L				
	K	=	2(pi)Ll	1	Log e	r			L>=10r	
	K	=	Permeabili	ty						_
	Q	=	Constant ra	ate of	flow (c	m/s)				
	L	=	Length of t		,	,				
	Н	=	Differential		•	-				
	r	=	Radius of I			,				
	log e	=	Natural log							
			est Zon	_		to 16	feet			
All Test	L =	5' =		152.4						
	r =	1.89	9" = 0.157'		=		4.80	cm		
MW-18D	Q	=	1 gpm		6	3 cm	3/s			
Test 1	Н	=		3.33	feet		10	1.5 cm		
	1/		63			1	52.4			
	K	=	(2)(pi)(152	2.4)H	Log e		4.80			
			. , , .							

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

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

$$K = 0.001791515 \text{ cm/s} = 1.79 \times 10^{-2} \text{ cm/sec}$$

Q = 0.00 cm3/s

Test 3 H = 0.00 cm

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

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

K = #DIV/0! cm/s =

Formula		Q . L	
· Ommana	K	$= \frac{Q}{2(pi)LH} \text{Log e } \frac{L}{r}$	L>=10r
	K	= Permeability	
	Q	= Constant rate of flow (cm/s)	
	L	= Length of test section (cm)	
	Н	= Differential Head of water (cm)	
	r	= Radius of hole (cm)= Natural logarithm	
·	log e	Test Zone 2 - 16 to 21 feet	
All Test	1	5' = 152.4 cm	
All Test	L ==		m
MW-18D	Q	= 1 gpm 63 cm3/s	
Test 1	1 H	= 2.73 feet 83.14 c	m
		60 150 4	
	K	$= \frac{63}{(2)(pi)(152.4)H} \text{ Log e } \frac{152.4}{4.80}$	
		(2)(pi)(132.4)(1	
	1/	174.12	
	K	$=\frac{174.12}{(957)(H)}$	
		* 正議議議所は、中部を対象を対し	inta Marke Sheets of Assets
	Κ	$= 0.00218714 \text{ cm/s} = 2.19 \times 10^{-3} \text{ cm/s}$	sec
	Q	= 132.47 cm3/s	
Test 2	2 H	= 219.00 cm	
	K	= 189.24 Log e 152.4 Log e 4.80	•
		523.03	
	K	= (957)(H)	
			. a the like it was a very attributed at some
	K	$= 0.002494106 \text{ cm/s} = 2.49 \times 10^{-2} \text{ cm/s}$	
			7,7
	Q	= 220.50 cm3/s	
Test 3	з Н	= 465.86 cm	
	K	$= \frac{220.5}{957.5574H} \text{ Log e} \frac{152.4}{4.80}$	
		957.5574H Log e 4.80 762.47	
	K	= 762.47 957.5574H	
		30	
	K	$= 0.00170923 \text{ cm/s} = 1.62 \times 10^{-3} \text{ cm/s}$	
	• • • • • • • • • • • • • • • • • • • •	- 0.0011 0020 0111/3 - ±.00.01	ANTICL AND MANAGEMENT

Formula			0					
romiula	K	=	Q Q	Log e	L			L>=10r
			2(pi)LH		r			
	K	=	Permeability	<i>y</i>				
	Q	=	Constant ra	te of flow (c	:m/s)			
	L	=	Length of te	st section (cm)			
	Н	=	Differential I	Head of wat	ter (cm)			
	r	=	Radius of he		` '			
	log e	. =	Natural loga					
	1090			** *** ***				
	log o				26 f	ant .		
		T	est Zone	e 3 - 21 t	to 26 f	eet		
All Test	L =	7	est Zone		_			
		7	est Zone	e 3 - 21 t	4.	80	cm	
All Test	L =	7	est Zone	3 - 21 152.4 cm	4.	80	cm	
	L = r= Q	5' = 1.8	est Zone 18 9" = 0.157' 0.9 gpm	9 3 - 21 1 52.4 cm =	4.	80		
MW-18D	L = r= Q	5' = 1.89	est Zone 18 9" = 0.157' 0.9 gpm	9 3 - 21 1 52.4 cm = 56.7	4.	80 s		
MW-18D	L = r= Q	5' = 1.89	est Zone 18 9" = 0.157' 0.9 gpm	9 3 - 21 1 52.4 cm = 56.7	4.	80 s		
MW-18D	L = r= Q H	5' = 1.89	est Zone 18 9" = 0.157' 0.9 gpm	9 3 - 21 1 52.4 cm = 56.7 0.89 feet	4. 7 cm3/	80 s 27.25		
MW-18D	L = r= Q	5' = 1.89	est Zone 18 9" = 0.157' 0.9 gpm	52.4 cm = 56.7 5.89 feet	4. 7 cm3/	80 s 27.25 2.4		
MW-18D	L = r= Q H	5' = 1.89	est Zone 18 9" = 0.157' 0.9 gpm	52.4 cm = 56.7 5.89 feet	4. 7 cm3/	80 s 27.25		
MW-18D	L = r= Q H	5' = 1.89	est Zone 18 9" = 0.157' 0.9 gpm	52.4 cm = 56.7 5.89 feet	4. 7 cm3/	80 s 27.25 2.4		

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

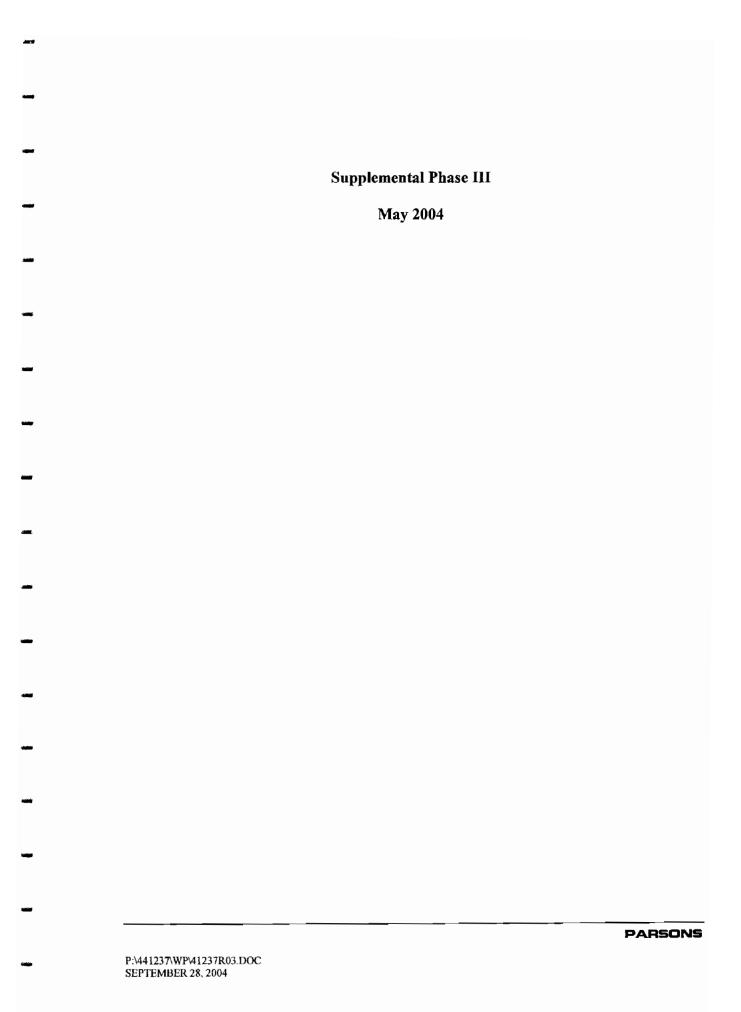
$$K = 0.006005686 \text{ cm/s} = 6.01 \times 10^{-3} \text{ cm/sec}$$

Q = 132.47 cm3/s
Test 2 H = 22.35 cm
K =
$$\frac{189.24}{(957)(H)}$$
 Log e $\frac{152.4}{4.80}$
K = $\frac{523.03}{(957)(H)}$

$$K = 0.02443889 \text{ cm/s} = 2.44 \times 10^{-2} \text{ cm/sec}$$

$$K = 0.01677751 \text{ cm/s} = 1.67 \times 10^{-2} \text{ cm/s}$$

ATTACHMENT C **GROUNDWATER SAMPLING RECORDS** PARSONS P:\441237\WP\41237R03.DOC SEPTEMBER 28, 2004



WELL SAMPLING RECORD

Site Name	Ekonol Facili	ity 737515/44		Well ID	RMW-2D		
Samplers	Jeff Poulsen Sara Chmura						
	Oara Omnure				•		
Total Well D	epth (TOC)		30.10	feet			
	Water Level (1	TOC)	6.00		•		
Well Diamet	er		2.0	inches			
Purging [<u>Data</u>						
Method	Peristali	tic Pump	Date/Time	05-19-0	4 / 14 <u>45</u>		
			_				
Water Volun	ne = (Total De		Depth To W		-		
	= -0.0	30.10	-	6.00	<u>x</u>	0.16	
		gallons					
		Casing	Volumes (g	al/ft.):			
1-inch	0.041				2-inch	0.16	
3-inch	0.36	4-inch	0.64		6-inch	1.4	
8-inch	<u> </u>				10 inch	4	
Volume of F	Purge Water R	emoved	15	gallons			
Sampling	Data						
Method	Peristalt	ic Pump	-	Date/Time	05-19-04	4 / 1605	
Dara	meters	Bot	tlo	Pres.	Mot	hod	
TCE; 1,2-D		2-40m		HCI	Method <i>8260</i>		
1,1-DCA; 1,		2 7017	- Trains				
VC							
phenol & an	iline	2-1L ambe	er bottles		82	70	
Field Para	meters	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.		3.14	3.13	3.14	3.12		
Turbidity (N				< 50 vis	< 50 vis		
Dissolved O	xygen (DO)	0.38	0.34	0.32	0.4		
ORP		-245	-243	- <u>246</u>	-246		
Nitrate (mg/l		-		-	0.0		
Ferrous Iron		-	-	-	0.0		
Sulfate (mg/	L)	-	-	•	260		
Comments:	Water was cl	ear with chen	nical odor a	nd spottv sh	een		
50				50 511 511			
*Sulfate was	analyzed und	er dilution					
Sudan IV to		z. aanom_					

Site Name	Ekonol Facili	Well ID	RMW-3D				
Samplers	Jeff Poulsen						
odinpicio	Sara Chmura	1					
Total Well D			26.82				
	Water Level (1	OC)	6.32				
Well Diamet	er		2.0	inches			
Purging [<u>Data</u>						
Method	Peristalt	ic Pump	-	Date/Time	05-19-0	94 / 1425	
Water Volum	ne = (Total De	oth of Well - [Senth To W	ater \ v Casi	na Volume n	er Foot	
Water Volum	= (10tal De	26.82	- -	6.32	τια volunie p Χ	0.16	
	3.3	gallons		<u> </u>		<u> </u>	
		•					
			Volumes (g				
1-inch			*		2-inch		
3-inch		4-inch	0.64		6-inch		
8-inch	2.5				10 inch	14	
Volume of F	Purge Water R	emoved	10.5	gallons			
Sampling	Data						
Method	Peristalt	ic Pump		Date/Time	05-19-0)4 <i>/ 1545</i>	
Para	meters	Bot	Bottle Pres.		Me	Method	
TCE; 1,2-DC		2-40ml vials		HCI.		260	
1,1-DCA; 1,							
VC							
phenol & an	il <u>ine</u>	2-1L ambe	er bottle <u>s</u>	-	82	270	
			<u> </u>				
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	1	
pH		8.46	8.40	8.40	8.40	1	
Temp. (C)		12.3	12.5	12.3	12.3		
Spec. Cond.		3.06	3.06	3.11	3.09		
Turbidity (N7	•	124	1.4	0	3		
Dissolved O	xygen (DO)	0	0	0	0.0		
ORP		-238	-246	-246	-250		
Nitrate (mg/l		-	-	-	0.00		
Ferrous Iron	` • /	-	-	-	0.0	_	
Sulfate (mg/	L)	-		-	220	_	
	Water was cl		furic odor				
*Sulfate was		or dilution			·		
Sudan IV te		ei allation.					

Site Name	Ekonol Facili	ty 737515/44		Well ID	MW-1S	
Samplers	Jeff Poulsen					
·	Sara Chmura	ì				
Total Well D	enth (TOC)		14.76	feet		
	Water Level (1	TOC)	3.46			
Well Diamet	•	00,	2.0			
Purging D	<u>ata</u>					
Method	Peristalt	ic Pump		Date/Time	05-17-0	4 / 1030
			•	•		
Water Volum	ne = (Total De			-		
	1.0	14.76	<u> </u>	3.46	<u>x</u>	0.16
		gallons				
_		Casing	Volumes (g	al/ft.):		
1-inch	0.041	1.5-inch			2-inch	0.16
3-inch		4-inch	0.64		6-inch	1.4
8-inch	2.5				10 inch	4
Volume of F	urge Water R	emoved	6	gallons		
Compline	Data					
Sampling	Data					
Method	Peristalt	ic Pump		Date/Time	05-17-04	1/1100
Parar	meters	Bot	le Pres.		Met	hod
TCE; 1,2-DC	Έ;	2-40ml	vials	HCI	82	60
1,1-DCA; 1,1	1,1-TCA;					
VC						
phenol & ani	line	2-1L ambe	er bottles		82	70
Field Para	meters	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 (NT		134	89.1	_	<50 vis	
Dissolved Ox	(ygen (DO)	1. <u>47</u>	0.55	-	6.49	
ORP "		2.4	2.3	-	2.2	
Nitrate (mg/L			-	-	0.0	
Ferrous Iron		-	-	-	0	
Sulfate (mg/l	- <i>)</i> [<u>-</u>	<u>-</u>	-	240 D	
Comments:	well dry after	2 volumes - l	et recharge.	, remove thin	rd volume, co	llected
sample.			y -)			
	analyzed und	er dilution.				

Site Name Ekonol Facili	Name Ekonol Facility 737515/441237					
Samplers Jeff Poulsen						
Sara Chmura	 1					
Total Well Depth (TOC)		12.15				
Initial Static Water Level (T	OC)	1.4				
Well Diameter		2.0	inches			
Purging Data						
Method Peristalt	ic Pump	-	Date/Time	05-19-04	4 / 1200	
Water Volume = (Total De	nth of Well - [enth To W	ater) y Casi	na Volume ne	r Foot	
=	12.15	-	1.4	X		
1.7	gallons					
		Volumes (g				
1-inch 0.041	1.5-inch			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 R	emoved	5	gallons			
Sampling Data						
Sampling Data						
Method Peristalt	ic Pump	-	Date/Time	05-19-04	/ 1240	
Parameters	Bot	tle	Pres.	Method		
TCE; 1,2-DCE;	2-40mi	l vials	HCI	826	60	
1,1-DCA; 1,1,1-TCA;						
VC						
phenol & aniline	2-1L ambe	er bottles	<u>-</u>	827	7 <u>0 </u>	
				<u>-</u>		
Field Parameters	1 Valuma	2 Volume	2 1/a/uma	Comple		
pH	1 Volume 7.99	2 Volume 7.79	3 Volume 7.73	Sample 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 cl		en, chemica	Vsulfuric odd	or, well dry,		
will let recharge before san						
*Sulfate was analyzed und Sudan IV test negative	er dilution					

Site Name <u>Ekon</u>	ol Facili		Well ID	MW-3S		
Samplers Jeff F	Poulsen					
Sara	Chmura	1				
	FO.0\		40.00			
Total Well Depth (T	,	.00)	12.02			
Initial Static Water Well Diameter	revei (i	OC)	<u>4.1</u> 2.0			
Well Diameter				inches		
Purging Data						
Method	Peristalt	ic Pump		Date/Time	05-19-04	1 / 0900
Water Volume = (T	otal Der	nth of Well - [enth To W	ator) v Casii	na Volume na	er Foot
•vater volume = (1	Olar De	12.02	- -	4.1	X	0.16
	1.3	gallons				
		J				
		Casing	Volumes (g	jal/ft.):		
1-inch	0.041	1.5-inch			2-inch	0.16
3-inch	0.36	4-inch	0.64		6-inch	
8-inch	2.5				10 inch	4
Method	Peristalt	ic <u>Pump</u>		Date/Time_	<u>05-19-0</u> 4	4 / 0930
Parameters	,	Bott	le	Pres.	Met	hod
TCE; 1,2-DCE;		2-40ml		HCI		60
1,1-DCA; 1,1,1-TC	A;					
VC		_				
oheno <u>l</u> & anili <u>ne</u>		2-1L ambe	r bottles		82	70
-						
<u>Field Parameter</u>	rs [1 Volume	2 Volume	3 Volume	Sample	
oH	[6.98	7.02	7.29	7.31	
Temp. (C)	Į.	11.2	10.9	11.1	11.3	
Spec. Cond. (mS/c	m)	33.1	34.1	45.6	38.7	
Furbidity (NTU)	(DC)	21.1	0	4.8	3.8	
Dissolved Oxygen ((DO)	0	0	0	0.0	
ORP Nitrate (mg/L)	-	75 -	66	37	20 0.0	
Nitiale (mg/L) Ferrous Iron (mg/L)	\ \ \	-	-	-	0.0	
Sulfate (mg/L)	, l				228	
Junaie (my/L)			_			
, ,	l	-	_	<u>-</u>	220	
Comments: Water	r is clear	r, no odors, n	o sheen. we	ent dry after		et recharge
	r <u>is clea</u>	r, no odor <u>s,</u> n	o sheen, we	ent dry after		t recharge
Comments: Water and sampled. *Sulfate was analyz			o sheen, we	ent dry after		et recharge

Site Name	Ekonol Facili		Well ID	MW-4S			
Samplers	Jeff Poulsen						
Campiers	Sara Chmura	1					
	Out a Omital						
Total Well D	epth (TOC)		12.80	feet			
	Water Levél (1	OC)	6.41				
Well Diamet	er	•	2.0	inches			
Purging C	<u>Data</u>						
Method	Peristalt	ic Pump		Date/Time	05-19-04	1/1100	
Water Volun	ne = (Total De	oth of Well - D	enth To Wa	ater) x Casi	na Volume pe	er Foot	
Traid: Void:	=	12.80	•	6.41	X	0.16	
	1.0	gallons					
			Volumes (g	al/ft.):			
1-inch		1.5-inch			2-inch	0.16	
3-inch		4-inch	0.64		6-inch	1.4	
8-inch	2.5				10 inch	4	
Volume of Purge Water Removed3 gallons							
Sampling	Data						
Method	Peristalt	ic Pump		Date/Time	05-19-04	1 / 1130	
Pore	matara	Bot	llo.	Droo	Mat	had	
TCE; 1,2-DC	meters ∼⊏-	2-40ml				hod <i>60</i>	
1,1-DCA; 1,		2-40/11/	VIAIS	<u>HÇI</u>		00	
VC	1,1-10A,						
phenol & an	iline	2-1L ambe	er bottles		82	70	
profes a an							
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample		
рН		7.72	7.78	7.89	7.89		
Temp. (C)		12	12.1	12.1	12.1		
Case Case		0.47	6.23	5.81	5.4		
	(mS/cm)	6.47	0.23	0.07			
Turbidity (N7	ΓÚ)	5	0.5	2	0		
Turbidity (NT Dissolved O	ΓÚ)	5 0	0.5 0.9	2 0	0 1.31		
Turbidity (NT Dissolved Of ORP	ΓÚ) xygen (DO)	5	0.5	2	0 1.31 -145		
Turbidity (NT Dissolved Of ORP Nitrate (mg/l	rU) xygen (DO) -)	5 0	0.5 0.9	2 0	0 1.31 -145 0.0		
Turbidity (N1 Dissolved O ORP Nitrate (mg/L Ferrous Iron	rU) xygen (DO) _) (mg/L)	5 0	0.5 0.9	2 0	0 1.31 -145 0.0 0.0		
Turbidity (NT Dissolved Of ORP Nitrate (mg/l	rU) xygen (DO) _) (mg/L)	5 0	0.5 0.9	2 0 -145 -	0 1.31 -145 0.0		
Turbidity (NT Dissolved O ORP Nitrate (mg/l Ferrous Iron Sulfate (mg/l	rU) xygen (DO) _) (mg/L)	5 0 -68 - - -	0.5 0.9	2 0 -145 -	0 1.31 -145 0.0 0.0		
Turbidity (NT Dissolved Of ORP Nitrate (mg/l Ferrous Iron Sulfate (mg/l Comments:	rU) xygen (DO) _) (mg/L) L) <u>Water is clea</u>	5 0 -68 - - - - r, no odors	0.5 0.9	2 0 -145 -	0 1.31 -145 0.0 0.0		
Turbidity (NT Dissolved Of ORP Nitrate (mg/l Ferrous Iron Sulfate (mg/l Comments:	TU) xygen (DO) -) (mg/L) L) Water is clea	5 0 -68 - - - - r, no odors	0.5 0.9	2 0 -145 -	0 1.31 -145 0.0 0.0		

Site Name	Ekonol Facili	it <u>y 737515/44</u>		Well ID	MW-5S	
Samplers	Jeff Poulsen					
Oumpiois	Sara Chmura	3				
Total Well D	epth (TOC)		14.41	feet		
Initial Static	Water Level (1	roc)	6.45	feet		
Well Diamet	ter		2.0	inches		
Purging I	<u>Data</u>					
Method	Peristall	ic Pump	_	Date/Time	<u>05-17-0</u>	<u>14 / 1430</u>
MatanMalon	/Tatal Da	-46 -4141-11 F	3 11- T - 14(-1>		
Water Volun	ne = (Total De	pth of Well - L <i>14.41</i>	Depth To W	-		
	= 13	gallons		6.45	х	0.16
	1.0	galloris				
		Casing	Volumes (g	al/ft.):		
1-inch	0.041	1.5-inch			2-inch	0.16
3-inch	0.36	4-inch	0.64		6-inch	1.4
8-inch	2.5				10 inch	ı 4
Volume of F	Purge Water R	emoved	15	gallons		
rotattio c	ango rrato			ganono		
<u>Sampling</u>	<u>Data</u>					
Method	Peristalt	ic Pump		Date/Time	<i>05-17-0</i>	4 / 1530
Para	meters	Bot	tle	Pres.	Me	thod
TCE; 1,2-DC		2-40ml vials		HCI	8260	
1,1-DCA; 1,	1,1-TCA;					
VC						
phenol & an	iline	2-1L_ambe	er bottles	-		27 <u>0</u>
Ciold Doro	motoro	4 1/2/2222	0.1/2/	0.1/01	01-	1
Field Para	<u>illeters</u>	1 Volume 7.17	2 Volume 7.17	3 Volume 7.17	Sample 7.16	4
Temp. (C)		11.03	11.25	11.45	11.8	1
Spec. Cond.	(mS/cm)	3.72	3.31	3.21	3.21	1
Turbidity (N		> 50	> 50	< 50 vis	< 50 vis	1
Dissolved O		0.41	0.37	0.36	0.35	1
ORP	,,,g (2 °)	-130	-123	-124	-122	1
Nitrate (mg/l	L)	-	-	-	0.0	1
Ferrous Iron		-	-	-	0.8	1
Sulfate (mg/		-	-	-	177	1
. •						
Comments:	Turbidity not	working on H	orri <u>ba, me</u> a	surements a	re based on	visual
observations						
	analyzed und	er dilution.				
Sudan IV te	st negative					

Site Name	Ekonol Facili	ty 737515/44		Well ID	MW-6S	
_						
Samplers	Jeff Poulsen					
	Sara Chmura	<u> </u>				
Total Well D Initial Static Well Diamet	Water Level (T	OC)	13.94 6.5 2.0	feet		
Purging [<u>Data</u>					
Method	Peristalt	ic Pump		Date/Time	05-17-04	1 / 1315
Water Volum	ne = (Total De	oth of Well - [Depth To Wa	ater) x Casi	na Volume pe	er Foot
Traid: Folding	=	13.94	-	6.5	X	0.16
	1.2	gallons			<u></u>	
		Casing	Volumes (g	al/ft.):	-	
1-inch	0.041	1.5-inch	0.092		2-inch	0.16
3-inch		4-inch	0.64		6-inch	1.4
8-inch	2.5				10 inch	4
Volume of F	Purge Water R	emoved	3.6	gallons		
Sampling	Data					
Method	Peristalt	ic Pump	-	Date/Time	<i>05-17-04</i>	1 / 1400
Para	meters	Bot	tle Pres.		Met	hod
TCE; 1,2-DC		2-40mi		HCI	82	
1,1-DCA; 1,						
VC						
phenol & an	iline	2-1L ambe	er bottles	-	82	70
<u>Field Para</u>	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample	
pН		7.73	7.04	7.07	7.12	
Temp. (C)		11.6	11.5	11.7	11.7	
Spec. Cond.		5.51	5.48	5.27	5.32	
Turbidity (N		103	21	23	10.7	
Dissolved O	xygen (DO)	0.77	0.52	0	-10.00	
ORP	,	-18	26	0	0	
Nitrate (mg/l		-		-	0.0	
Ferrous Iron			-	-	0.4	
Sulfate (mg/	- <i>)</i> [•	-	<u> </u>	240	
Commente:	Water was of	oar no odor	or chaon w	ent dry while	etarting to co	ımnla
	Water was cl			on any wrille	sammy to Sa	шире,
	before filling s					
	analyzed und	er allution.				
Sugan IV te	st negative					

Site Name	Ekonol Facili	ty 73751 <u>5</u> /44		Well ID	<u>MW-7S</u>			
Samplers	Jeff Poulsen		_					
	Sara Chmura	<u> </u>						
Total Well D	epth (TOC)		12.48	feet				
	Water Level (1	OC)	5.28					
Well Diamet	•	,	2.0					
Purging [<u>Data</u>							
Method	Per <u>istal</u> t	ic Pump		Date/Time	05-17-0	04 / 1540		
Water Volun	ne = (Total De	oth of Well - D	Depth To Wa	ater) x Casii	na Volume p	er Foot		
	=	12.48	•	5.28	X	0.16		
	1.2	gallons						
		Casing	Volumes (g	ıal/ft \·				
1-inch	0.041	1.5-inch			2-inch	0.16		
3-inch		4-inch	0.64		6-inch	- L		
8-inch	2.5				10 inch	4		
Volume of F	Volume of Purge Water Removed 3.5 gallons							
Sampling	Deta							
<u>oumpiii</u> ig	Data							
Method	Peristalt	ic Pump		Date/Time_	<u>05-17-0</u>	<u>/ 1615</u>		
Para	meters	Bot	tle	Pres.	Ме	thod		
TCE; 1,2-DC	CE;	2-40ml	vials	<u>HCl</u>	82	260		
1,1-DCA; 1,	1,1-TCA;							
VC		0.41						
phenol & and	iline	2-1L ambe	er <u>potties</u>		82	270		
<u>Field Para</u>	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample]		
pΗ		8.10	8.24	7.66	7.51	1		
Temp. (C)	, a , ,	12	11.9	12.1	12.2	1		
Spec. Cond.		4.58	4.57	4.57	4.57	-		
Turbidity (N7	,	9.4	10.9	25.2	24.8	1		
Dissolved O	xygen (DO)	1.57	0.19	0.25	0.2	1		
ORP	,	62	-4	47	49	1		
Nitrate (mg/l		-	-	-	0.0	4		
Ferrous Iron	` ~ '	-		-	0.0	1		
Sulfate (mg/	L) [-	-	-	288	J		
Comments:	Water is clea	r to cloudy, sl	ight sulfur <u>o</u>	dor, had to r	eplace tubin	g in well		
*Sulfate was	analyzed und	er dilution						

Samplers Jeff Poulsen Sara Chmura Sara Chmura	Site Name	Ekonol Facili	ty 737515/44		Well ID	MW-8S	
Sara Chmura	Samplers	Jeff Poulsen					
Nethod Peristaltic Pump Date/Time O5-17-04 / 1445			<u></u>				
Nethod Peristaltic Pump Date/Time O5-17-04 / 1445	Tatal Man D	(TOO)		40.50	44		
Method			roc)				
Method Peristaltic Pump Date/Time 05-17-04 / 1445			100)				
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 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 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 1.34 -117 -103 -96 Nitrate (mg/L) 0.0 ORP - 134 -117 -103 -96 Nitrate (mg/L) 0.0 ORP - 134 -117 -103 -96 Volume closed iment), no odors *Sulfate was analyzed under dilution.	Well Diamet	C I		2.0			
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 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 Spec. Cond. (mS/cm) Total (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 Ferrous Iron (mg/L) 268 Comments: cloudy (white sediment), no odors	Purging [<u>Data</u>					
Sampling Data Date/Time Date/Time	Method	Peristalt	ic Pump		Date/Time	05-17-0-	4 / 1445
Sampling Data Date/Time Date/Time	Water Volum	ne – (Total De	nth of Well - F	enth To W	ator I v Casi	na Volume na	er Foot
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	Water Volum	= (10121120	•	-	-	•	
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		1.2			U.L.1		0.1.0
1-inch							
3-inch			Casing	Volumes (g	jai/ft.):		
Sampling Data Sampling Data			1.5-inch	0.092	_		I
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				0.64			
Method Peristaltic Pump Date/Time 05-17-04 / 1525 Parameters Bottle Pres. Method 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 Sulfate (mg/L) - - 268 Comments: cloudy (white sediment), no odors *Sulfate was analyzed under dilution.	8-inch	1				10 inch	4
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 Sulfate (mg/L) - - - 0.0 Comments: cloudy (white sediment), no odors *Sulfate was analyzed under dilution.	Volume of F	Purge Water R	emoved	3.5	gallons		
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	Sampling	Data					
TCE; 1,2-DCE; 2-40ml vials HCI 8260 1,1-DCA; 1,1,1-TCA; VC phenol & aniline 2-1L amber bottles - 8270 Field Parameters pH 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	Method	Peristalt	ic Pump	_	Date/Time	05-17-04	4 / 1525
TCE; 1,2-DCE; 2-40ml vials HCI 8260 1,1-DCA; 1,1,1-TCA; VC phenol & aniline 2-1L amber bottles - 8270 Field Parameters pH 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	_				_		
Tield Parameters			_ •	- · · · · -			
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 *Sulfate was analyzed under dilution.			2-40mi	viais	<u>HCI</u>	82	60
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 *Sulfate was analyzed under dilution.		1,1-1 CA;					
Field Parameters pH 1 Volume 2 Volume 3 Volume Sample Temp. (C) 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 *Sulfate was analyzed under dilution.		iline	2-11 amhe	er hottles		82	70
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 *Sulfate was analyzed under dilution.	priorier a ari		L .L amb	or bonnog			70
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 *Sulfate was analyzed under dilution.							
Temp. (C)	<u>Field Para</u>	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample	
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 *Sulfate was analyzed under dilution.	•			11.38	10.61	10.20	
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) 268 Comments: cloudy (white sediment), no odors *Sulfate was analyzed under dilution.							
Dissolved Oxygen (DO)							
ORP							
Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L) Comments: cloudy (white sediment), no odors *Sulfate was analyzed under dilution.		xygen (DO)			-		
Ferrous Iron (mg/L) Sulfate (mg/L) 0.0 Sulfate (mg/L) 268 Comments: cloudy (white sediment), no odors *Sulfate was analyzed under dilution.		,	-134				
Sulfate (mg/L) 268 Comments: cloudy (white sediment), no odors *Sulfate was analyzed under dilution.		,	-	-			
Comments: cloudy (white sediment), no odors *Sulfate was analyzed under dilution.		, + .		-			
*Sulfate was analyzed under dilution.	Junate (1119/1	- /	_	_	•	200	
	Comments:	cloudy (white	sediment), n	o odors			
	*Sulfate was	analyzad uso	ler dilution				
			or unudon.				

Site Name	Ekonol Facili	ty 737515/44	Well ID	MW-9S			
Samplers	Jeff Poulsen						
33,	Sara Chmura	3		•	•		
Total Well D			14.40				
Well Diamet	Water Level (1	(OC)	6.4				
well blamet	ər		2.0	inches			
Purging D	<u>ata</u>						
Method	Peristalt	ic Pump	-	Date/Time	<u>05-18-0</u> -	4 / 1400	
Water Volum	ne = (Total De	nth of Well - I	Senth To W	ater) v Casi	ina Volume na	er Foot	
water voidin	= (10(a) De	14.40	- -	6.4	X	0.16	
	1.3	gallons					
		Casing	Volumes (g	jal/ft.):			
1-inch					2-inch		
3-inch		4-inch	0.64		6-inch		
8-inch					10 inch	4	
Volume of P	urge Water R	emoved	3.6	gallons			
0	D 1						
<u>Sampling</u>	Data						
Method	Peristalt	ic Pump	_	Date/Time	05-18-04	4 / 1525	
Davas		D-4	.ı	D	Mad		
70E; 1,2-DC	neters ·=·	Bottle <i>2-40ml vials</i>		Pres. <i>HCl</i>		Method <i>8260</i>	
1,1-DCA; 1,1			Viais	ПСІ	02	00	
VC	,1-10A,						
phenol & ani	line	2-1L ambe	er bottles		82	8270	
priorite di uni							
Field Para	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample		
pН		7.26	7.19	7.17	7.18		
Temp. (C)		11.7	11.6	12.1	12.3		
Spec. Cond.		5.01	4.59	5.60	5.86		
Turbidity (NT		124	29.4	27.9	30.3		
Dissolved Ox	(ygen (DO)	0.09	1.11	0.47	1.28		
ORP	,	-1	-7	-27	-34 0.0		
Nitrate (mg/L Ferrous Iron			-	-	1.2		
Sulfate (mg/l			_		216		
Canalo (mg/l	-, L				2.0		
Comments:	cloudy to clea	ar, no odors					
	-						
*Sulfate was	analyzed und	er dilution.					
Suden IV to							

Site Name	Ekonol Facilit	y 737515/441		Well ID	RMW-1D	
Samplers	Jeff Poulsen					
	Sara Chmura					
	.u. (TOO)		04.64	f		
Total Well Do		·OC)	31.61 6.65	feet feet		
Well Diamete	Water Level (T	00)	2.0			
Well Diamen	3 1		<u> </u>	11101100		
Purging D	<u>ata</u>					
Method	Peristalti	ic Pump		Date/Time _	05-17-0	4 / 1300
Water Volum	ne = (Total Deg	oth of Well - D	enth To Wa	ater) x Casii	na Volume p	er Foot
Walci Volui	= (1000,00)	31.61	- -	6.65	X	0.16
		gallons				
4	2.24		Volumes (g		0 :	0.10
1-inch		1.5-inch 4-inch	0.092 0.64		2-inch 6-inch	
3-inch 8-inch		4-mcn	0.04		10 inch	
0-III <u>CII</u>					10 81011	
Volume of F	urge Water R	emoved	15	gallons		
Sampling	<u>Data</u>					
Method	Peristaltic Pump			Date/Time	05-17-0	4 / 1345
Para	meters	Bott	ttle Pres.		Me	thod
TCE; 1,2-DC		2-40ml vials		HCI	82	260
1,1-DCA; 1,		-				
VC						
phenol & an	iline_	2-1L ambe	er bottles	-	82	270
		_				
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	1
pH	11101010	6.40	7.19	7.22	7.21	
Temp. (C)		12.68	11.87	11.8	11.8	1
Spec. Cond.	(mS/cm)	0.01	3.14	2.90	2.87	
Turbidity (N7	FU)	150	86.5	168	160	
Dissolved O:	xygen (DO)	1.38	0.42	0.37	0.4	
ORP		<i>253</i>	-303	-307	-309	
Nitrate (mg/l	•	-	-	-	0.0	
Ferrous Iron		-	-	-	0.4	_
Sulfate (mg/	L)	-	•	-	117]
Comments:						
*Culfota was	analyzadd	or dilution				
Sudan IV te	analyzed und	ei alludon.			_	
Juuan IV le	or negative					

Site Name	Ekono <u>l Facili</u>	Well ID	RMW-4D			
Samplers	Jeff Poulsen					
oampiers	Sara Chmura					
Total Well D	epth (TOC)		29.00	feet		
	Water Level (1	TOC)	6.25			
Well Diamet	er		2.0	inches		
Purging [<u>Data</u>					
Method	Peristalt	ic Pump	-	Date/Time	05-19-0	4 / 1355
Water Volum	ne = (Total De	oth of Well - [Jenth To W	ator \ v Casi	na Volume na	er Foot
Water Volum	= (10(a) De	29.00	- -	6.25	X	
		gallons		0.20		
			Volumes (g			
1-inch					2-inch	I
3-inch		4-inch	0.64		6-inch	1.4
8-inch	2.5				10 inch	4
Volume of F	Purge Water R	emoved	<u>15</u>	gallons		
Sampling	Data					
<u>Sampiin</u> q	Data					
Method	Peristalt	ic Pump	-	Date/Time	05-19-0	4 / 1500
Para	meters	Bot	ttle Pres.		Met	thod
TCE; 1,2-DC		2-40mi		HCI		60
1,1-DCA; 1,						
VC						
phenol & an	iline	2-1L ambe	er bottles		82	70
			_			
Ciald Dans		4344		211		I
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	
pH Temp. (C)		7.1 <u>4</u> 13.0	7.13 13.1	7.12 13.2	7.12 13.1	
Spec. Cond.	(mS/cm)	3.33	3.35	3.34	3.33	
Turbidity (N7		5.55		2.04	< 50 vis	
Dissolved O		0.39	0.39	0.36	0.3	
ORP	,9 (2-0)	-284	-281	-280	-279	
Nitrate (mg/L	_)	-	-		0.00	
Ferrous Iron	(mg/L)	-	-	-	0.0	
Sulfate (mg/	L) [-	-	-	232	
Comments:	clear					
*Sulfate was	analyzed und	er dilution.				
	st negative					

Site Name	Ekonol Facili	y 737515/44	1237		Well ID	
Samplers	Jeff Poulsen					
Samplers	Sara Chmura					
	- Cara Crimara					
Total Well D	epth (TOC)	feet				
Initial Static	Water Level (T	OC)	2.60	feet		
Well Diamet	er		2.0	inches		
Purging [<u>Data</u>					
Method	Peristalt	ic Pump	-	Date/Time	<u>05</u> -18-0	4_/1150
Water Volun	ne = (Total Der =	oth of Well - D 30.79	Depth To Wa	ater) x Casii 2.60	ng Volume p	er Foot <i>0.16</i>
	4.5	gallons			_	
4 :	0.041		Volumes (g			0.16
1-inch 3-inch		1.5-inch 4-inch			2-inch 6-inch	
8-inch	·	4-111011	0.04		10 inch	
0 111011					10 111011	
Volume of F	Purge Water Re	emoved	15	gallons		
Sampling	<u>Data</u>					
Method	Peristalt	c Pump		Date/Time_	05-18-0	4 / 1345
Para	meters	Bot	tle	Pres.	Me	thod
TCE; 1,2-DC	CE;	2-40mi	vials	HCI	82	260
1,1-DCA; 1,	1,1-TCA;					
vc						
phenol & an	iline	2-1L ambe	er bo <u>ttles</u>	-	82	270_ _
Field Pers	motors [1 1/01:	2.1/a/:	2 1/0/:	Commis	1
Field Para	11161612	1 Volume 7.03	2 Volume 7.07	3 Volume 7.08	Sample 7.09	1
Temp. (C)	ŀ	13.8	13.8	13.8	13.8	1
Spec. Cond.	(mS/cm)	2.86	2.86	2.84	2.85	1
Turbidity (N7		-	-	12.5	< 50 vis	1
Dissolved O	· ·	0.67	0.4	0.41	0.3	1
ORP	, ,	-268	-271	-269	-268	1
Nitrate (mg/L	_) [-	-	-	0.0	1
Ferrous Iron	(mg/L)	-	-	-	0.8]
Sulfate (mg/l	L) [•	-	-	200]
	Water was cle		r odor. Dup	licate sampl	e collected (MW-Dup 1)
Surrate was	analyzed und	er anudon.				

Sudan IV test negative

Site Name	Ekonol Facili	ity 737515/44	1237		Well ID	MW-11D
Samplers	Jeff Poulsen					
Jampioro	Sara Chmura				•	
					•	
Total Well D	epth (TOC)		30.71	feet		
	Water Level (1	roc)	9.38	feet		
Well Diamet	er		2.0	inches		
Purging [<u>Data</u>					
Method	Peristall	ic Pump	-	Date/Time	05-18-0	4 / 0948
Water Volum	ne = (Total De	nth of Well - [Depth To Wa	ater) x Casi	na Volume n	er Foot
Traisi Tolai	=	30.71	-	9.38	X	0.16
	3.4	gallons				
	_					
			Volumes (g			
1-inch		1.5-inch			2-inch	
3-inch		4-inch	0.64		6-inch	
8-inch	12.5				10 inch	4
Volume of F	Purge Water R	emoved	10.2	gallons		
Sampling	Data					
Method	<u>Peristali</u>	tic Pump	-	Date/Time	05-18-0	4 / 1020
Para	meters	Bot	tle	Pres.	Me	thod
TCE; 1,2-DC		2-40ml		HCI		260
1,1-DCA; 1,						
VC						
phenol & an	iline	2-1L ambe	er bottles		82	270
		<u>-</u>				
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	1
pH		8.49	8.50	8.50	8.50	1
Temp. (C)		11.7	11.6	11.7	11.6	1
Spec. Cond.	(mS/cm)	2.90	2.88	2.85	2.83	1
Turbidity (N		19	20.9	33	43	1
Dissolved O		0.008	0.2	0	0.0	1
ORP	, ,	-263	-272	-275	-276	1
Nitrate (mg/l	L)	-	-	-	0.0	1
Ferrous Iron	•	-	-	-	0.0	1
Sulfate (mg/		-	-	-	200]
, ,	,	ear with sulfu	r odor, MS	and MSD qu	antity collect	ed from this location
*Sulfate was	analyzed und	ler dilution.		-		
Sudan IV te						
	110944110					

Site Name <u>Ekonol</u> Facili	ty 737515/44		Well ID	MW-12D	
Samplers Jeff Poulsen					
Sara Chmura					
<u> </u>		_			
Total Well Depth (TOC)	feet				
Initial Static Water Level (7	ГОС)	7.10	feet		
Well Diameter		2.0	inches		
Purging Data					
Method Peristali	tic Pump		Date/Time	<u>05-17-04</u>	1 / 1045
Water Volume = (Total De	oth of Well - D	Depth To Wa	ater) x Casi	na Volume pe	er Foot
=	32.00	•	7.10	X	0.16
4.0	gallons				
		Volumes (g			
1-inch 0.041				2-inch	0.16
3-inch 0.36		0.64		6-inch	1.4
8-inch 2.5				10 inch	4
Volume of Purge Water R	emoved	12	gallons		
Sampling Data					
			_		
Method <i>Peristalt</i>	tic Pump	•	Date/Time	10-30-03	3 / 0 <u>9</u> 20
Parameters	Bot	Ho	Pres.	Met	had
TCE; 1,2-DCE;	2-40ml		HCI	82i	
1,1-DCA; 1,1,1-TCA;	2-40111	Viais	1101		
VC					
phenol & aniline	2-1L ambe	er bottles	-	82	70
Field Parameters	1 Volume	2 Volume		Sample	
pH	8.39	8.34	8.35	8.36	
	4 - 0	4- 4			
Temp. (C)	15.2	15.2	15.0	15.1	
Spec. Cond. (mS/cm)	2.77	2.83	15.0 2.84	15.1 2.84	
Spec. Cond. (mS/cm) Turbidity (NTU)	2.77 22.7	2.83 139	15.0 2.84 31.4	15.1 2.84 13.3	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO)	2.77 22.7 0	2.83 139 0	15.0 2.84 31.4 0	15.1 2.84 13.3 0.0	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP	2.77 22.7 0 -332	2.83 139 0 -339	15.0 2.84 31.4 0 -340	15.1 2.84 13.3 0.0 -341	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L)	2.77 22.7 0	2.83 139 0	15.0 2.84 31.4 0	15.1 2.84 13.3 0.0 -341 7.0	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L)	2.77 22.7 0 -332	2.83 139 0 -339	15.0 2.84 31.4 0 -340	15.1 2.84 13.3 0.0 -341 7.0 0.0	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L)	2.77 22.7 0 -332 -	2.83 139 0 -339 -	15.0 2.84 31.4 0 -340 -	15.1 2.84 13.3 0.0 -341 7.0	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L)	2.77 22.7 0 -332 -	2.83 139 0 -339 -	15.0 2.84 31.4 0 -340 -	15.1 2.84 13.3 0.0 -341 7.0 0.0	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	2.77 22.7 0 -332 -	2.83 139 0 -339 -	15.0 2.84 31.4 0 -340 -	15.1 2.84 13.3 0.0 -341 7.0 0.0	
Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	2.77 22.7 0 -332 - - - -	2.83 139 0 -339 -	15.0 2.84 31.4 0 -340 -	15.1 2.84 13.3 0.0 -341 7.0 0.0	

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 11-10-04 8260 1,1-DCE; 2-40ml vials HCl 8260 1,1-DCA; 1,1,1-TCA; VC phenol & aniline 2-1L amber bottles - 8270 Field Parameters PH 7.02 7.10 7.11 7.11 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 4.71 Turbidity (NTU) Spec. Cond. (mS/cm) 4.80 4.78 4.78 4.71 7.17 Turbidity (NTU) - < 50 vis Dissolved Oxygen (DO) 2.4 0.37 0.3 0.3	Site Name	Ekonol Facili	ty 737515/4 <u>4</u>	1237		Well ID	MW-13D
Total Well Depth (TOC)	Samplers		<u> </u>				
Initial Static Water Level (TOC) 8.74 feet 2.0 inches		Sara Chinura	<u> </u>		_		
Initial Static Water Level (TOC) 8.74 feet 2.0 inches	Total Well D	epth (TOC)		31.70	feet		
Purging Data			OC)				
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 = 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 25 30 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 HCI 8260 1,1-DCA; 1,2-DCE; 2-40ml vials HCI 8260 1,1-DCA; 1,1,1-TCA; VC Phenol & aniline 2-1L amber bottles - 8270 Field Parameters pH 7.02 7.10 7.11 7.11 Temp. (C) 10.8 10.9 11.0 10.8 Spec. Cond. (mS/cm) 10.9 11.0 10.8 Spec. Cond. (mS/cm) 10.9 11.0 10.8 Spec. Cond. (mS/cm) 10.9 10.0 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3		,	,				
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 11.1-DCA; 12-DCE; 2-40ml vials HCl 8260 1,1-DCA; 1,1,1-TCA; VC Phenol & aniline 2-1L amber bottles - 8270 Field Parameters pH 7.02 7.10 7.11 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) 0.4 0.37 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	Purging D)ata					
Sampling Data Sample Sam	Method	Peristalt	ic Pump		Date/Time	05-19-0	4 / <u>0930</u>
Sampling Data Sample Sam	Water Volum	ne = (Total Dei	oth of Well - D	enth To Wa	ater) x Casi	na Volume p	er Foot
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				-			
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 10 inch 4 2.5 10 inch 4 4 4 4 4 4 4 5 5 5		3.7					
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 10 inch 4 2.5 10 inch 4 4 4 4 4 4 4 5 5 5			Casing	Volumes (a	al/ft)·		
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	1-inch	0.041				2-inch	0.16
Seinch 2.5 10 inch 4	1						
Method Peristaltic Pump Date/Time 05-19-04 / 1100 Parameters Bottle Pres. Method 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 4.71 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 Sulfate (mg/L) - - 0.0 Sulfate (mg/L) - - 232 Sulfate (mg/L) - - 232 Sulfate (mg/L) - - 232 Sulfate (mg/L) - - 232 Sulfate (mg/L) - - 232 Sulfate (mg/L) - Sulfate (mg/L) -							
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 4.71 Turbidity (NTU) - - - <50 vis	Volume of F	urge Water R	emoved	15	gallons		
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 8270 Phenol & aniline 2-1L amber bottles - 8270 Phenol & aniline 3-1L amber bottles - 8270 Phenol & aniline 3-1L amber bottles - 8270 Phenol & aniline 3-1L amber bottles - 8270 Phenol & aniline 3-1L amber bottles - 8270 Phenol & aniline	Sampling	<u>Data</u>					
TCE; 1,2-DCE; 2-40ml vials HCI 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 4.71 Turbidity (NTU) - - < 50 vis	Method	Peristalt	ic Pump		Date/Time	<u>05-19-0</u>	4 / 1100
TCE; 1,2-DCE; 2-40ml vials HCI 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 4.71 Turbidity (NTU) - - < 50 vis	Parai	meters	Bot	tle	Pres	Me	thod
1,1-DCA; 1,1,1-TCA; VC phenol & aniline 2-1L amber bottles - 8270							
VC phenol & aniline 2-1L amber bottles - 8270 Field Parameters pH 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 4.71 Turbidity (NTU) - - < 50 vis					.,,,,		
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 4.71 Turbidity (NTU) - - - <50 vis	VC						
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	phenol & ani	line	2-1L ambe	er bottles		82	270
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							
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	Field Para	maters	1 Volume	2 Volume	3 Volume	Sample	1
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		itietere					1
Spec. Cond. (mS/cm) 4.80 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	,						
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		(mS/cm)					
Dissolved Oxygen (DO) ORP -201 -221 -227 -234 Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L) - - - - - - - - - - - - -							
ORP		, , , , , , , , , , , , , , , , , , ,	2.4	0.37	0.3		
Ferrous Iron (mg/L) 0.0 Sulfate (mg/L) 232	ORP	"		-221			
Sulfate (mg/L) 232	Nitrate (mg/L	_) [-	-	-	0.0	
	Ferrous Iron	(mg/L)	-	-	-	0.0	
Comments: Water was clear with sulfur odor, MS and MSD quantity collected	Sulfate (mg/l	L) [-	-	,	232	
*Sulfate was analyzed under dilution				r odor, MS a	and MSD qu	antity collect	ed
*Sulfate was analyzed under dilution.			er allution.				
	Sudan IV tes	st negative					

Site Name	Ekonol Facili	ty 737515/44	1237		Well ID	MW-14D
Samplers	Jeff Poulsen					
campion	Sara Chmura	1				
Total Well D		-00)	32.25			
Well Diamet	Water Level (1	OC)	<u>4.80</u> 2.0			
well Diamet	0 1			Inches		
Purging [<u>Data</u>					
Method	Peristalt	ic <u>Pump</u>		Date/Time	05-17-0	4 / 1530
Water Volun	ne = (Total De	oth of Well - F	Depth To Wa	ater) x Casi	na Volume n	er Foot
172(0) 40(0)	=	32.25	-	4.80	X	0.16
		gallons				
			Volumes (g			
1-inch		1.5-inch			2-inch	
3-inch		4-inch	0.64		6-inch	
8-inch	2.5				10 inch	4
Volume of F	Purge Water R	emoved	15	gallons		
Sampling	<u>Data</u>					
Method	Peristalt	ic Pump	-	Date/Time	05-17-0	4 / 16 <u>25</u>
Para	meters	Bot	tla	Pres.	Me	thod
TCE; 1,2-DC		2-40mi		HCI		260
1,1-DCA; 1,			7.0.0	1.0		
VC	•					
phenol & an	iline	2-1L ambe	er bottles		82	270
Field Pere	motoro	4.1/0/11/00	O Makuma	O I /aluma	C(-	1
Field Para	meters	1 Volume 7.15	2 Volume 7.13	3 Volume 7.12	Sample 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 (N		-	-	-	< 50 vis	
Dissolved O		4.1	0.4	0.3	0.3	
ORP	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-278	-287	-287	-289	
Nitrate (mg/l	_)	-	•	-	0.0	
Ferrous Iron			-	-	4.0	
Sulfate (mg/		-	-	-	222	
Comments:	Water is clea	r				
_0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Traior is orda					
*Sulfate was	analyzed und	er dilution.	_			
	st negative					

Site Name	Ekonol Facili	ity 737515/4 <u>4</u>	Well ID	MW-15D		
Samplers	Jeff Poulsen					
Gampiers	Sara Chmura				•	
		-			•	
Total Well D	epth (TOC)		29.30	feet		
Initial Static	Water Level (1	roc)	6.70	feet		
Well Diamete	er		2.0	inches	•	
Purging C)ata					
Method	Peristalt	tic Pump	_	Date/Time	05-19-04	1 / <u>11</u> 15
Water Volum	ne = (Total De	nth of Well - [Senth To W	ator \ v Casi	na Volume ne	r Foot
water wordin	= (10021De	29.30		6.70	X	
		gallons		0.70		0.10
		, 900				
		Casing	Volumes (g	al/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					10 inch	4
Volume of F	urge Water R	emoved	15	gallons		
Sampling	Data					
Method	Peristalt	ic Pump		Date/Time	05-1 <u>9</u> -04	/_1215
Doug		Dat		Duas	Mad	had
TCE; 1,2-DC	neters ≻⊏·	Bot <i>2-40mi</i>	-	Pres. <i>HCl</i>	Met 82	
1,1-DCA; 1,1		2-401111	VIAIS	HUI		<u> </u>
VC	,1-10A,					
phenol & ani	line	2-1L ambe	er bottles		82:	70
Field Para	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample	
рΗ		7.03	7.00	6.99	6.99	
Temp. (C)		13.6	13.7	13.7	13.9	
Spec. Cond.		3.13	3.13	3.11	3.09	
Turbidity (NT		30.6	12.9	50.9	<i>59.</i> 7	
Dissolved Ox	(ygen (DO)	0.5	0.3	0.3	0.3	
ORP		-171	-185	-183	-180	
Nitrate (mg/L	,	-	-	-	0.0	
Ferrous Iron			-	-	0.6	
Sulfate (mg/l	_)		<u>-</u>	-	180	
Comments:	clear					
*Culfata was	analyzad ya	lor dilution				
Sudan IV tes	analyzed und	er airation.				
Sugarity tes	st negative					

Site Name Ekonol Facili	ty 737515/44	1237		Well ID	MW-16D	
Samplers Jeff Poulsen						
Sara Chmura						
Total Well Depth (TOC)	feet					
Initial Static Water Level (7	feet					
Well Diameter		2.0	inches			
<u>Purging Data</u>						
Bank and Davintok	··- D		Data /Time	05.40.6	14 /4445	
Method Peristal	ic Pump	•	Date/Time _	05-18-0	14 / 1415	
Water Volume = (Total De	nth of Well - [Senth To W:	ater) v Casir	a Volume n	er Foot	
*** (Total De	31.70		- 40	y volume p	0.16	
3.6	gallons				0.70	
	, 3					
	Casing	Volumes (g	al/ft.):			
1-inch 0.041	1.5-inch	0.092		2-inch		
3-inch 0.36	4-inch	0.64		6-inch		
8-inch 2.5				10 inct	14	
Volume of Purge Water R	emoved	15	gallons			
Camalina Data						
Sampling Data						
Method Peristali	ic Pump	-	Date/Time_	05-18-0	4 / 1510	
Parameters	Bot	tlo	Pres.	Me	thod	
TCE; 1,2-DCE;				-	, LI TOG	
1,1-DCA; 1,1,1-TCA;						
VC			HCI		260	
			HCI		260	
phenol & aniline	2-1L ambe	er bottles	HCI		270	
phenol & aniline	2-1L ambe	er bottles				
	2-1L ambe			82		
Field Parameters	1 Volume	2 Volume	3 Volume	8. Sample		
Field Parameters	1 Volume 7.19	2 Volume 7.18	3 Volume 7.16	Sample 7.16		
Field Parameters pH Temp. (C)	1 Volume 7.19 7.0	2 Volume 7.18 11.1	3 Volume 7.16 10.9	Sample 7.16 11.0		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm)	1 Volume 7.19 7.0 3.38	2 Volume 7.18 11.1 3.35	3 Volume 7.16 10.9 3.31	Sample 7.16 11.0 3.36		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU)	1 Volume 7.19 7.0 3.38 4.46	2 Volume 7.18 11.1 3.35 38.7	3 Volume 7.16 10.9 3.31	Sample 7.16 11.0 3.36 < 50 vis		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO)	1 Volume 7.19 7.0 3.38 4.46 7.70	2 Volume 7.18 11.1 3.35 38.7 5.21	3 Volume 7.16 10.9 3.31	Sample 7.16 11.0 3.36 <50 vis 0.42		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP	1 Volume 7.19 7.0 3.38 4.46 7.70 -104	2 Volume 7.18 11.1 3.35 38.7 5.21	3 Volume 7.16 10.9 3.31 - -	Sample 7.16 11.0 3.36 < 50 vis 0.42 -190		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L)	1 Volume 7.19 7.0 3.38 4.46 7.70 -104	2 Volume 7.18 11.1 3.35 38.7 5.21 -77	3 Volume 7.16 10.9 3.31 - - -69	Sample 7.16 11.0 3.36 < 50 vis 0.42 -190 1.0		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L)	1 Volume 7.19 7.0 3.38 4.46 7.70 -104	2 Volume 7.18 11.1 3.35 38.7 5.21 -77	3 Volume 7.16 10.9 3.3169 -	Sample 7.16 11.0 3.36 < 50 vis 0.42 -190 1.0 0.8		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L)	1 Volume 7.19 7.0 3.38 4.46 7.70 -104	2 Volume 7.18 11.1 3.35 38.7 5.21 -77	3 Volume 7.16 10.9 3.31 - - -69	Sample 7.16 11.0 3.36 < 50 vis 0.42 -190 1.0		
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	1 Volume 7.19 7.0 3.38 4.46 7.70 -104 -	2 Volume 7.18 11.1 3.35 38.7 5.21 -77 -	3 Volume 7.16 10.9 3.3169 -	Sample 7.16 11.0 3.36 < 50 vis 0.42 -190 1.0 0.8 136	270	
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L) Comments: Water was ci	1 Volume 7.19 7.0 3.38 4.46 7.70 -104 -	2 Volume 7.18 11.1 3.35 38.7 5.21 -77 -	3 Volume 7.16 10.9 3.3169 -	Sample 7.16 11.0 3.36 < 50 vis 0.42 -190 1.0 0.8 136	270	
Field Parameters pH Temp. (C) Spec. Cond. (mS/cm) Turbidity (NTU) Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	1 Volume 7.19 7.0 3.38 4.46 7.70 -104	2 Volume 7.18 11.1 3.35 38.7 5.21 -77 -	3 Volume 7.16 10.9 3.3169 -	Sample 7.16 11.0 3.36 < 50 vis 0.42 -190 1.0 0.8 136	270	

Site Name	Ekonol Facili	ty 7375 <u>15</u> /44	Well ID	MW-17D		
Samplers	Jeff Poulsen					
Campions	Sara Chmura	2			•	
					•	
Total Well D	• '					
	Water Level (⊓	FOC)	<u>8.01</u>			
Well Diamet	er		2.0	inches		
Purging D	<u> Data</u>					
Method	Peristalt	ic Pump		Date/Time	05-18-04	/ 1140
Water Volum	ne = (Total De	nth of Well - F	Senth To W	ator) v Casi	ina Volume na	er Foot
vvater volum		33.25	- -	8.01	X	
		gallons		0.01		0.10
		Casing	Volumes (g	jal/ft.):		
1-inch					2-inch	0.16
3-inch		4-inch	0.64		6-inch	1.4
8-inch	2.5				10 inch	4
Volume of F	Purge Water R	emoved	12	gallons		
Sampling	<u>Data</u>					
Method	Peristalt	ic Pump		Date/Time	05- <u>1</u> 8-04	/ 1330
Para	meters	Bot	tlo	Pres.	Mot	hod
TCE; 1,2-DC		2-40ml		HCI	82	-
1,1-DCA; 1,1						
VC						
phenol & ani	line	2-1L ambe	er b <u>ottles</u>		82	70
=:				T		
Field Para	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample	
pH Tomp (C)		8.33 11.5	8.35	8.36	8.34	
Temp. (C) Spec. Cond.	(mS/cm)	2.77	11.5 2.74	11.4 270.00	11.4 2.78	
Turbidity (NT		10.4	97.3	81.7	37.7	
Dissolved Ox		0.00	0.00	0.00	0.00	
ORP	., go, (20)	-250	-255	-258	-259	
Nitrate (mg/L	.)	-	-	-	0.0	
Ferrous Iron	(mg/L)	•	*	-	0.3	
Sulfate (mg/l	_) [-	-	-	385	
Comments:	Water was cl	ear, sulfur od	or			
	analyzed und	er dilution.				
Sudan IV tes	st negative					

Site Name Ekonol Facili	Name Ekonol Facility 737515/441237						
Samplers Jeff Poulsen							
Sara Chmura	?						
	-						
Total Well Depth (TOC)	feet						
Initial Static Water Level (7	feet						
Well Diameter		2.0	inches				
Purging Data							
Method Peristalt	ic Pump		Date/Time_	05-18-0	04 / 1000		
Mater Volume (Total De	nth of Moll i	Donth To M	otos) v Coci	na Volumo	nor Foot		
Water Volume = (Total De	ptn of vveii - t 28.44	Depin to w			0.16		
= 35	gailons		0.04	<u>x</u>	0.70		
	ganons						
	Casing	Volumes (g	al/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	1 4		
Volume of Purge Water R Sampling Data	emoved	20	gallons				
Method Peristalt	ic Pump		Date/Time_	05-18-0	04 / 1120		
Parameters	Bot	tle	Pres.	Me	ethod		
TCE; 1,2-DCE;	2-40m		HCI		260		
1,1-DCA; 1,1,1-TCA;							
VC	_						
phenol & aniline	2-1L amb	er bottles	-	8	270		
				_	_		
					7		
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	4		
pH	7.04	7.15	7.17	7.18	4		
Temp. (C)	10.5	10.4	10.4	10.5	4		
Spec. Cond. (mS/cm)	2.88	2.89 34	2.89	2.89 47.3	-		
Turbidity (NTU)	1 15	0.30	56.6 0.28	0.32	-		
Dissolved Oxygen (DO) ORP	1.15 -168	-188	-200	-250	1		
		-100		0.0	1		
Nitrate (mg/L)			0.4	1			
Ferrous Iron (mg/L)		-		40*	┨		
Sulfate (mg/L)	_		L	70	_		
Comments: Water was cl	lear.						
*Sulfate was analyzed und			_	_			

Site Name Eko	nol Facili	ity 737515/44	11237		Well ID	MW-19D
Samplers Jeff	Poulsen					
	a Chmura					
Total Well Depth			27.00			
Initial Static Water	er Level (TOC)	6.20			
Well Diameter			2.0	inches		
Purging Data						
Method	Peristall	ic Pump	-	Date/Time	05-27-0	04 / 1517
Water Volume =	(Total De	oth of Well -	Depth To W	later) x Cas	sina Volume	per Foot
=	(•	- -		X	0.16
_	3.3	gallons				
		<u> </u>				
			Volumes (g			
1-inch	0.041				2-inch	
3-inch	0.36	4-inch	0.64		6-inch	
8-inch	2.5				10 inch	1 4
Volume of Purge	Water R	emoved	10	gallons		
Sampling Dat	<u>a</u>					
Method	Peri <u>sta</u> lt	ic Pump	-	Date/Time	05-27-0	04 / 1630
Paramete	rs	Bot	tle	Pres.	Me	ethod
TCE; 1,2-DCE;	-	2-40mi		HCI		260
1,1-DCA; 1,1,1-T	CA;					
VC						
phenol & aniline		2-1L ambe	er bottles		82	270
Field Develope		4141		014		1
Field Paramete	<u>ers</u>	1 Volume	2 Volume	3 Volume	Sample	4
pH Town (C)		7.63	7.40	-	7.37	-
Temp. (C) Spec. Cond. (mS	(cm)	15.8	15.8 4.93	-	15.6	-
Spec. Cond. (ms. Turbidity (NTU)	rom)	4.68 223	86.8	-	<u>4.98</u> 45	1
Dissolved Oxyger	(DO)	0.04	0.01	-	0.07	1
ORP	, (55)	3	2	-	3	1
Nitrate (mg/L)		-	-	-	0.0	1
Ferrous Iron (mg/	1)	-	-	-	0.8	1
Sulfate (mg/L)	-/	-	-	-	126	1
Canale (IIIg/L)	ı					1
Comments: Wat	er was cl	ear, no odors	s, no sh <u>ee</u> n.			
*Culfato	h 1200 of 1 100 -	lor dilution				
*Sulfate was anal						
Sudan IV test po	e signs	ositive				

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Supplemental Phase III June 2004

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Site Name	Ekonol Facili	ity 441237_			Well ID	MW-1S
Samplers	Jeff Poulsen					
·	Sara Chmura	a				
Total Wall D	onth /TOC\		14.76	foot		
Total Well D	Water Level (1	roc)	14.76		-	
Well Diamet	•	100)	2.0		•	
TTEII DIAITIE	.61			11101162	-	
Purging [<u>Data</u>					
Method	Peristali	tic Pump	_	Date/Time	06-21-0	4 / 1000
Motor Volum	no – (Total Do	oth of Mall I	Donth To M	otor) v Con	ina Valuma n	or Foot
water volui	ne = (Total De	pın or vven - ı 14.76	Depin To w	ater) x Cas 4		er Foot 0.16
	- 20	gallons			<u> </u>	0.10
		ganoris				
		Casing	Volumes (g	nal/ft.):		
1-inch	0.041				2-inch	0.16
3-inch	0.36	4-inch			6-inch	
8-inch	1 2.5				10 inch	4
Sampling Method		ic Pump	_	Date/Time	06-21 - 04	4 / 1040
_				_		
	meters	Bot		Pres.		thod
TCE; 1,2-DC		2-40m.	i viais	HCI	82	260
1,1-DCA; 1, VC	1,1-10A;					
phenol & an	iline	2-1L ambe	er hottles		82	70
priction & arr		Z-IL amb	or Douces		02	70
Field Para	meters	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 (N		24.6	25.5	22.4	22.1	
Dissolved O	xygen (DO)	0.26	-	3.96	2.99	
ORP		-97	-141	-124	-100	
Nitrate (mg/l		-	_	-	0.0	
Ferrous Iron		_	-	-	_0	
Sulfate (mg/	L)	-	-	-	> 70	
0	14/545525	_				
Comments:	Water is clea	٢				

ty 441237			Well ID	MW-2S
	12.5	feet		
TOC)				
	2.0	inches		
ic Pump		Date/Time _	06-23-0	4 / 1015
	Depth To Wa		-	
	-	3.3	<u> </u>	0.16
gallons				
Casing	Volumes (a	al/ft.):		
			2-inch	0.16
4-inch			6-inch	1.4
			10 inch	4
emoved	8	gallons		
ic Pump		Date/Time_	06-23-04	4 / 1100
Bot	tle	Pres	Met	hod
		HCI		
2-1L ambe	er bottles	-	82	70
	0.17.1			
		3 Volume		
 				
		_		
		_		
		_		
-	-	-	•	
-	-	-	-	
	-		-	
ear, well dry t	5 gallons			
	12.50 gallons Casing 1.5-inch 4-inch emoved bic Pump Bot 2-40mi 2-1L ambe 1 Volume 6.87 13.74 5.15 73.2 2.64 -127	12.5 3.3 2.0	12.5 feet 3.3 feet 2.0 inches feet 2.3 feet 2.0 inches feet 2.3 feet 2.0 feet 2.3 feet 2.0 feet 2.3 feet 2.0 feet 2.0	12.5 feet 3.3 feet 2.0 inches

	Ekonol Facili	y 441237			Well ID	MW-3S
	Jeff Poulsen					
<u>.</u>	Sara Chmura					
Total Well Der Initial Static W Well Diameter	ater Level (T	OC)	12.1 5.7 2.0			
Purging Da	<u>nta</u>					
Method _	Peris <u>talt</u>	ic Pump		Date/Time _	06-22-0	4 / 1335
Water Volume	e = (Total Der	oth of Well - [Depth To Wa	ater) x Casii	na Volume pe	er Foot
	= (12.10		5.7	X	0.16
_	1.0	gallons				
		Casina	Values = (=			
1-inch	0.041	Casing 1.5-inch	Volumes (g 0.092		2-inch	0.16
3-inch	0.041	4-inch			6-inch	1.4
8-inch	2.5	4 111011	0.04		10 inch	4
		ic Pump		Date/Time	06-22-0	4 / 1530
Method _	Peristalt		- tle	Date/Time_		4 / 1530
Method _ Param	<i>Peristalt</i> eters	<i>ic Pump</i> Bot <i>2-</i> 40mi		Date/Time_ Pres. HCl	Met	4 / 1530 thod
Method _ Param TCE; 1,2-DCE 1,1-DCA; 1,1,	Peristalti eters	Bot		Pres.	Met	thod
Method _ Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC	Peristalt eters ; 1-TCA;	Bot 2-40mi	vials	Pres.	Met 82	thod 160
Method _ Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC	Peristalt eters ; 1-TCA;	Bot	vials	Pres.	Met 82	thod
Method _ Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC	Peristalt eters ; 1-TCA;	Bot 2-40mi	vials	Pres.	Met 82	thod 160
Method _ Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC	Peristalti eters =; 1-TCA; ne	Bot 2-40mi	vials	Pres. HCl	Met 82	thod 160
Method Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC phenol & anilii	Peristalti eters =; 1-TCA; ne	Bot 2-40mi 2-1L ambe	vials er bottles	Pres. HCl	Met 82 82	thod 160
Method Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC phenol & anilia Field Param pH Temp. (C)	Peristalti eters =; 1-TCA; ne	2-1L ambe 1 Volume 6.8 14.49	er bottles 2 Volume 6.92 15.79	Pres. HCl	82 82 Sample 6.8 14.31	thod 160
Method Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC phenol & anilia Field Param pH Temp. (C) Spec. Cond. (6)	Peristalti eters ; 1-TCA; ne neters mS/cm)	2-1L ambe 1 Volume 6.8 14.49 20.7	2 Volume 6.92 15.79 21.3	Pres. HCl 3 Volume	82 82 Sample 6.8 14.31 21.9	thod 160
Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC phenol & anilin Field Param pH Temp. (C) Spec. Cond. (i) Turbidity (NTU	Peristalti eters ;; 1-TCA; ne neters mS/cm) J)	2-1L ambe 1 Volume 6.8 14.49 20.7 57.7	2 Volume 6.92 15.79 21.3 27	Pres. HCl 3 Volume	82 82 Sample 6.8 14.31 21.9 19.3	thod 160
Method Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC phenol & anilin Field Param pH Temp. (C) Spec. Cond. (c) Turbidity (NTU Dissolved Oxy	Peristalti eters ;; 1-TCA; ne neters mS/cm) J)	2-1L ambe 1 Volume 6.8 14.49 20.7 57.7 1.12	2 Volume 6.92 15.79 21.3 27 3.89	Pres. HCl 3 Volume	82 Sample 6.8 14.31 21.9 19.3 0.0	thod 160
Method Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC phenol & anilii Field Param pH Temp. (C) Spec. Cond. (I) Turbidity (NTU Dissolved Oxy ORP	Peristalti eters :	2-1L amber 2-40min 2-1L amber 1 Volume 6.8 14.49 20.7 57.7 1.12 50	2 Volume 6.92 15.79 21.3 27 3.89 53	Pres. HCl 3 Volume	Sample 6.8 14.31 21.9 19.3 0.0 -76	thod 160
Method	Peristalti eters ; 1-TCA; ne neters mS/cm) J) ygen (DO)	2-1L ambe 1 Volume 6.8 14.49 20.7 57.7 1.12	2 Volume 6.92 15.79 21.3 27 3.89	Pres. HCl 3 Volume	Sample 6.8 14.31 21.9 19.3 0.0 -76	thod 160
Param TCE; 1,2-DCE 1,1-DCA; 1,1, VC phenol & anilii	Peristalti eters ; 1-TCA; ne neters mS/cm) J) ygen (DO)	2-1L amber 2-40min 2-1L amber 2-1	2 Volume 6.92 15.79 21.3 27 3.89 53	Pres. HCI 3 Volume	Sample 6.8 14.31 21.9 19.3 0.0 -76	thod 160

Site Name Ekonol Facili	ty 441237			Well ID	MW-4S
Samplers Jeff Poulsen					
Sara Chmura	1				
					
Total Well Depth (TOC)		12.50	feet		
Initial Static Water Level (1	OC)	8.41	feet		
Well Diameter		2.0	inches		
Purging Data					
Method Peristalt	ic Pump		Date/Time	06-23-0	4 / 0950
Water Volume = (Total De	oth of Well - D 12.50	Depth To Wa	ater) x Casii 8.41	ng Volume pe	er Foot <i>0.16</i>
0.7	gallons				
_	•		-170		
1 inch 0.041	Casing 1.5-inch	Volumes (g 0.092	ai/ft.):	2-inch	0.16
1-inch 0.041 3-inch 0.36	4-inch			6-inch	
8-inch 2.5	4-11/611	0.04		10 inch	
Volume of Purge Water R	emoved	2	gallons		
Sampling Data	(a. D		D	00.00.0	4 (4000
Method Peristalt	іс Ритр	•	Date/Time	06-23-04	4 / 1020
Parameters	Bott	tle	Pres.	Met	thod
TCE; 1,2-DCE;	2- 4 0ml	vials	HCI	82	260
1,1-DCA; 1,1,1-TCA;					
VC	0.41				
phenol & aniline	2-1L ambe	er bottles	-	82	270
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	1
Spec. Cond. (mS/cm)	7.8	7. 6 5	7.69	7. 6 6	
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	r, no sheen, s	sulfuric odor			

Site Name	Ekonol Facili	ity 441 <u>237</u>			Well ID	MW-5S
Samplers	Jeff Poulsen					
•	Sara Chmura	<u> </u>				
Total Well Do			15.10			
	Water Level (1	10C)	7.82			
Well Diamete	er		2.0	inches		
Purging D	ata					
Method	Peristalt	tic Pump	_	Date/Time _	06-21-0	4 / 1545
Water Volum	ne = (Total De	nth of Well - F	Denth To W	ator) v Casir	a Volume n	er Foot
Water Volum	= (10ta1 De	15.10	- -	·	X	0.16
	1.2	gallons				
			Volumes (g			
1-inch		1.5-inch			2-inch	
3-inch			0.64		6-inch	
8-inch	2.5				1 <u>0 inch</u>	4
Volume of P	urge Water R	emoved	12	gailons		
Sampling	Data					
Method	<u>Peristalt</u>	ic Pump	-	Date/Time_	06-21-0	4 / 16 <u>20</u>
Parar	neters	Bot	tle	Pres.	Me	thod
TCE; 1,2-DC		2-40ml		HCI		260
1,1-DCA; 1,1						
VC						
ohenol & ani	line	2-1L ambe	er bottles	-	82	70
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	1
oH	<u>IIICICIO</u>	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	1
Turbidity (NT		96.8	58.5	25.6	31.7	
Dissolved Ox		-				
ORP	., 30 (20)	-156	-159	-160	-160	
Vitrate (mg/L)	-	- 100	-	4.0	
Ferrous Iron	•	-		_	0.8	
Sulfate (mg/l		-	-	-	>70	
g/1	-,			_		
Comments:	Turbidity not	working on H	orriba, mea	surements a	re based on	visual
observations	; .					
	analyzed unde	er dilution.		_	<u> </u>	

Site Name Ekonol Facili	ty 441237			Well ID	MW-6S
Samplers <u>Jeff Poulsen</u>					
Sara Chmura	3				
Total Well Depth (TOC) Initial Static Water Level (T Well Diameter	ГОС)	14.80 8.08 2.0	feet		
Purging Data					
Method Peristalt	ic Pump	-	Date/Time	06-22-04	1 / 1445
Water Volume = (Total De	nth of Well - Γ	enth To W	ater \ v Casi	na Volume ne	er Foot
=	14.80	- -	8.08	X	0.16
1.1	gallons				
	0	1/-1 /-	- 141 \-		
1-inch 0.041	Lasing 1.5-inch	Volumes (g 0.092		2-inch	0.16
3-inch 0.36				6-inch	1.4
8-inch 2.5	4 111011	0.04		10 inch	4
Sampling Data Method Parietal		5	gallons	06.22.04	1 / 1545
Method <i>Peristalt</i>	іс Рипр	-	Date/Time	06-22-04	1040
Parameters	Bot	_	Pres.	Met	
TCE; 1,2-DCE;	2-40ml	vials	HCI	820	50
<u>1,1-DCA; 1,1,1-TCA;</u> VC					
phenol & aniline	2-1L ambe	er bottles	-	82.	70
		Γ			
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
pH	7.80 14.22	7.51	•	7.50	
Temp. (C) Spec. Cond. (mS/cm)	8.64	13.5 7.42	-	13.09 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 cl	lear, no odor o	or sheen, w	ent dry at 5.0	O gallons	

Site Name	Ekonol Facili	ity 441237			WellID	<u>M</u> W-7S
Samplers	Jeff Poulsen					
•	Sara Chmura	9				
Total Well D	epth (TOC)		13.00	feet		
	Water Level (7	TOC)	6.05			
Well Diamet	ter	·	2.0	inches		
Purging [<u>Data</u>					
Method	Peristalt	tic Pump	-	Date/Time	06-22-04	1 / 0915
Water Volur	ne = (Total De	pth of Well - [Depth To Wa	ater) x Casi	ng Volume pe	er Foot
	=	13.00	-	6.05	X	0.16
	1.1	gallons				
		Casing	Volumes (g			
1-inch	0.041				2-inch	0.16
3-inch					6-inch	1.4
8-inch					10 inch	4
Sampling Method		emoved ic Pump		gallons	<i>06-22-0</i> 4	1 / 1000
Metriod	Feristait	ic ranip	-	Date/Time	00-22-04	7 1000
Para	meters	Bot	tle	Pres.	Meti	hod
TCE; 1,2-D		2-40mi	l vials	HCI	820	60
1,1-DCA; 1,	1, <u>1-TCA;</u>					
<u>vc</u>		- 0.41				
phenol & an	iline	2-1L ambe	er <u>bottles</u>		82	/0
				-		
Field Para	me <u>ters</u>	1 Volume	2 Volume	3 Volume	Sample	
pН		7.72	-	-	7.49	
Temp. (C)		15.01	-	-	14.44	
Spec. Cond.						
Tuebidity /NI		1.86		-	5.71	
Turbidity (N	TU)	1.86 431		 	<u>5.71</u> 112	
Dissolved O	TU)	1.86 431 8.38		-	5.71 112 3.5	
Dissolved O ORP	TU) xygen (DO)	1.86 431	-	-	5.71 112 3.5 2	
Dissolved O ORP Nitrate (mg/	TU) xygen (DO) L)	1.86 431 8.38	- - -	- -	5.71 112 3.5 2 0.0	
Dissolved O ORP Nitrate (mg/ Ferrous Iron	TU) xygen (DO) L) ı (mg/L)	1.86 431 8.38 -35 -	- - - -		5.71 112 3.5 2 0.0 0.0	
Dissolved O ORP Nitrate (mg/	TU) xygen (DO) L) ı (mg/L)	1.86 431 8.38 -35	- - - -		5.71 112 3.5 2 0.0	
Dissolved O ORP Nitrate (mg/ Ferrous Iror Sulfate (mg/	TU) xygen (DO) L) ı (mg/L)	1.86 431 8.38 -35 -	- - - - -		5.71 112 3.5 2 0.0 0.0 > 70	
Dissolved O ORP Nitrate (mg/ Ferrous Iror Sulfate (mg/	TU) exygen (DO) L) i (mg/L) /L)	1.86 431 8.38 -35 -	- - - - -		5.71 112 3.5 2 0.0 0.0 > 70	

Ekonol Facili	ty 441237			Well ID	MW-8S
Jeff Poulsen					
Sara Chmura	!				
epth (TOC) Water Level (1 er	OC)	7.44 2.0	feet feet inches		
<u>Data</u>					
Peristalt		Date/Time _	06-22-04	1/1100	
=	14.20	Depth To Wa	ater) x Casii 7.44	ng Volume pe x	er Foot 0.16
	0	14-1	-1111		
0.041			al/π.):	2-inch	0.16
					1.4
		0.0		10 inch	4
Purge Water R Data	emoved	5	gallons		
Peristalt	ic Pump		Date/Time_	06-22-04	/1130
meters CE; 1,1-TCA;			Pres. HCl		
:#:	0.11.000			90	70
lline	2-1L ambe	er Dotties	-	82	70
. (mS/cm) TU) exygen (DO) L) I (mg/L)	1 Volume 8.42 13.29 8.44 19.9 0 -37	2 Volume	3 Volume	Sample 8.51 13.76 8.74 - 3.9 -22 0.0 0.0	
	Jeff Poulsen Sara Chmura epth (TOC) Water Level (Ter Data Peristalt ne = (Total Dep = 1.1 0.041 0.36 0.2.5 Purge Water Re Data Peristalt meters CE; 1,1-TCA; illine Immeters (mS/cm) (U) xygen (DO)	Sara Chmura	Sara Chmura	Sara Chmura	Jeff Poulsen Sara Chmura

Site Name	Ekonol Facili	ty 441237			Well ID	MW-9S
Samplers	Jeff Poulsen					
Oampiers	Sara Chmura			_		
Total Well D	epth (TOC)		14.20			
Initial Static	Water Level (1	OC)	8.18	feet		
Well Diamet	er		2.0	inches		
Purging E	<u>Data</u>					
Method	Peristalt	ic Pump	-	Date/Time	0 <u>6-23-</u> 0	4 / 0900
Water Volum	ne = (Total De	oth of Well - [Depth To Wa	ater) x Casii	na Volume n	er Foot
. Tator Foldin	= (.5.6	14.20	-	8.18	X	
	1.0	galions				
			Volumes (g			
1-inch		1.5-inch			2-inch	
3-inch		4-inch	0.64		6-inch	
8-inch	2.5				10 inch	4
Compling	Data					
Sampling Method	<u> Peristalt</u>	ic Pump	_	Date/Time	<u>06-23-0</u>	4 / 1000
Method	Peristalt		-	_	_	
Method Parai	<i>Peristalt</i>	Bot		Pres.	Me	thod
Method Parai TCE; 1,2-DC	Peristalt meters E;			_	Me	
Method Parai <i>TCE; 1,2-DC 1,1-DCA; 1,</i> ;	Peristalt meters E;	Bot		Pres.	Me	thod
Method Parat TCE; 1,2-DC 1,1-DCA; 1,1	Peristalt meters CE; 1,1-TCA;	Bot <i>2-40m</i>	l vials	Pres.	Me: 82	thod 160
Method Parai <i>TCE; 1,2-DC 1,1-DCA; 1,</i> ;	Peristalt meters CE; 1,1-TCA;	Bot	l vials	Pres. <i>HCl</i>	Me: 82	thod
Method Parat TCE; 1,2-DC 1,1-DCA; 1,1	Peristalt meters CE; 1,1-TCA;	Bot <i>2-40m</i>	l vials	Pres. <i>HCl</i>	Me: 82	thod 160
Method Parai TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & and	Peristalt meters CE; 1,1-TCA;	Bot <i>2-40m</i>	vials er bottles	Pres. <i>HCl</i>	Mei 82 	thod 160
Method Parat TCE; 1,2-DC 1,1-DCA; 1,1	Peristalt meters CE; 1,1-TCA;	2-40mi 2-40mi	l vials	Pres. HCl	Me: 82	thod 160
Method Parai TCE; 1,2-DC 1,1-DCA; 1,: VC phenol & and Field Para pH Temp. (C)	Peristalt meters CE; 1,1-TCA; illine meters	Bot 2-40mi 2-1L ambe	er bottles	Pres. HCl - - 3 Volume	Mei 82 82 Sample	thod 160
Method Parar TCE; 1,2-DC 1,1-DCA; 1,: VC phenol & and Field Para pH Temp. (C) Spec. Cond.	Peristalt meters CE; 1,1-TCA; illine meters (mS/cm)	2-1L ambe 1 Volume 6.62 13.28 5.37	2 Volume 6.60 13.18 6.15	Pres. HCl - 3 Volume 6.64 13.9 6.13	82 82 Sample 6.60 13.18 6.14	thod 160
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & and Field Para pH Temp. (C) Spec. Cond. Turbidity (NT	Peristalt meters CE; 1,1-TCA; iline meters (mS/cm) TU)	2-1L ambe 1 Volume 6.62 13.28 5.37 54.9	2 Volume 6.60 13.18 6.15 28.7	3 Volume 6.64 13.9 6.13 43.9	82 82 82 Sample 6.60 13.18 6.14 42	thod 160
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & and Field Para pH Temp. (C) Spec. Cond. Turbidity (NT Dissolved Ox	Peristalt meters CE; 1,1-TCA; iline meters (mS/cm) TU)	2-1L ambe 2-1L ambe 1 Volume 6.62 13.28 5.37 54.9 0.98	2 Volume 6.60 13.18 6.15 28.7	3 Volume 6.64 13.9 6.13 43.9 0	82 Sample 6.60 13.18 6.14 42 0.00	thod 160
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & and Field Para pH Temp. (C) Spec. Cond. Turbidity (NT Dissolved O: ORP	Peristalt meters CE; 1,1-TCA; illine meters (mS/cm) (U) xygen (DO)	2-1L ambe 1 Volume 6.62 13.28 5.37 54.9	2 Volume 6.60 13.18 6.15 28.7	3 Volume 6.64 13.9 6.13 43.9	Sample 6.60 13.18 6.14 42 0.00 -90	thod 160
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & and Field Para pH Temp. (C) Spec. Cond. Turbidity (NT Dissolved O: ORP Nitrate (mg/L	Peristalt meters CE; 1,1-TCA; illine meters (mS/cm) (U) xygen (DO)	2-1L ambe 2-1L ambe 1 Volume 6.62 13.28 5.37 54.9 0.98	2 Volume 6.60 13.18 6.15 28.7	Pres. HCl - 3 Volume 6.64 13.9 6.13 43.9 0 -90 -	Sample 6.60 13.18 6.14 42 0.00 -90 0.0	thod 160
Method Parai TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & and Field Para pH Temp. (C) Spec. Cond. Turbidity (NT Dissolved On ORP Nitrate (mg/L Ferrous Iron	Peristalt meters CE; 1,1-TCA; illine meters (mS/cm) TU) xygen (DO) (mg/L)	2-1L ambe 2-1L ambe 1 Volume 6.62 13.28 5.37 54.9 0.98	2 Volume 6.60 13.18 6.15 28.7	3 Volume 6.64 13.9 6.13 43.9 0	Sample 6.60 13.18 6.14 42 0.00 -90 0.0 1.8	thod 160
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & and Field Para pH Temp. (C) Spec. Cond. Turbidity (NT Dissolved O: ORP Nitrate (mg/L	Peristalt meters CE; 1,1-TCA; illine meters (mS/cm) TU) xygen (DO) (mg/L)	2-1L ambe 2-1L ambe 1 Volume 6.62 13.28 5.37 54.9 0.98	2 Volume 6.60 13.18 6.15 28.7	Pres. HCl - 3 Volume 6.64 13.9 6.13 43.9 0 -90 -	Sample 6.60 13.18 6.14 42 0.00 -90 0.0	thod 160
Method Parar TCE; 1,2-DC 1,1-DCA; 1,: VC phenol & and Field Para pH Temp. (C) Spec. Cond. Turbidity (NT Dissolved O: ORP Nitrate (mg/L Ferrous Iron Sulfate (mg/L	Peristalt meters CE; 1,1-TCA; illine meters (mS/cm) TU) xygen (DO) (mg/L)	2-1L ambe 2-1L ambe 1 Volume 6.62 13.28 5.37 54.9 0.98 -99	2 Volume 6.60 13.18 6.15 28.7	Pres. HCl - 3 Volume 6.64 13.9 6.13 43.9 0 -90 -	Sample 6.60 13.18 6.14 42 0.00 -90 0.0 1.8	thod 160

Site Name	Ekonol Facilit	y 441237			Well ID	RMW-1D
Samplers	Jeff Poulsen					
	Sara Chmura	ı				
Total Well De Initial Static W Well Diamete	ater Level (T	OC)	30.00 7.83 2.0	feet		
Purging Da	<u>ata</u>					
Method _	Peristalti	c Pump	-	Date/Time	06-21-04	1/1100
Water Volume	= `	oth of Well - I 30.00 gallons	Depth To Wa	ater) x Casin <i>7.83</i>	g Volume per x	r Foot 0.16
		Cooine	Volumes (g	nol#t \·		
1-inch	0.041	1.5-inch		jai/il.).	2-inch	0.16
3-inch	0.36	4-inch			6-inch	1.4
8-inch	2.5				10 inch	4
Sampling I Method			15	gallons Date/Time	06-21-04	4 / 1145
Param	eters	Bot	tle	Pres.	Met	hod
TCE; 1,2-DCE		2-40m	l vials	HCI	82	60
1,1-DCA; 1,1,	1-TCA;				_	
VC						
phenol & anili	ne	2-1L ambe	er bottles	-	82	70
Field Paran pH Temp. (C) Spec. Cond. (Turbidity (NTU Dissolved Oxy ORP	mS/cm) J) /gen (DO)	1 Volume 8.71 12.18 3.84 25 0 -313	2 Volume 8.78 12.36 3.49 102 0	3 Volume 8.85 12.07 3.30 139 0 -327	Sample 8.81 12.4 3.25 25 0.0 -326	
Nitrate (mg/L)		-	-	-	3.0	
Ferrous Iron (Sulfate (mg/L)		-	-	•	0.0 >70	
Comments:	•	ar			210	

Site Name	Ekonol Facili	ty 4 <u>41237</u>			Well ID	<u>RMW-2D</u>
Samplers	Jeff Poulsen					
	Sara Chmura	3			•	
					-	
Total Well D	. , ,		32.50		•	
	Water Level (1	FOC)	7.76		•	
Well Diamet	er		2.0	inches	-	
Purging [<u>Data</u>					
Method	Peristalt	ic Pump	-	Date/Time	<u>06</u> -23-0	4_/1100
Water Volun	ne = (Total De	nth of Well - [Denth To W	ater) x Casi	ina Volume ne	er Foot
Water Volum	=	32.50	- -	7.76	X	0.16
	4.0	gallons				
			Volumes (g			
1-inch		1.5-inch			2-inch	
3-inch		4-inch	0.64		6-inch	
8-inch	2.5				10 inch	4
Sampling Method	Purge Water R Data Peristalt		15	gallons Date/Time	<u>06-23-04</u>	4 / 1200
Doro		Dot	*l.a	Dros	Mat	had
TCE; 1,2-DC	meters	Bot <i>2-40m</i> i		Pres. <i>HCl</i>	Met <i>82</i>	
1,1-DCA; 1,			viais		02	00
<u>VC</u>	1,1 10/1,					
phenol & an	iline	2-1L ambe	er bottles	-	82	70
						_
<u>Field Para</u>	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample	
рH		6.73	6. <u>9</u> 6	6.93	6.94	
Temp. (C)		13.39	13.18	13.21	13.13	
Spec. Cond.		3.48	3.13	3.20	3.20	
Turbidity (N		-	-	> 50 visual	> 50 visual	
Dissolved O	xygen (DO)	0	0	0	0.0	
ORP		-350	-338	-334	-334	
Nitrate (mg/l	•	-	-	-	1.0	
Ferrous Iron Sulfate (mg/		-	-	-	0.0 > 70	
Juliate (mg/	L)	<u> </u>			> 10	
Comments:	Water was cl	ear, Chemica	al odor, no v	risual produ	ct present	
		,				

Site Name	Ekonol Facilit	y 441 <u>2</u> 37			Well ID	RMW-3D
Samplers	Jeff Poulsen					
•	Sara Chmura					
Total Well De Initial Static \ Well Diamete	Water Level (T	OC)	28.24 8.10 2.0	feet feet inches		
Purging D	ata					
Method	Peristalt	ic Pump		Date/Time	06-22-0	4 / 1405
Water Volum	ne = (Total Dep _=	28.24	epth To Wa	ater) x Casi <i>8.10</i>	ng Volume pe x	er Foot <i>0.16</i>
	3.2	gallons				
		Caeina	Volumes (g	al/ft)·		
1-inch	0.041	1.5-inch	0.092	airit.j.	2-inch	0.16
3-inch		4-inch	0.64		6-inch	
8-inch			0.01		10 inch	
Sampling Method	Purge Water Ro Data Peristalt		10	gallons Date/Time	06-22-0	4 / 1515
IVICUIOG	1 Cristan	c r unp		Date/Time	00 22 0	+ / 1010
Parai	meters	Bott	tle	Pres.	Me	thod
TCE; 1,2-DC		2-40ml	vials	<u>HCI</u>	82	260
1,1-DCA; 1,1	1,1-TCA;					
VC	 -					
phenol & ani	iline	2-1L ambe	er b <u>ottles</u>	-	82	270
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	
pH	11101010	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 (NT		19.8	20.6	18.2	15.9	
Dissolved Ox		0	0	0	0.0	
ORP		-205	-203	-202	-202	
Nitrate (mg/L	-)	-	•	-	0.00	
Ferrous Iron		-	-	-	0.6	
Sulfate (mg/l	L)	-	•	-	> 70	
Comments:	Water was cl	ear with a sul	furic odor			

Site Name Ekonol Facili	ty 441237			Well ID	RMW-4D
Samplers Jeff Poulsen					
Sara Chmura					
<u> </u>		_			
Total Well Depth (TOC)		29.00	feet		
Initial Static Water Level (7	TOC)	8.10			
Well Diameter	•	2.0	inches		
Purging Data					
MethodPeristalt	ic Pump		Date/Time _	06-23-0	4 / 1030
Water Volume = (Total De	oth of Well - D	epth To Wa	ater) x Casii	na Volume pe	er Foot
,	29.00	-	8.10	X	0.16
	gallons			-	
	Casing	Volumes (g	al/ft.):		
1-inch 0.041	1.5-inch	0.092		2-inch	
3-inch 0.36	4-inch	0.64		6-inch	
8-inch 2.5				10 inch	4
Volume of Purge Water R Sampling Data	emoved	<u>15</u>	gallons		
Method Peristalt	ic Pump		Date/Time_	06-23-0	4 / 1140
Parameters	Bot	tlo	Pres.	Met	thod
TCE; 1,2-DCE;	2-40ml		HCI		260
1,1-DCA; 1,1,1-TCA;	2-401111	viais	1101	02	
VC					
phenol & aniline	2-1L ambe	er bottles	-	82	70
		_			
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. <u>67</u>	3 <u>.66</u>	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)	-	<u> </u>		<u>> 70</u>	
Comments: water is clear	r, has chemic	al odo <u>r.</u>			

Site Name Ekonol Facil	ity 441237			Well ID	MW-10D
Samplers Jeff Poulser	1				
Sara Chmur					
Total Well Depth (TOC) Initial Static Water Level (Well Diameter	тос)	31.50 7.75 2.0	feet		
Purging Data					
Method Peristal	tic Pump	-	Date/Time	06-22-04	/ 0810
Water Volume = (Total De = 3.8	epth of Well - E 31.50 gallons	Depth To Wa	ater) x Casi <i>7.75</i>	ng Volume pe x	er Foot 0.16
4 : 1		Volumes (g		0 1 !	0.40
1-inch 0.041 3-inch 0.36	= :			2-inch 6-inch	0.16 1.4
8-inch 2.5		0.04		10 inch	4
Sampling Data Method Peristal	tic Pump		Date/Time	<i>06-22-04</i>	/ / 0900
Parameters	Bot	tle	Pres.	Meti	hod
TCE; 1,2-DCE;	2-40mi	vials	HCI	820	<i>60</i>
1,1-DCA; 1,1,1-TCA; VC					
phenol & aniline	2-1L ambe	er bottles	-	82.	70
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
PH Harameters	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)		_	<u>-</u>	> 70	
Comments: Water was o	lear with sulfu	r odor.			

Site Name Ekonol Facil	ity 441237			Well ID	MW-11D
Samplers Jeff Poulsen					
Sara Chmur					
Total Well Depth (TOC)		30.74	feet		
Initial Static Water Level (TOC)	10.91	feet		
Well Diameter		2.0	inches		
Purging Data					
Method Peristal	tic Pump	_	Date/Time _	06-22-0	4 / 0930
W. V. V. V. V. T. I. I. D.					
Water Volume = (Total De		Depth To W	•	_	
=	30.74 gallons	-	10.91	<u>x</u>	<u>0.16</u>
	galloris				
	Casing	Volumes (g	nal/ft.):		
1-inch 0.041				2-inch	0.16
3-inch 0.36	4-inch	0.64		6-inch	1.4
8-inch 2.5				10 inch	4
Sampling Data Method Peristal	tic Pump		Date/Time_	06-22-0	4 / <u>1040</u>
Devementers	Bot	tl a	Dras	Ma	H- o d
Parameters TCE; 1,2-DCE;	2-40mi		Pres. <i>HCl</i>		thod 260
1,1-DCA; 1,1,1-TCA;	2 40111	viais	7101		
VC					
phenol & aniline	2-1L ambe	er bottles	-	82	270
	_				•
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 32.0	
Turbidity (NTU) Dissolved Oxygen (DO)	<u>53.6</u>	58.0 0	38.0	0.0	{
ORP	-175	-187	-190	-192	1
Nitrate (mg/L)	-173	-107	-750	0.0	1
Ferrous Iron (mg/L)	-	-	_	0.4	1
Sulfate (mg/L)	-	-	-	>70	
· · · · · · · · · · · · · · · · · · ·					1
Comments: Water was control location.	lear with sulfu	r odor, MS a	and MSD qua	antity collect	ed from this

Site Name Ekonol Faci	lity 441237			Well ID	MW-12D
Samplers Jeff Poulsei Sara Chmui		_			
Sara Omnu	<u>a</u>				
Total Well Depth (TOC)		35.00	feet		
Initial Static Water Level	(TOC)	8.23			
Well Diameter		2.0	inches		
Purging Data					
Method Perista	ltic Pump		Date/Time	06-21-0	4 / 1300
Water Volume = (Total De	enth of Well - F	Denth To Wa	ater) x Casi	na Volume pa	er Foot
=	35.00	- -	8.23	X	0.16
4.3	gallons				
		Volumes (g			
1-inch 0.04				2-inch	
3-inch 0.30		0.64		6-inch	
8-inch 2.5	5			10 inch	4
Method Perista Parameters	<i>ltic Pump</i> Bot	- tle	Date/Time_ Pres.		4 / 1345 thod
TCE; 1,2-DCE;	2-40mi		HCI		260
1,1-DCA; 1,1,1-TCA;	2 40/11	riaio	1101		
<i>VC</i>					
phenol & aniline	2-1L ambe	er bottles		82	770
					1
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	
O	-1	a ada a D			MV D 6 . 4
Comments: Water was	ciear with sulfu	r oaor, Dup	iicate quantii	ly collected (I	ww-Dup1 @ 1.

Site Name	Ekonol Facilit	ty 441237			Well ID	MW-13D
Samplers	Jeff Poulsen					
	Sara Chmura					
•						
Total Well De		.00/	31.46			
Well Diamete	Vater Level (T	OC)	11.69			
Well Diamete	:1			IIICHES		
Purging Da	<u>ata</u>					
Method	Peristalti	ic Pump	-	Date/Time	06-21-0	4 / 1135
Water Volume	e = (Total Der	oth of Well - D	Depth To Wa	ater) x Casii	na Volume p	er Foot
774.0.	=	31.46	-	11.69	X	0.16
_	3.2	gallons				
			Volumes (g		0 !!	0.40
1-inch	0.041	1.5-inch 4-inch			2-inch 6-inch	
3-inch 8-inch	0.36 2.5	4-IIIG11	0.64		10 inch	
<u>Sampling</u>	Data					
Method	Peristalti	ic Pump		Date/Time_	06-21-0	4 / 1330
•	· ·			_		
Param	neters	Bot		Pres.	Me	thod
Param TCE; 1,2-DC	neters <i>E</i> ;			_	Me	
Param	neters <i>E</i> ;	Bot		Pres.	Me	thod
Param <u>TCE; 1,2-DCI</u> <u>1,1-DCA; 1,1,</u>	neters E; ,1-TCA;	Bot	vials	Pres.	Me 82	thod
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC	neters E; ,1-TCA;	Bot <i>2-40mi</i>	vials	Pres. HCl	Me 82	thod 260
Param TCE; 1,2-DCl 1,1-DCA; 1,1, VC phenol & anili	neters E; ,1-TCA; ine	Bot 2-40ml 2-1L ambe	vials er bottles	Pres. HCl	Me 82 82	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili	neters E; ,1-TCA; ine	Bot 2-40ml 2-1L ambe 1 Volume	er bottles 2 Volume	Pres. HCI - - 3 Volume	Me 82 82 Sample	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH	neters E; ,1-TCA; ine	Bot 2-40ml 2-1L ambe 1 Volume 6.84	er bottles 2 Volume 6.89	Pres. HCI - 3 Volume 6.99	82 82 Sample 6.99	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C)	neters E; ,1-TCA; ine meters	2-1L ambe 1 Volume 6.84 11.86	er bottles 2 Volume 6.89 12.16	9 Volume 6.99 11.96	82 82 Sample 6.99 11.98	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C) Spec. Cond. (c)	neters E; ,1-TCA; ine meters (mS/cm)	Bot 2-40ml 2-1L ambe 1 Volume 6.84	er bottles 2 Volume 6.89	Pres. HCI - 3 Volume 6.99	82 82 Sample 6.99	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C)	neters E; ,1-TCA; ine meters (mS/cm) U)	2-1L ambe 1 Volume 6.84 11.86 4.57	2 Volume 6.89 12.16 4.73	3 Volume 6.99 11.96 4.76	82 82 Sample 6.99 11.98 4.77	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C) Spec. Cond. (Turbidity (NTI Dissolved Ox ORP	meters E; ,1-TCA; ine meters (mS/cm) U) ygen (DO)	2-1L ambe 2-1L ambe 1 Volume 6.84 11.86 4.57 2.6	2 Volume 6.89 12.16 4.73 3.5	3 Volume 6.99 11.96 4.76 2.4	Sample 6.99 11.98 4.77 2.6 0.0 -165	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C) Spec. Cond. (Turbidity (NT) Dissolved Ox ORP Nitrate (mg/L)	neters E; ,1-TCA; ine meters (mS/cm) U) ygen (DO)	2-1L ambe 2-1L ambe 1 Volume 6.84 11.86 4.57 2.6 0.0	2 Volume 6.89 12.16 4.73 3.5 0.00	3 Volume 6.99 11.96 4.76 2.4 0.0	Sample 6.99 11.98 4.77 2.6 0.0 -165 0.0	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C) Spec. Cond. (Turbidity (NTI Dissolved Ox ORP Nitrate (mg/L) Ferrous Iron (meters E; ,1-TCA; ine meters (mS/cm) U) ygen (DO) (mg/L)	2-1L ambe 2-1L ambe 1 Volume 6.84 11.86 4.57 2.6 0.0	2 Volume 6.89 12.16 4.73 3.5 0.00 -162 -	3 Volume 6.99 11.96 4.76 2.4 0.0	Sample 6.99 11.98 4.77 2.6 0.0 -165 0.0 0.9	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C) Spec. Cond. (Turbidity (NT) Dissolved Ox ORP Nitrate (mg/L)	meters E; ,1-TCA; ine meters (mS/cm) U) ygen (DO) (mg/L)	2-1L ambe 2-1L ambe 1 Volume 6.84 11.86 4.57 2.6 0.0 -156	2 Volume 6.89 12.16 4.73 3.5 0.00	3 Volume 6.99 11.96 4.76 2.4 0.0	Sample 6.99 11.98 4.77 2.6 0.0 -165 0.0	thod 260
Param TCE; 1,2-DCI 1,1-DCA; 1,1, VC phenol & anili Field Param pH Temp. (C) Spec. Cond. (Turbidity (NTI Dissolved Ox ORP Nitrate (mg/L) Ferrous Iron (Sulfate (mg/L)	meters E; ,1-TCA; ine meters (mS/cm) U) ygen (DO) (mg/L)	2-1L ambe 2-1L ambe 1 Volume 6.84 11.86 4.57 2.6 0.0 -156 -	2 Volume 6.89 12.16 4.73 3.5 0.00 -162 -	3 Volume 6.99 11.96 4.76 2.4 0.0 -165 -	Sample 6.99 11.98 4.77 2.6 0.0 -165 0.0 0.9 > 70	270

Site Name	Ekonol Facilit	ty 441237			Well ID	MW-14D
Samplers	Jeff Poulsen Sara Chmura					
	Sara Crimura					
Total Well D	enth (TOC)		31.25	feet		
	Water Level (T	OC)	9.88			
Well Diamet		,	2.0	inches		
Purging D	<u>Data</u>					
Method	Peristalt	ic Pump		Date/Time	06-21-04	4 / 1415
Water Volun	ne = (Total Der	oth of Well - E	Depth To Wa	ater) x Casi	na Volume pe	er Foot
	=	31.25	-	9.88	X	0.16
	3.4	gallons				
		Casing	Volumes (g	al/ft.):		
1-inch	0.041	1.5-inch			2-inch	0.16
3-inch		4-inch	0.64		6-inch	1.4
8-inch	2.5				10 inch	4
Sampling Method	Data Peristalt	ic Pump		Date/Time	06-21-04	4 / 1500
Para	meters	Bot	tle	Pres.	Met	hod
TCE; 1,2-DC		2-40ml		HCI	= -	60
1,1-DCA; 1,		2 101111	71410			
VC	<u> </u>			_		
phenol & an	iline	2-1L ambe	er bottles	-	82	70
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	
рН		9.09	8.96	8.90	8.91	
Temp. (C)		10.93	10.97	11.01	11.02	
Spec. Cond.		3.78	3.76	3.73	<i>3.76</i>	
Turbidity (N		27.9	31.5	38.9	34.2	
Dissolved O	xygen (DO)	-	-	-	-	
ORP		-316	-311	-309	-309	
Nitrate (mg/l		-	-	<u>-</u>	0.0	
Ferrous Iron		-	-	-	0.0	
Sulfate (mg/	L)	•	-	-	> 70	
Comments:	Water is clea	r				

Site Name	Ekonol Facili	ity 441237			Well ID	MW-15D
Samplers	Jeff Poulsen					
·	Sara Chmura					
Total Maril D	\th (TOO)		00.00	f4		
Total Well D	eptn (100) Water Level (1	roc)	29.30 8.88			
Well Diamet	,	100)	2.0			
Won Blame	.01			11101100		
Purging [<u>Data</u>					
Method	Peristali	tic Pump		Date/Time	06-21-0	4 / 1415
Water Volum	ne = (Total De	oth of Well - [Depth To Wa	ater) x Casii	na Volume p	er Foot
	•	29.30	-		X	
		gallons				
4 := -1	0.044		Volumes (g		0 :	- 0.10
1-inch					2-inch	
3-inch 8-inch			0.64		6-inch 10 inch	
0-11101						
Volume of I	Purge Water R	emoved	10	gallons		
<u>Sampling</u>	<u>Data</u>					
	D:- t - H	· . O		Data (Time	00.04.0	4 /4500
Method	Peristalt	ic Pump		Date/Time_	06-21-0	4 / 1530
Para	meters	Bot	tle	Pres.	Me	thod
TCE; 1,2-D		2-40ml		HCI		260
1,1-DCA; 1,						
VC						
phenol & an	iline	2-1L ambe	er bottles		82	270
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	1
pH	intererg	6.97	6.95	6.93	6.93	1
Temp. (C)		14.36	14.39	14.35	14.36	1
Spec. Cond.	. (mS/cm)	2.81	2.82	2.80	2.87	1
Turbidity (N		55.2	21.6	37.0	40.3	1
Dissolved O	xygen (DO)	0.0	0.0	0.0	0.0]
ORP		-133	-136	-139	-141]
Nitrate (mg/		-	-	-	0.0	
Ferrous Iron		-		-	0.5	
Sulfate (mg/	L)		-		> 70	
0	and a standard		_			
Comments:	water is clear	r, suituric <u>odo</u>				

Site Name	Ekonol Facilit	y 441237			Well ID	MW-16D
Samplers	Jeff Poulsen					
	Sara Chmura		_			
-						
Total Well De			31.50			
Initial Static V	•	OC)	12.29			
Well Diamete	r		2.0	inches		
Purging Da	<u>ata</u>					
Method	Peristalti	c Pump		Date/Time	06-21-04	4 / 0950
Water Volume	e = (Total Der =	oth of Well - E 31.50	Depth To Wa	ater) x Casi 12.29	ng Volume pe	er Foot <i>0.16</i>
-	3.1	gallons				
· · · · · ·			11-1	-1/61 >-		
1-inch	0.041	1.5-inch	Volumes (g 0.092		2-inch	0.16
3-inch	0.041	4-inch			6-inch	1.4
8-inch	2.5	4-111011	0.04		10 inch	4
Volume of Pu		emoved	10	gallons		
Sampling Method	Peristalti	ic Pump		Date/Time	06-21-04	4 / 1115
Param	notore	Bot	tlo	Pres.	Mat	hod
TCE; 1,2-DC		2-40ml		HCI	82	
1,1-DCA; 1,1,			7,4,70		•	
VC						
phenol & anil	ine_	2-1L ambe	er bottles _	-	82	70
Field Boron	motoro [d 1/a/vmaa	0.1/0/1/1000	0 1/a/uma	Commis	1
Field Parar pH	<u>Heters</u>	1 Volume 6.91	2 Volume 6.89	3 Volume 6.90	Sample 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 (NTI	· '	8.1	6.4	10.2	9.03	
Dissolved Ox		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 cl	ear with sulfu	r odor			

Site Name	Ekonol Facili	ty 441237			Well ID	<u>MW-17D</u>
Samplers	Jeff Poulsen					
Campiois	Sara Chmura					
Total Well D	epth (TOC)		33.27	feet		
Initial Static	Water Level (1	FOC)	9.68			
Well Diamet	er		2.0	inches		
Purging [)ata					
3						
Method	Peristalt	ic Pump	-	Date/Time _	06-22-0	4 / 1110
Water Volun	ne = (Total De	oth of Well - I	Depth To Wa	ater) x Casir	na Volume p	er Foot
	=	33.27	-	9.68	X	0.16
	3.8	gallons				
		_	Volumes (g	al/ft.):		
1-inch		1.5-inch			2-inch	i
3-inch		4-inch	0.64		6-inch	
8-inch	2.5				10 inch	4
Volume of F	Purge Water R	emoved	12	gallons		
Sampling	Data					
Method	Peristalt	ic Pump		Date/Time	06-22-0	4 / 1245
			-	_		
	meters	Bot		Pres.		thod
TCE; 1,2-DC		2-40m	l vials	<u>HCI</u>		260
1,1-DCA; 1,	1,1-1CA;					
VC	ilino	2-1L ambe	or bottles			270
phenol & an	<u> </u>	2-1L amo	er poules	<u>-</u>		
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	1
pH	11101010	6.93	6.96	6.95	6.90	1
Temp. (C)		11.71	11.83	11.90	12.92	1
Spec. Cond.	(mS/cm)	2.58	2.66	2.61	2.72	
Turbidity (N1		32.6	48.7	60.4	24.6	1
Dissolved O	xygen (DO)	0.00	0.00	0.00	0.00	1
ORP		<u>-174</u>	-179	-1 <i>78</i>	-178	
Nitrate (mg/l		-			0.0	
Ferrous Iron	· • /	•		-	0.0	
Sulfate (mg/	L)				> 70	
0	14/-4		lan D 11 - 1		ll = =4 = -1 .f	Hala In a North
	Water was cl	ear, suitur od	or, Duplicat	e quantity co	nected from	tnis location
A KAIM DUIDO						
(MVV-DUP2	@_1201)					

Water Volume = (Total De	ra e	26.00 9.20 2.0	feet		
Total Well Depth (TOC) Initial Static Water Level (Well Diameter Purging Data Method Peristal Water Volume = (Total December 2)	(TOC)	9.20	feet		
Initial Static Water Level (Well Diameter Purging Data Method Peristal Water Volume = (Total De		9.20	feet		
Initial Static Water Level (Well Diameter Purging Data Method Peristal Water Volume = (Total De		9.20	feet		
Well Diameter Purging Data Method Peristal Water Volume = (Total De					
Purging Data Method Peristal Water Volume = (Total De	tic Pump				
Method Peristal Water Volume = (Total De	ltic Pump				
Water Volume = (Total De	ltic Pump				
<u>=</u>		-	Date/Time_	06-22-04	/ 1330
<u>=</u>	enth of Wall - I	Donth To M	(ator) v Casi	ing Volume ner	r Foot
2.7	26.00		9.20	ng volume per X	0.16
	gallons				
		Volumes (g	jal/ft.):		
1-inch 0.041				2-inch	0.16
3-inch 0.36		0.64		6-inch	1.4
8-inch 2.5)			10 inch	4
Sampling Data Method Peristal	ltic Pump		Date/Time	06-22-04	/ 1400
_		•	_		
Parameters	Bot		Pres.	Metho	
TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TCA;	2-40ml	viais	<u>HCI</u>	8260	
1,1-00A; 1,1,1-10A, VC					
phenol & aniline	2-1L ambe	er bottles		8270	
priorior a arimiro	2 12 411100	<i>37 2011100</i>		02.0	<u></u>
		_			
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
рН	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	
Lileculved (Ivease (I IC)	0.00	0.00	0.00	0.00	
	-226	-235	-240	-241	
ORP			_	0.1	
ORP Nitrate (mg/L)				U.U	
ORP Nitrate (mg/L) Ferrous Iron (mg/L)		-			
Dissolved Oxygen (DO) ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	-	-	-	> 70	
ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	-	-			
ORP Nitrate (mg/L) Ferrous Iron (mg/L)	-	-			

		ity 441237	_			
Samplers	Jeff Poulsen					
•	Sara Chmun	a				
	(500)					
Total Well D		TOO)	26.98			
ınıtıaı Static i Well Diamet	Water Level (100)	7.87			
well blamet	er		2.0	inches		
Purging D	ata					
Method	<u>Peristal</u>	tic Pump	_	Date/Time	06-21-0	04 / 1532
Water Volum	ne = (Total De	onth of Moll -	Donth To W	lator) v Cas	ina Volume	nor Foot
Water Volum		26.98	- -	7.87	X	
	3.1	gallons		1.07		
		. •				
			Volumes (g	jal/ft.):		
1-inch	0.041	1.5-inch	0.092		2-inch	
3-inch	0.36	4-inch	0.64		6-inch	
	n t				10 inch	1 4
	ourge Water F	lemoved	10	gallons		
Volume of P	ourge Water F		10	gallons Date/Time	06-21-0	04 / <u>1630</u>
Volume of P Sampling Method	ourge Water F	lemoved		. •	-	04 / 1630 ethod
Volume of F Sampling Method Parar TCE; 1,2-DC	Purge Water F Data Peristall meters E;	tic Pump	- tle	Date/Time_	Me	
Volume of F Sampling Method Parar TCE; 1,2-DC 1,1-DCA; 1,3	Purge Water F Data Peristall meters E;	tic Pump Bot	- tle	Date/Time_ Pres.	Me	thod
Volume of F Sampling Method Parar TCE; 1,2-DC 1,1-DCA; 1,3	Purge Water F Data Peristali meters E; 1,1-TCA;	tic Pump Bot 2-40m	tle I vials	Date/Time_ Pres. <i>HCI</i>	Me 	ethod 260
Volume of F Sampling Method Parar TCE; 1,2-DC 1,1-DCA; 1,3	Purge Water F Data Peristali meters E; 1,1-TCA;	tic Pump Bot	tle I vials	Date/Time_ Pres.	Me 	thod
Method Parar TCE; 1,2-DC 1,1-DCA; 1,1 VC ohenol & ani	Purge Water F Data Peristali meters E; 1,1-TCA;	tic Pump Bot 2-40mi 2-1L ambe	tle I vials er bottles	Date/Time_ Pres. <i>HCI</i>	Me 82 82	ethod 260
Method Parar TCE; 1,2-DC 1,1-DCA; 1,1 VC phenol & ani	Purge Water F Data Peristali meters E; 1,1-TCA;	tic Pump Bot 2-40mi 2-1L ambe	tle I vials er bottles 2 Volume	Pres. HCl	Me 82 82 82 Sample	ethod 260
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & ani Pield Parar	Purge Water F Data Peristali meters E; 1,1-TCA;	tic Pump Bot 2-40mi 2-1L ambe 1 Volume 6.74	ttle I vials er bottles 2 Volume 6.71	Pres. HCl	Sample 6.69	ethod 260
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC ohenol & ani Field Parar DH Temp. (C)	Purge Water F Data Peristali meters DE; 1,1-TCA; line meters	Bot 2-40m 2-1L ambe 1 Volume 6.74 15.40	ttle I vials er bottles 2 Volume 6.71 15.44	Pres. HCl - 3 Volume 6.69 15.59	Sample 6.69 15.51	ethod 260
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC phenol & ani Pield Parar OH Femp. (C) Spec. Cond.	Purge Water F Data Peristali meters DE; 1,1-TCA; line meters (mS/cm)	Bot 2-40mi 2-1L ambe 1 Volume 6.74 15.40 6.20	ttle I vials er bottles 2 Volume 6.71 15.44 6.16	Pres. HCl - 3 Volume 6.69 15.59 6.24	Sample 6.69 15.51 6.19	ethod 260
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC Dhenol & ani DH Temp. (C) Spec. Cond. Turbidity (NT	Purge Water F Data Peristali meters DE; 1,1-TCA; line meters (mS/cm) U)	Bot 2-40mi 2-1L ambe 1 Volume 6.74 15.40 6.20 136	ttle I vials er bottles 2 Volume 6.71 15.44 6.16 62.8	Pres. HCl - 3 Volume 6.69 15.59 6.24 50.0	Sample 6.69 15.51 6.19 50.0	ethod 260
Method Parar (CE; 1,2-DC) 1,1-DCA; 1,3 (C) Shenol & ani Field Para OH Femp. (C) Spec. Cond. Turbidity (NT Dissolved On	Purge Water F Data Peristali meters DE; 1,1-TCA; line meters (mS/cm) U)	Bot 2-40mi 2-1L ambe 1 Volume 6.74 15.40 6.20 136 0.00	2 Volume 6.71 15.44 6.16 62.8 0.00	Date/Time Pres. HCl	Sample 6.69 15.51 6.19 50.0 0.00	ethod 260
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC Ohenol & ani Field Parar OH Femp. (C) Spec. Cond. Furbidity (NT Dissolved On DRP	Purge Water F Data Peristali meters E; ,1-TCA; lline meters (mS/cm) U) kygen (DO)	Bot 2-40mm 2-1L amber 1 Volume 6.74 15.40 6.20 136 0.00 -118	2 Volume 6.71 15.44 6.16 62.8 0.00 -112	Date/Time Pres. HCl 3 Volume 6.69 15.59 6.24 50.0 0.00 -110	Sample 6.69 15.51 6.19 50.0 0.00 -108	ethod 260
Method Parar TCE; 1,2-DC 1,1-DCA; 1,3 VC ohenol & ani Pield Parar OH Temp. (C) Spec. Cond. Turbidity (NT Dissolved On DRP Nitrate (mg/L	Purge Water F Data Peristali meters DE; 1,1-TCA; lline meters (mS/cm) U) kygen (DO)	Bot 2-40mm 2-40mm 2-1L amber 1 Volume 6.74 15.40 6.20 136 0.00 -118	2 Volume 6.71 15.44 6.16 62.8 0.00 -112	Date/Time Pres. HCI 3 Volume 6.69 15.59 6.24 50.0 0.00 -110	Sample 6.69 15.51 6.19 50.0 0.00 -108 0.0	ethod 260
Volume of P Sampling Method	Purge Water F Data Peristali meters E; ,,1-TCA; lline (mS/cm) U) kygen (DO) (mg/L)	Bot 2-40mm 2-1L amber 1 Volume 6.74 15.40 6.20 136 0.00 -118	2 Volume 6.71 15.44 6.16 62.8 0.00 -112	Date/Time Pres. HCl 3 Volume 6.69 15.59 6.24 50.0 0.00 -110	Sample 6.69 15.51 6.19 50.0 0.00 -108	ethod 260

ATTACHMENT D DATA USABILITY SUMMARY REPORTS

DATA USABILITY SUMMARY REPORT

EKONOL FACILITY - MAY 2004 SAMPLING

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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,

PARSONS

"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.

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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

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- 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 μ g/L. Therefore, all phenol results for these samples less than the validated action concentration of 20 μ g/L were considered not detected and qualified "U".

Usability

All semivolatile sample results were considered usable following data validation.

Summary

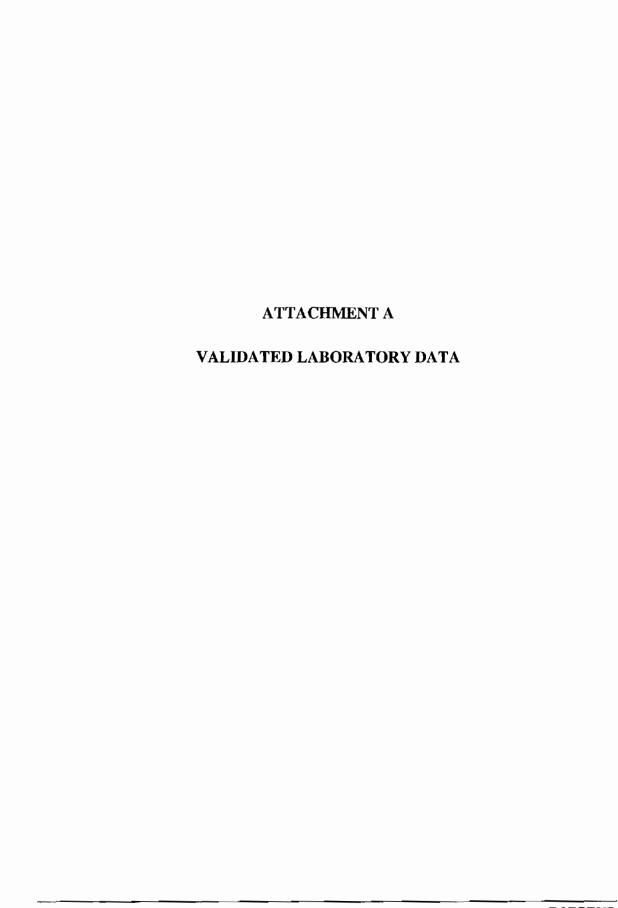
The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The semivolatile data presented by STL were 100% complete with all data considered usable and valid. The validated semivolatile laboratory data are 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		
SAMPLE ID	<u>MATRIX</u>	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	ОК	OK
TRIP BLANK	WATER	5/27/04	OK_	
TO	TAL SAMPLES		28	25

NOTES: OK - Sample analysis considered valid and usable.



Ekonol Facility	A	Sample ID:	MW-18	MW-2S	MW-3S	MW-4S	MW-5S	S9-MM	SL-MM	MW-8S	S6-WM	MW-10D
Analytical Summary	mmary	Lab Sample Id	A4465001	A4471601	A4471602	A4471603	A4465003	A4465006	A4465007	A4465008	A4466008	A4466004
Wheatfield, New York	ew York	Source:	STL Buffalo									
Validated Gro	Validated Groundwater Analytical Data	SDG	A04-4650									
May 2004		Matrix:	WATER									
		Sampled.	5/17/2004	5/19/2004	5/19/2004	5/19/2004	5/17/2004	5/17/2004	5/17/2004	5/17/2004	5/18/2004	5/18/2004
		Validated:	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004
CAS NO.	COMPOUND	UNITS:										
	Vol. Appear											
75-34-3	1,1-Dichloroethane	UG/L	5 U	25000 UJ	s UI	68 J	SU	5.6	5 U	SU	SU	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	2 C	25000 UJ	S UI	710 J	5 U	5 U	5 U	5.0	SU	230
9-10-64	Trichloroethene	UG/L	75	25000 UJ	s uı	1600 J	5 U	5 U	5 U	5 U	5 U	4700
75-01-4	Vinyl chloride	UGAL	25	35000 J	s un	1000 J	5 U	190	SU	5 U	84	62 J
	The same sections of the same											
62-53-3	Aniline	CGL	10 UI	390 UI	10 UJ	4	10 01	10 UI	10 OI	10 UI	10 UJ	10 J
108-95-2	Phenol	LIGAL.	10 01	28000 J	10 111	IO 01	10 O	10 11	10 13	10 11	10 111	10 111

			Dup of MW-10D							Dup of MW-16D		
Ekonol Facility	>	Sample ID:	MW-DUP1	MW-11D	MW-12D	MW-13D	MW-14D	MW-15D	MW-16D	MW-DUP2	MW-17D	MW-18D
Analytical Summary	nmary	Lab Sample Id	A4466007	A4466001	A4465005	A4471607	A4465004	A4471608	A4466006	A4466005	A4466003	A4466002
Wheatfield, New York	ew York	Source:	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
Validated Gre	Validated Groundwater Analytical Data	SDG	A04-4650	A04-4650	A04-4650	A04-4650	A04-4650	A04-4650	A04-4650	A04-4650	A04-4650	A04-4650
May 2004		Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
		Sampled:	5/18/2004	5/18/2004	5/17/2004	5/19/2004	5/17/2004	5/19/2004	5/18/2004	5/18/2004	5/18/2004	5/18/2004
		Validated:	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004
CAS NO.	COMPOUND	UNITS:										
75-34-3	1,1-Dichloroethane	UG/L	120 U	20 U	SU	3,1 J	SU	260 J	20 U	20 U	1.1.7	S U
540-59-0	1,2-Dichloroethene (Total)	NGA	2200	35 J	3.5 J	190 J	10 O	1 0016	470	044	14	10 U
71-55-6	1,1,1-Trichloroethane	Ω	220	120	5 U	2.3 J	5 U	960 J	20 U	20 U	9.6	SU
79-01-6	Trichloroethene	NG/L	4200	20 U	5 U	14 J	5 U	1400 1	12 J	12 J	1.1 J	5 U
75-01-4	Vinyl chloride	UG/L	64.1	20 U	5 U	76 J	5 U	360 J	15 J	13 J	2.4 J	5 U
	Section Action in the section of the	\$100 miles										
62-53-3	Aniline	NG/L	10 J	10 CJ	10 UJ	IO 01	10 OI	8	10 UJ	10 UJ	10 U	10 U
108-95-2	Phenol	rG/L	10 UI	10 UJ	10 U	10 OI	10 C	10 UJ	10 OI	10 UJ	10 U	10 U

Ekonol Facility		Sample ID:	MW-19D	RMW-1D	RMW-2D	RMW-3D	RMW-4D	TRIP BLANK	TRIP BLANK	TRIP BLANK
Analytical Summary	mary	Lab Sample Id	A4507301	A4465002	A4471606	A4471604	A4471605	A4465009	A4465009	A4465009
Wheatfield, New York	×.	Source:	STL Buffalo							
Validated Gro	Validated Groundwater Analytical Data	SDG:	A04-4650							
May 2004	•	Matrix:	WATER							
		Sampled:	5/27/2004	5/17/2004	5/19/2004	5/19/2004	5/19/2004	5/17/2004	5/18/2004	5/27/2004
		Validated:	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004
CAS NO.	COMPOUND	UNITS:								
	WOEATHER									
75-34-3	1,1-Dichloroethane	UG/L	5 UI	SU	\$000 UJ	40]	1000 UI	SU	SC	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	s m	5 U	5400 J	3900 J	4500 J	SU	SU	2 C
79-01-6	Trichloroethene	ng/L	s ui	s u	1000001	170 J	29000 J	SU	SU	s u
75-01-4	Vinyl chloride	UG/L	4.6 J	5 U	\$000 UI	100 UJ	360 J	5 U	5 U	SU
	The same of the state of the st									
62-53-3	Aniline	UG/L	10 111	10 OI	410 J	10 UI	210 J			
108-95-2	Phenol	UG/L	10 UI	10 U	100 J	10 UI	400 UJ			

DATA USABILITY SUMMARY REPORT

EKONOL FACILITY - JUNE 2004 SAMPLING

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C	Maryanne Kosciewicz	Date
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AUGUST 2004

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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 μ g/L. Therefore, the associated trichloroethene results less than the validation action concentration of 5 μ g/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

PARSONS

- 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 μ g/L. Therefore, all phenol results for these samples less than the validated action concentration of 15 μ g/L were considered not detected and qualified "U".

Usability

All semivolatile sample results were considered usable following data validation.

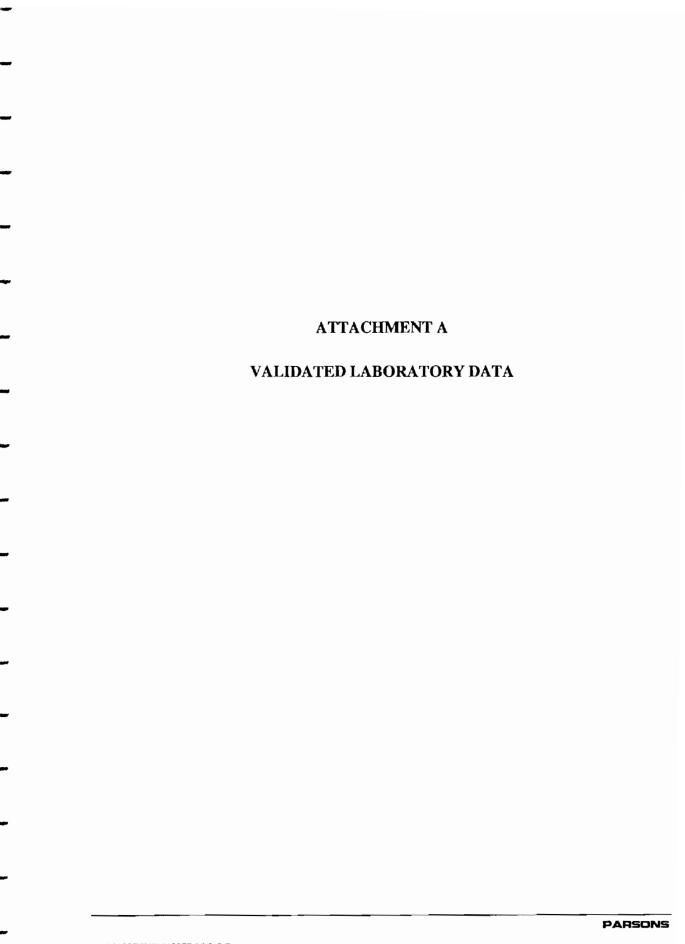
<u>Summary</u>

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	<u>MATRIX</u>	SAMPLE <u>DATE</u>	<u>VOCs</u>	SVOCs
MW-1S	WATER	6/21/04	ОК	OK
MW-5S	WATER	6/21/04	OK	ОК
MW-13D	WATER	6/21/04	OK	ОК
MW-14D	WATER	6/21/04	OK	OK
MW-15D	WATER	6/21/04	OK	OK
MW-16D	WATER	6/21/04	OK	ОК
MW-12D	WATER	6/21/04	OK	ОК
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	ОК
MW-10D	WATER	6/22/04	OK	ОК
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	ОК
MW-7S	WATER	6/22/04	OK	OK
MW-8S	WATER	6/22/04	OK	OK
MW-DUP2	WATER	6/22/04	OK	ОК
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	
TO	TAL SAMPLES		28	25

NOTES: OK - Sample analysis considered valid and usable.



Ekonol Facility	2	Sample ID:	MW-1S	MW-2S	MW-3S	MW-4S	MW-5S	S9-MM	MW-7S	WW-8S	S6-MM	MW-10D
Analytical Summary	mmary	Lab Sample Id:	A4589105	A4595302	A4591510	A4595303	A4589109	A4591504	A4591505	A4591508	A4595301	A4591501
Wheatfield, New York	lew York	Source:	STL Buffalo									
Validated Gro	Validated Groundwater Analytical Data	SDG:	A04-5891									
June 2004	•	Matrix:	WATER									
		Sampled.	6/21/2004	6/23/2004	6/22/2004	6/23/2004	6/21/2004	6/22/2004	6/22/2004	6/22/2004	6/23/2004	6/22/2004
		Validated:	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004
CAS NO.	COMPOUND	UNITS:										
	Woller of FIG. 2											
75-34-3	1,1-Dichloroethane	LOGT	5 0	25000 U	5 U	D 001	5 U	9.9	SU	5 U	5 U	12.1
540-59-0	1,2-Dichloroethene (total)	T/D/1	99	000009	10 U	4200	1.8 J	52	9.4 J	2.4 J	72	1800 J
71-55-6	1,1,1-Trichloroethane	NGV	5 0	25000 U	5 U	43 3	5 U	2 J	1.2 J	5 U	S U	53 J
9-01-6	Trichloroethene	UG/L	œ	7300 J	2.4 J	250	3.0	=	12	4.3 J	26	1000 I
75-01-4	Vinyl chloride	UG/L	7	26000	5 U	410	5 U	120	5 U	5 U	120	66 J
	SHEAT CONTINUES SEEDING	2391										
62-53-3	Aniline	UG/L	10 U	9	10 O	20	10 U	10 O	10 U	TO 01	10 U	0.8 J
108-95-2	Phenol	nG/L	10 17	35000	Ω 01	0.01	10 11	10 11	10 D	10 01	10 01	10 11

					Dup of MW-12D						Dup of MW-17D	
Ekonol Facility	٨	Sample ID:	MW-11D	MW-12D	MW-DUP1	MW-13D	MW-14D	MW-15D	MW-16D	MW-17D	MW-DUP2	MW-18D
Analytical Summary	nmary	Lab Sample Id:	A4591502	A4589103	A4589104	A4589102	A4589110	A4589107	A4589101	A4591503	A4591507	A4591506
Wheatfield, New York	ew York	Source:	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
Validated Gro	Validated Groundwater Analytical Data	SDG	A04-5891	A04-5891	A04-5891	A04-5891	A04-5891	A04-5891	A04-5891	A04-5891	A04-5891	A04-5891
June 2004		Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
		Sampled:	6/22/2004	6/21/2004	6/21/2004	6/21/2004	6/21/2004	6/21/2004	6/21/2004	6/22/2004	6/22/2004	6/22/2004
		Validated:	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004
CAS NO.	COMPOUND	UNITS:			•							
	VOLVANIELS - STANKY-IOV	200										
75-34-3	1,1-Dichloroethane	UG/L	4I J	2 U	5 U	25 U	5 U	150 J	25 U	1.6 J	1.2 J	S U
540-59-0	1,2-Dichloroethene (total)	UG/L	450	5.1 J	5.2 J	520	10 U	7700	840	13	1 6'6	10 U
71-55-6	1.1,1-Trichloroethane	LG/L	1700 J	5 U	5.0	25 U	5 U	530	25 U	14	·	5 U
79-01-6	Trichloroethene	UG/L	1400	2 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
	SEVINOIS AIREST											
62-53-3	Aniline	NG/L	4 J	10 O	10 U	10 O	10 O	2.3	10 U	10 U	10 U	10 U
108-95-2	Phenol	UG/I	D 0I	10 U	10 U	10 U	10 U	10 O	10 U	10 U	10 U	10 O

Ekonol Facility		Sample ID:	MW-19D	RMW-1D	RMW-2D	RMW-3D	RMW-4D	TRIP BLANK	TRIP BLANK	TRIP BLANK
Analytical Summary	umary	Lab Sample Id:	A4589108	A4589106	A4595305	A4591509	A4595304	A4589111	A4589111	A4589111
Wheatfield, New York	w York	Source.	STL Buffalo							
Validated Groot	Validated Groundwater Analytical Data	SDG:	A04-5891							
June 2004		Matrix:	WATER							
		Sampled:	6/21/2004	6/21/2004	6/23/2004	6/22/2004	6/23/2004	6/21/2004	6/22/2004	6/23/2004
		Validated:	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004	8/6/2004
CAS NO.	COMPOUND	UNITS:								
	William Control of the Control of th									
75-34-3	1,1-Dichloroethane	UG/L	2.0	5.0	4000 U	130 J	210 J	SU	S U	2 U
540-59-0	1,2-Dichloroethene (total)	UG/L	196	65	16000	069	15000	10 U	10 C	10 U
71-55-6	1,1,1-Trichloroethane	UG/L	3.0	5.0	2500 J	0066	1800	SU	S U	2 C
79-01-6	Trichloroethene	UG/L	1.3 J	SU	110000	1200	130000	5 U	SU	2 U
75-01-4	Vinyl chloride	NG/L	3.1 J	SU	1400 J	250 U	720 J	5 0	5 U	5 U
	Same September 1975									
62-53-3	Aniline	T.G/L	10 U	10 11	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



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ONYX ENVIRONMENTAL SERVICES

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18. Transporter 2 Acknowledgement of Receipt Printed/Typed Name	of Materials	Signature 6	· · · · · · · · · · · · · · · · · · ·	-	<u>:</u>	Month	Day Yes				
Carl J Lyo	n.	Colonia		<u> </u>		1017	11619				
19. Discrepancy Indication Space		The second second									
20. Facility Owner or Operator: Certification of rec	eipt of non-hazardous	materials covered by this ma	nifest except as	poted in tem	19.		<u> </u>				
Printed/Typed Name	2/1/13	Signature	dal	Ini	χħ/)	. Month	Day Yes				
4-TSDF COPY	1	SIGNATURE	AND INFORM	ATTON M	CTREIF	LIBLE ON A	II COPIES				

ONYX ENVIRONMENTAL SERVICES

JONYX



_	100	ta type or print in block let	ers. (Form designed for use on take (12-pitch) typewiter.)		_										
		NON-HAZA WASTE MA	NIFEST NYR 0 0 0 1 0 3 3 8 2 3	danilest Ument No. Di Di Si S	2 Pa	~ }	_								
_		Generator's Name and Mailing Address GROUP ENARONMENTAL MANAGEMENT					A. Non-hazardous Manifest Document Number Z 136598								
-		4050 EAST 49TH STREET MBC3 - 147 CAYAHOGA HEIGHTS OH 41125 4. Generator's Phone (B. State Generator's ID 8500 WALMORE HOAD									
_		5. Transporter 1 Compa	er .	WHEATFIELD, NY 14204											
- 1	Н	OHYX ENVIRON	C State Trans. 10 P206947 14												
1		7. Transporter 2 Compa	Franks Vacuum TRICKSERIKE NY9987798814					D. Transporter's Phone (973) 347.7(11) E. State Trans ID 74.76 307/7							
	Ц	9. Designated Facility N							17/9	701	<u> </u>				
١		1550 BALMER RO				's Phono	7/6 SAM	<u> </u>	715	2					
1		MODEL CITY, NY	14107 NY DY	1 61 71 9	The state of the s										
~			cription (Including Proper Shipping Name, Hazard Class and ID Number)				tainers 13. 14 Total Unit								
1	۵	a. NON-REG	BLATED MATERIAL PER 40 8 49 CFR,	No	Туре	Ou.	intity	WIVO	N C	N	<u>E</u>				
-	E	(PLASTIC.	PPE), NONE, NONE	0 0 1	D M	0 0	2 5 0	P	Ì.						
-	R	b. NON-REG	ULATED MATERIAL PER 40 & 49 CFR, (SOIL,	 					N O	_l • +i	_ <u>F</u>				
-	7	DIRT), NO		0, 0, 3	D, M	8, 1,	5, 0, 0	F	' '						
-	R	с													
		d.						-			.l				
١															
-		J. Additional Description	ns for Materials Listed Above		K Ha	indling C	odes for	Wastes	Listed At	ove.					
1		S/- 467493;#7,55GAL: (DRUM#28) -1/													
.	$\ \cdot \ $	8 EL 511809-4100	4;3X55GAL;(#10,21,22) - / }		a.			¢ .							
ĺ	1	b	wijaxasGAL;(#10,21,22) d.		b i		<u>L.</u>	d .							
1		PACINIG BUPS	ITTACHED FOR CLARIFICATION -ONYX EMERGENCY NUMBI	er-Info	RAC	1-900-5	5 35-50 53	3 .							
•		(Chr.)	**(ONYX-TONAMANDA, NYZ// 1-800-788-0588)*** OLC > CCC 7												
١	11	91586557 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, pad national governmental	urged, marked and labelled/placarded, and are in all respects in proper conditi regulations.	ion for transp	ourt acc	ording to	applicable	interna	tional and	ı					
	$\ $	I hereby certify that the abo	vg-named maternal is not hazardous wasto as defined by 40 CFR Part 261 or a	апу афріксав	le stato	law.									
.		Printed/Typed Name	Signature	/	1161	7 7	-		Month	Dav	Yesr				
L	M	JAMES WS	hotz for Allartic Kild ill Company like le for	- GrA	leir	poly	flor	وتتسييلاني	0 7 1	-					
ľ	Ĭ.	17. Transporter 1 Acknow Printed/Typed Name	ledgement of Receipt of Materials	7	7			<i>i</i> /	Month	Oav -	Yuar				
1	X MD	MICHAEL FOSE	Maine		~				0 7 1	٠.					
ļ	ĝ	18. Transporter 2 Acknow Printed/Typed Name	ludgement of Receipt of Materials)			440.044	<u> </u>	V				
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ſ		19. Discrepancy Indicatio	1 Space												
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	₽	Printed/Typed Name	ly Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest except as noted in item 19. 2d/Typed Name A 3 A Month Day Yes							Year					
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		4-TSDF COPY	SIGNATURE AND	INFORM	ATIO	N Mis	PRELEC	มยเ ๊	ON ALL	COP	ıı:S				