## PHASE II SITE CHARACTERIZATION AT EKONOL POLYESTER RESINS WHEATFIELD, NEW YORK

Submitted to:



New York State Department of Environmental Conservation Division of Hazardous Waste Remediation

Submitted by:

# **Group Environmental Management Company**

A BP affiliated company

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March 2003

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#### SECTION 1 INTRODUCTION

#### 1.1 INTRODUCTION

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. Following removal of the tank and surrounding soils, soil sampling of the walls and floor of the excavation was conducted. Results of the sampling 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, a site characterization was required.

The Phase I Site Characterization determined the extent of the target organic compounds and metals in 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 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's request for further characterization, a Work Plan for Phase II Site Characterization was prepared and submitted for approval. The objective of the Phase II Site Characterization was to define the extent of impacts related to the former containment tank. The NYSDEC approved the Phase II Work Plan on September 6, 2001. The Phase II Site Characterization work included soil borings, soil sampling with groundwater field screening, overburden and bedrock monitoring well installation, two groundwater sampling events, and an investigation of site sewers. Field activities associated with this NYSDEC-approved Phase II work were completed in December 2001. Preliminary field and analytical data from this Phase II investigation showed impacts to groundwater including a dense non-aqueous phase liquid (DNAPL). The data further indicated that additional investigation activities were warranted to fully define the extent of impacts to groundwater in both the shallow water-bearing zone in overburden and the deep water-bearing zone in bedrock. In January 2002, after reviewing the preliminary Phase II data, NYSDEC concurred that additional work, similar to the Phase II work already completed, was warranted for groundwater.

To address the need for further characterization of groundwater, a Work Plan for a second stage of Phase II Site Characterization was prepared and submitted to NYSDEC for approval. The objective of the second stage of Phase II Site Characterization was to further define the extent of impacts to groundwater in both the shallow water-bearing zone in overburden and the deep water-bearing zone in bedrock. The NYSDEC approved the Additional Phase II Work Plan on May 13, 2002. The NYSDEC-approved scope of work included groundwater screening at

anticipated overburden well locations followed by overburden well installation. In bedrock, proposed investigation included groundwater screening from temporary borings, followed by installation of bedrock monitoring wells. The field activities associated with the second stage of Phase II work were completed in November 2002.

This Report presents the findings of all the Phase II Site Characterization work completed to date. The intent of the report is to combine the results of the Phase II work completed in December 2001, and November 2002 and present a summary of the data collected during both stages of the Phase II work. The report includes a description of the site, a summary of the site history, a discussion of all Phase II Site Characterization work completed through November 2002, a summary of the analytical results for all Phase II work, and conclusions drawn from the Phase II work completed to date.

#### 1.2 SITE DESCRIPTION

The Ekonol Polyester Resins facility is located on the west side of Walmore Road, approximately 0.5 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 industrial and commercial; however, residential properties do exist east of Walmore Road, adjacent to the 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, immediately south of the main building, is paved with asphalt and concrete, and is primarily used 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 mg/kg 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 mg/kg to 100 mg/kg. Phenols were detected at concentrations ranging from 4.5 to 12 mg/kg.

The Phase I site characterization to determine the extent of the target organic compounds and metals in soil and groundwater in the vicinity of the former containment tank was completed in March 2001 (see March 2001 Site Characterization Report). The Phase II Site Characterization field activities at the Ekonol site commenced in November 2001 and were completed in November 2002. The results of the Phase II Site Characterization are presented herein.

# SECTION 2 PHASE II SITE CHARACTERIZATION ACTIVITIES

#### 2.1 INTRODUCTION

The Phase II field investigation program was completed in two stages. The first stage of field activities was completed in December 2001. The preliminary field and analytical data from this stage showed the presence of organic chemicals in groundwater including a dense non-aqueous phase liquid (DNAPL). The data further indicated that additional investigation activities would be necessary to fully characterize the site.

After reviewing the preliminary data, NYSDEC concurred that additional work of similar scope to the first stage of Phase II was warranted for groundwater. Thus, the second stage of investigation in Phase II commenced in June 2002. The first stage of work included soil borings, well installation, soil and groundwater sampling, and a sewer investigation. The second stage of Phase II work included groundwater screening at anticipated overburden and bedrock well locations followed by overburden and bedrock well installation. Packer testing and discrete-zone water quality sampling were also completed in the second stage of Phase II. Over the course of the Phase II work, groundwater samples were collected and analyzed after well installation.

The field methodologies necessary to complete stage one of the Phase II work were described in the NYSDEC-approved Phase II Work Plan (August 2001). Field methodologies completed during the second stage of the Phase II investigation were completed in accordance with the NYSDEC-approved Additional Phase II Site Investigation Work Plan (May 2002). The work tasks performed in both stages of the Phase II investigation are described below.

#### 2.2 SOIL BORINGS

To define the horizontal extent of soil impacts, six soil borings were advanced in the vicinity of the former containment tank location. The soil borings were advanced using direct-push methodology (Geoprobe<sup>TM</sup>), at the locations shown on Figure 2. These locations were selected to better define the extent of soil impacts. The actual boring locations were based on underground utility locations, previous field screening results, and visual observations.

Each soil boring was advanced to the top of bedrock, approximately 12 to 16 feet below ground surface (bgs). After reaching the top of rock, all six soil borings were converted to temporary monitoring points. The temporary piezometer was installed to collect a groundwater sample. Using a peristaltic pump, a groundwater sample was collected from each borehole. The groundwater sample was field screened for volatile organic halides (VOH), using EPA Method 8535. This colorimetric screening procedure is not specific to any one halogenated hydrocarbon compound. Based on the groundwater screening results, the borehole may have been abandoned, and an alternate location chosen. Alternate borehole locations were considered when screening results revealed an elevated VOH concentration in groundwater that was significantly greater

than the method detection limit (typically greater than 50  $\,\mu g/L$ ). Groundwater screening results are summarized on Table 1.

At each final soil boring location, a soil sample was collected for laboratory analysis based on photoionization detector (PID) headspace readings and visual observations. Analytical 1,2-dichloroethene included (1,2-DCE),1,1-dichloroethane (1.1-DCA), trichloroethene (TCE), and 1,1,1-trichloroethane (1,1,1-TCA) by EPA Method 8260; phenol and aniline by EPA Method 8270; and zinc and lead using Method 6010B. A total of six soil samples were collected and analyzed. Analysis of these samples, in conjunction with the results of the field screening, was used to confirm the extent of soil impacts from the former containment tank. Once the soil sample was retained and the groundwater sample collected, each piezometer was removed and the boring abandoned. A drilling record for each of the soil borings is presented in Attachment A. Analytical results for the soil samples collected are provided on Table 2.

#### 2.3 MONITORING WELL INSTALLATION

A total of 17 monitoring wells were installed during the entire Phase II investigation. These wells consisted of 9 overburden wells and 8 bedrock wells.

During the first stage of the Phase II investigation, eight monitoring wells (4 overburden and 4 bedrock) were installed as well pairs consisting of one overburden well and one bedrock well at each location. The locations of these wells are shown in Figure 2. One well pair was installed upgradient of the former containment tank. A second well pair was installed adjacent to the former containment tank location and its service lines. The remaining two pairs were installed hydraulically downgradient of the service tank location. Placement of the well pairs was determined following completion of the soil boring program and receipt of soil analytical results from the laboratory.

In the second stage of Phase II, an additional 5 overburden and 4 bedrock monitoring wells were installed. The five overburden wells included one upgradient well and four wells located downgradient or sidegradient in the overburden water-bearing zone. To define the extent of impacts to groundwater in bedrock, the four additional bedrock monitoring wells were installed (see Figure 3). To determine the horizontal extent of groundwater impacts and appropriate locations for the bedrock monitoring wells, temporary borings were installed, enabling the collection of bedrock groundwater samples for screening purposes. Once a suitable location for each bedrock monitoring well was selected using the screening results, a bedrock monitoring well was installed at a location adjacent to the screening hole.

#### Overburden Wells

The four overburden monitoring wells (MW-1S through MW-4S) installed during the first stage of the Phase II investigation were installed using 4.25-inch inside diameter (ID), hollow-stem augers (HSAs). Each well was advanced to the top of bedrock (approximately 10 to 15 feet bgs). After the total depth of the boring was reached, a two-inch ID, schedule-40 PVC well screen with a 0.010-inch slot size was installed. Well screen length was five feet, with the

exception of MW-1S, where the well screen length was ten feet. Screen length was dependent upon the observed depth to water in the boring.

The annulus around the outside of the screen was backfilled with sand, extending to two feet above the screen, followed by a bentonite seal above the sand pack. The seal was allowed to hydrate, prior to the placement of grout above it. Each well was completed with a flush-mount protective casing.

During the second stage of the Phase II investigation, five more overburden monitoring wells were installed. Their installation was preceded by soil borings and groundwater screening at the selected overburden well locations. To complete the delineation downgradient of the former containment tank, the locations of the soil borings were selected using the groundwater analytical results from the overburden monitoring wells installed during the first stage of Phase II work.

After the soil boring reached its total depth, a temporary piezometer was installed. Using a peristaltic pump, a groundwater sample was collected from each borehole. The groundwater sample was field screened for VOHs, using EPA Method 8535. The screening of overburden groundwater continued until an overburden well location was selected. Borings used to collect groundwater samples were backfilled with bentonite holeplug and cement bentonite grout. Overburden groundwater screening results are included on Table 1. The groundwater screening results from the soil borings ultimately defined the final well locations.

Once an overburden well location was selected, overburden monitoring wells MW-5S through MW-9S were installed. One of these wells (MW-5S) was installed upgradient, and the remaining four wells were installed downgradient or sidegradient in the overburden water-bearing zone.

The shallow, overburden monitoring wells were installed using 4.25-inch inside diameter (ID), hollow-stem augers (HSAs). Each boring was advanced to the top of bedrock (approximately 10 to 15 feet bgs). After the total depth of the boring was reached, a two-inch ID, stainless steel well screen with a 0.010-inch slot size was installed. Well screens in these five wells were five feet in length. Overburden monitoring wells MW-5S through MW-9S were constructed of stainless steel rather than PVC. The switch to stainless steel was approved by NYSDEC in the Additional Phase II Site Characterization Work Plan (May 2002).

#### **Bedrock Wells**

Four bedrock wells (MW-1D through MW-4D) were installed in the first stage of Phase II by advancing 6.25-inch HSAs to the top of bedrock. After reaching the top of bedrock, a tricone roller bit was used to drill a rock socket approximately two feet into the competent bedrock. After drilling the rock socket, a four-inch steel casing was grouted in-place by tremie grouting from the bottom up. After allowing the grout to set for a minimum of 24 hours, an HQ-sized (nominal 4-inch) core barrel was advanced into bedrock. The core barrel was advanced a maximum of 20 feet into competent bedrock or until a water-bearing zone was encountered in bedrock, whichever occurred first. A two-inch ID, schedule 40 PVC well screen and riser were then installed in the boring. The screens were 10 feet in length with 0.010-inch slots (10-slot).

The annular space outside of the PVC was tremied with filter pack sand, up to a minimum of three feet above the top of the screen. The annular space around the two-inch casing was completed above the filter pack with a minimum of a three-foot bentonite seal. The bentonite seal was allowed to set for a minimum of two hours, prior to placing grout. Grout was tremied from above the bentonite seal to the surface. Below the screen, a two-foot portion of casing was installed as a sump to collect any DNAPL, if present. The bedrock wells were completed with a flush-mount protective casing.

During the second stage of the Phase II investigation, work included groundwater screening at selected locations followed by the installation of four bedrock monitoring wells. The locations of the bedrock groundwater screening holes were selected using the groundwater analytical results from the four bedrock monitoring wells installed during the first stage of Phase II. The groundwater screening results from the temporary bedrock groundwater screening borings were then used to determine the actual well locations.

Initially, temporary borings were installed at proposed locations by advancing 4-inch inner diameter spin casing to the top of rock. After reaching the top of bedrock, spin casing, equipped with a diamond shoe, was seated 6 to 12 inches into competent bedrock. After seating the casing, a pneumatic rock hammer was used to advance the boring. Using filtered compressed air as the drilling lubricant, the hammer was advanced a maximum of 20 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 to the boring.

After groundwater had recharged sufficiently, a groundwater screening sample was collected from the open borehole. The groundwater sample was field-screened for VOHs, using EPA Method 8535. Alternate borehole locations were considered if the screening results revealed a VOH concentration in groundwater that was greater than 50 µg/L. If, based on the screening results, an alternate borehole location was selected; the screening was repeated at the alternate location. Unless limited by building or property boundaries, alternate boring locations were located up to 100 feet from the original boring (see Figure 3). The screening of bedrock groundwater continued until a well location that potentially defined the extent of impacts was selected. Temporary borings used to collect groundwater screening samples were backfilled with bentonite holeplug and cement bentonite grout. Bedrock groundwater screening results are provided on Table 1.

In the second stage of the Phase II investigation, the four bedrock monitoring wells (MW-10D through MW-13D) were installed by advancing 6.25-inch 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 the competent bedrock. After drilling the rock socket, a 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, an HQ-sized core barrel (nominal 4-inch outside diameter) was advanced a maximum of 20 feet into competent bedrock or until a water-bearing zone was encountered, whichever occurred first.

After each core run, typically five-feet in length, packer testing was performed on that section of the boring (total of three tests per borehole). A single rubber packer assembly was placed in the corehole, inflated with nitrogen, and used to seal off the bottom five feet of the corehole. Five-foot sections of corehole were tested during each individual packer test. The packer test used water withdrawal methods to estimate the hydraulic conductivity of that section of the corehole. Packer testing in the open bore hole with periodic water level monitoring in adjacent borings or wells enabled identification of higher permeability zones and connectivity of fractures between holes. Packer testing results are provided in Attachment B. During the withdrawal packer testing, discrete-zone water quality samples were collected and submitted for laboratory analysis for the target parameters (See Groundwater Sampling and Analysis below for details). The groundwater was also checked for the presence of DNAPL using a hydrophobic dye.

At the completion of packer testing, a 2-inch ID, stainless steel well screen and riser was installed in the boring. The screen length was a maximum of ten feet with 0.010-inch slots. The well was screened over the most permeable section of the bedrock. Below the screen, a 2-foot section of casing was installed as a sump to collect DNAPL, if present. Bedrock monitoring wells MW-10D through MW-13D were constructed of stainless steel rather than PVC. The switch to stainless steel was approved by NYSDEC in the Additional Phase II Site Characterization Work Plan (May 2002).

Drilling records for all of the wells installed during the Phase II activities are provided in Attachment A. Following the additional monitoring well installations, all groundwater field screening borings and well locations were surveyed for location and elevation. The locations of the additional borings and monitoring wells are presented on Figure 3.

#### 2.4 GROUNDWATER SAMPLING AND ANALYSIS

During the Phase II investigation, groundwater samples were collected from the monitoring wells. In the first stage of work, two rounds of groundwater samples were collected from the eight wells installed. In the second stage of work, two rounds of groundwater sampling were completed from all 17 wells installed. To date, the eight wells installed in the first stage of Phase II have been sampled four times, and the wells installed in the second stage of Phase II have been sampled twice. Analytical results for groundwater samples from monitoring wells are summarized on Tables 3 and 4. Analytical results for samples collected during packer testing are included on Table 5.

Screening for DNAPL was also completed during the Phase II investigation. The groundwater sampling and analysis and the separate-phase liquid monitoring and testing completed during the Phase II work is described below.

#### Dissolved Phase Sampling and Testing

In accordance with the August 2001 NYSDEC-approved Work Plan, two rounds of groundwater sampling were completed during the first stage of the Phase II investigation. Sampling was consistent with the methodology described in the NYSDEC-approved Work Plan (May 2001). The first round was conducted on November 2, 2001, following the installation and

development of the monitoring wells. The second round of groundwater samples was obtained on December 6, 2001. All eight of the monitoring wells (four shallow, four deep) were sampled during each round. Three volumes of water were purged from each well prior to sampling using a dedicated, disposable bailer. Field parameters including pH, specific conductance, and temperature were documented. During the first round of sampling, separate- phase liquids were not observed. Sampling records for both rounds of sampling are presented in Attachment C.

Groundwater samples colleted during the first stage of Phase II were submitted for laboratory analysis. In accordance with the NYSDEC-approved Work Plan, analytical parameters included TCE; 1,2-DCE; 1,1-DCA; and 1,1,1-TCA; phenol and aniline; and zinc and lead.

After the overburden and bedrock monitoring wells were installed during the second stage of the Phase II investigation, the new wells were developed and purged following standard NYSDEC guidelines as approved in the May 2002 Additional Phase II Work Plan. Groundwater samples were collected in accordance with NYSDEC protocols and guidance using a peristaltic pump. During development and purging, field parameters including pH, temperature, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP) were collected. Colorimetric field test kits were utilized to test for nitrate, ferrous iron, and sulfate. In addition to the newly installed monitoring wells, the monitoring wells installed during the first stage of Phase II field activity were sampled. This round of sample collection was completed on October 2, 2002.

Seventeen groundwater samples (9 overburden, 8 bedrock) were collected and submitted for laboratory analysis. Groundwater samples were analyzed using EPA Method 8260 for the target VOC parameters (TCE, 1,2-DCE, 1,1-DCA, and 1,1,1-TCA). Target SVOC parameters, phenol and aniline, were analyzed using EPA Method 8270. Analysis for zinc and lead was performed using EPA Method 6010B.

Approximately one month following the October 2002 round, a second set of 17 groundwater samples was collected (November 7, 2002). Purging and sampling procedures were identical to the first round. The seventeen samples were collected and analyzed for the target parameters as indicated above. Well sampling records for both rounds of sampling are included in Attachment C.

#### Separate-Phase Liquid Monitoring

After reviewing the analytical results from the November 2, 2001 sampling event, a grab sample was collected from each of the overburden wells and each of the bedrock well sumps. These samples were used to screen for the presence of a separate phase liquid. A hydrophobic dye, Sudan IV, was mixed with each sample. The sample from MW-2D was stained red, while all other samples remained clear. This result indicated the possible presence of a separate phase liquid. A sample of the liquid in the sump from MW-2D was collected and submitted to the laboratory for chemical analysis.

During the sampling round completed October 2, 2002, the purged water was screened during purging for the presence of DNAPL using visual observation and a hydrophobic dye. If

DNAPL was observed or confirmed using Sudan IV in any of the existing or newly installed monitoring wells during groundwater sampling, the DNAPL was sampled and submitted for physical and chemical analysis. Physical properties determined for the separate-phase liquid included surface tension, density and viscosity. In addition to physical properties, samples of the DNAPL were submitted for chemical analysis. Chemical analysis included the full suite of VOCs and SVOCs by EPA Methods 8260 and 8270. The analytical results for the physical and chemical testing of DNAPL are provided on Table 6 and Table 7.

Where DNAPL samples were collected, any remaining DNAPL in the well was removed. Following removal, the recovery of DNAPL into the monitoring well was measured over time.

All investigation-derived waste (IDW) including excess soils, decontamination rinsates, well development water, purge water, and personal protective equipment, was placed in Department of Transportation (DOT)-approved 55-gallon, 17-H type drums. The IDW was characterized, and disposed of in accordance with the appropriate regulations.

#### 2.5 SEWER INVESTIGATION

To evaluate potential preferential pathways for offsite migration of contaminants, the sewers in the vicinity of the site were investigated. Invert elevations of the storm and sanitary sewer lines in the vicinity of the containment tank were measured to establish direction of flow in the pipes. This information was used to determine the best areas to advance test pits and evaluate the condition of the sewer bedding, if any, and determine if the pipelines are above or below the water table. The location of the test pits is shown on Figure 2.

After the test pits were completed in accordance with the September 2001 NYSDEC-approved Work Plan, a soil sample was collected from beneath the pipeline, at each test pit. Each soil sample was collected from the native soil, not the pipeline bedding. Each soil sample was analyzed by EPA Method 8260 for the target VOC parameters (TCE, 1,2-DCE, 1,1-DCA, and 1,1,1-TCA). Target SVOC parameters included phenol and aniline, analyzed for using EPA Method 8270. Analysis for zinc and lead was performed using EPA Method 6010B. The analytical results for the test pit soil samples are included on Table 8.

#### 2.6 HISTORICAL REVIEW

A review of historical data was completed during the Phase II investigation. Following review of the information sources, including tax maps, aerial photographs, reports for adjacent sites, and communications with employees on site, and using recently collected field data, a general site plan was created (see Figure 4).

# SECTION 3 PHASE II SITE CHARACTERIZATION RESULTS

#### 3.1 GEOLOGY AND HYDROGEOLOGY

The overburden deposits encountered in the Phase II soil borings consisted of silty redbrown clay, with gray silty clay lenses. A fine sand and gravel was found at the interface with bedrock. Thickness of overburden ranges from 3 feet to 19 feet throughout the region (Ecology and Environment 2000). At the Ekonol facility, the overburden thickness ranged from 12.5 feet to 15.0 feet. A description of the overburden encountered can be found on the boring logs in Attachment A.

Given the nature of the overburden and slow recharge rates observed during well development, the soil drainage is expected to be poor, and hydraulic conductivity is low. Based on data from an adjacent site, regional groundwater flow direction is to the south-southwest, at a hydraulic gradient of approximately 0.01 feet/foot (Golder, 1991). The depth to groundwater at the site varied substantially between monitoring locations (Table 9). Groundwater velocities are expected to be very low based on the high percentage of clay in the overburden, and the low regional hydraulic gradient.

The depth to bedrock, estimated as the depth to auger refusal during monitoring well installation, was approximately 12.5 to 18.7 feet bgs. This is consistent with the depth to bedrock reported in the UST Closure Report (Frontier, 2000). The bedrock observed at the Ekonol facility during the Phase II well installation consists of light to dark gray dolomite of the Lockport Group. The formation is consistent throughout, containing weathered bedding planes, vugs, stylolitic horizons, and fossiliferous corals. A fracture/rubble zone was encountered at depths ranging from 20.25 feet to 29.70 feet bgs. A loss of drilling fluid circulation was encountered in this zone. Circulation of drilling fluid did not recover once loss was encountered. A separate phase liquid was not observed during coring activities.

Background information suggests that the formation has an east-west strike, and dips to the south at approximately 25 ft./mi. The Lockport Group has been divided into four zones; the Guelpf Formation (Zone 1), the upper part of the Eramosa Formation (Zone 2), and the lower portions of the Eramosa Formation (Zones 3 and 4).

Zone 1 (10-20 feet thick) of the Lockport formation contains weathered bedding planes, vugs, and a horizontal fracture zone in stratigraphic contact with Zone 2. Zone 1 is a water-bearing zone. Core samples collected during drilling were largely from Zone 1 of the Lockport. Zone 2 is primarily massive and relatively unfractured; however, high angle vertical fractures do penetrate Zone 2. The top portion of Zone 2 was penetrated during coring. Zones 3 and 4 were not penetrated during the Phase II investigation. A description of the bedrock core obtained during the Phase II investigation is provided on the drilling records in Attachment A.

The major surface water feature in the area is the Niagara River, located approximately three miles south of the facility. Bergholtz Creek, a tributary of the Niagara River, is located approximately 0.5 miles south of the facility.

Three water supply wells identified as being for domestic use were reported to exist within 1.5 miles of the site (EDR 2000). The nearest of these three wells is approximately one mile east-southeast of the facility. None of these wells are located hydraulically downgradient of the facility. The depth to groundwater in these wells at the time of drilling (1950s) ranged from 7 to 11 feet bgs (EDR, 2000).

#### 3.2 SOIL SAMPLING RESULTS

#### **Soil Borings**

Using the results of the field screening, including PID readings, field observations, and onsite groundwater analysis, a total of six soil samples were submitted for laboratory analysis from locations presented on Figure 2. Soil samples were analyzed for target volatile organic compounds (VOCs), including TCE, cis-1,2 DCE, 1,1-DCA, and 1,1,1-TCA, using EPA Method 8260. Target semi-volatile organic compounds (SVOCs) include phenol and aniline. Analysis for target SVOCs was performed using EPA Method 8270. Concentrations of zinc and lead in soil were determined using EPA Method 6010B. Analysis of these samples, in conjunction with the results of the field screening, confirms the extent of soil impacts from the former containment tank.

A summary of the analytical results from the soil sampling is presented in Table 2. There were no exceedences of NYSDEC Technical and Administrative Guidelines Memorandum No. 4046 (TAGM 4046) recommended soil cleanup objectives for the parameters analyzed for using EPA Method 8260 or 8270. Lead detections were below anticipated site background levels. Total zinc concentrations exceeded the state standard of 20 mg/kg in all of the borings. The concentration of zinc ranged from 44.8 mg/kg to 104 mg/kg.

#### Sewer Investigation

On December 3 through December 6, 2001 the sewers beneath the site were investigated. Three test pits were excavated to evaluate the condition of the sewer bedding, and determine if the pipelines were above or below the water table. The test pit locations are shown on Figure 2.

The sewer bedding material beneath the pipe was found to be comprised of a thin layer (1 to 3-inch) of sandy pea-gravel. The bedding material was above the native red, silty clay at each location. The backfill material around the pipe consisted of sand and cobbles. The backfill material above the pipe at TP-2 and TP-3 was saturated at three feet bgs. After each test pit was completed, a soil sample was collected from the native soil beneath the bedding material, but above the water table.

The soil samples were submitted for laboratory analysis for target VOCs, SVOCs, and metals. At TP-2, 1,1-DCA was detected at 24  $\mu$ g/kg. There were no detections of aniline or phenol. Lead concentrations ranged from 9.7 mg/kg to 15.1 mg/kg. Zinc concentrations ranged from 70.8 mg/kg to 87.2 mg/kg. The analytical results from the sewer investigation samples are

presented in Table 8. There were no exceedences of the TAGM 4046 recommended soil cleanup objectives in the samples collected from the test pits.

#### 3.3 GROUNDWATER ANALYTICAL RESULTS

#### **Groundwater Screening**

Total VOH concentrations from groundwater screening samples collected during the first stage of the Phase II characterization ranged from 0.0  $\mu$ g/L in SB-1 to 143  $\mu$ g/L in SB-3. The detection of 143  $\mu$ g/L in SB-3 prompted the completion of a soil boring 20 feet further south, denoted as SB-3A. The screening concentration for the groundwater sample from SB-3A was 10.6  $\mu$ g/L. To investigate the validity of field screening results, groundwater samples were collected from the eight monitoring wells installed during the first stage of Phase II and compared to the laboratory analytical results from these wells.

Prior to the installation of overburden monitoring wells during the second stage of Phase II fieldwork, a second round of overburden field screening was conducted. There were no total VOH detections at any of the screening locations (SBA series). The second round of overburden field screening locations are shown on Figure 3.

During the second stage of Phase II work, groundwater field screening in bedrock was conducted prior to the installation of the bedrock monitoring wells. 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 entire Phase II field screening effort are presented in Table 1. Bedrock groundwater screening locations are alphabetically listed on Table 1.

#### **Groundwater Sampling from Packer Testing**

Analytical results for groundwater collected from bedrock monitoring wells are summarized in Table 5. Except at MW-12D, the samples were collected in three discrete intervals as the boring was advanced. In MW-10D, the concentration of TCE decreased with depth. Only TCE and 1,2-DCE were detected in MW-10D during packer testing. The concentration of 1,1,1-TCA and TCE increased slightly with depth in MW-11D. In MW-12D only one sample could be obtained in the first interval of coring. For MW-13D, the indicator VOCs decreased in concentration with depth.

#### Groundwater Sampling from Monitoring Wells - Overburden

Analytical results for groundwater collected from overburden monitoring wells are summarized in Table 3. The concentrations of the indicator analytes for all sampling rounds completed to date are plotted on Figure 5. The ranges of concentrations for the most recent round of sampling (November 2002) are summarized below.

- TCE concentrations ranged from not detected (ND) at MW-5S to 9,000 μg/L at MW-4S.
- 1,1,1-TCA was detected only in MW-4S at a concentration of 150 μg/L.

- 1,2-DCE concentrations ranged from 0.58 μg/L at MW-3S to 780,000 μg/L at MW-2S.
- 1,1-DCA ranged from ND at MW-2S to 13 μg/L at MW-4S.
- Aniline was detected only in MW-4S at a concentration of 400  $\mu$ g/L.
- Phenol was detected in MW-4S at 32  $\mu$ g/L and in MW-2S at 53,000  $\mu$ g/L.
- Lead was detected in MW-7S and MW-9S at concentrations of 0.013 mg/L and 0.014 mg/L respectively.
- Zinc concentrations ranged from ND to 0.086 mg/L at MW-7S.

#### Groundwater Sampling from Monitoring Wells - Bedrock

Analytical results for groundwater collected from bedrock monitoring wells are summarized in Table 4. The concentrations of the indicator analytes for all sampling rounds completed to date are plotted on Figure 6. The ranges of concentrations for the most recent round of sampling (November 2002) are summarized below.

- TCE concentrations ranged from ND at MW-12D to 400,000 μg/L at MW-2D.
- 1,1,1-TCA concentration ranged from ND at MW-2D and MW-12D to 16,000 μg/L at MW-13D.
- 1,2-DCE concentrations ranged from ND at MW-12D to 28,000 μg/L at MW-13D.
- 1,1-DCA concentration ranged from ND at MW-1D, MW-2D, MW-4D, MW-10D, and MW-12D to 110 μg/L at MW-3D.
- Aniline and Phenol concentrations ranged from ND at MW-1D, MW-10D, MW-11D, MW-12D, and MW-13D to 3,800 μg/L (aniline) and 710 μg/L (phenol) at MW-2D.
- Lead was not detected.
- Zinc was not detected.

#### 3.4 SEPARATE-PHASE LIQUID RESULTS

#### **Physical Testing**

The physical characteristics of the DNAPL samples collected during the Phase II investigation are summarized on Table 6. The sample collected from MW-2D contained two distinct layers stainable with hydrophobic dye. The sample collected from MW-2S and MW-3D were observed to contain a single layer of discolored water that tested negative with the hydrophobic dye. The density of all samples collected was greater than the density of water. The lower layer in sample MW-2DP was the most viscous. The least viscous sample was collected from shallow well MW-2S. Surface tension ranged from 32.5 to 48.0 dynes per second.

During the Phase II investigation, the presence of DNAPL was confirmed with the use of Sudan IV biological stain. No physical testing of DNAPL was performed during the first stage of Phase II work.

#### **Chemical Analytical Results**

During the first stage of Phase II work the concentration of TCE was 440,000 mg/Kg in DNAPL collected from MW-2D. Aniline was detected in MW-2D at concentration of 4,400 mg/Kg. 1,1-DCA and 1,2-DCE were detected in the sample at a concentration of 24,000 mg/Kg. 1,1,1-TCA was detected at a concentration of 48,000 mg/Kg. Phenol was detected at a concentration of 50 mg/Kg. Only one sample was collected during this stage of the Phase II investigation. Analysis was for the indicator parameters only. Results were reported in mg/Kg by the laboratory due to difficulties in analyzing the viscous sample matrix.

During the second stage of Phase II work, three samples of DNAPL were collected for chemical analysis. The full suite of analytical results for the samples collected is summarized on Table 7. The samples were collected from the sumps in monitoring wells MW-2D, MW-2S, and MW-3D. In the sample collected from MW-2D, the majority of the sample consisted of TCE. The concentration of TCE was 924,000,000  $\mu$ g/L. In the sample collected from MW-3D the concentration of TCE was 110  $\mu$ g/L. In the DNAPL sample from MW-2S, TCE was not detected, and 1,1,1-TCA was detected at 590  $\mu$ g/L. Other analytes were also detected in the DNAPL samples (see Table 7).

#### 3.5 SITE HYDROGEOLOGY

Water levels in the seventeen monitoring wells installed during Phase II work have been collected monthly. The last three months of water level data are provided on Table 9.

Water levels were measured in the overburden and bedrock wells and used with survey elevation data to determine the local direction of groundwater flow. The November 18, 2002 groundwater contour maps of the overburden and bedrock water-bearing zones are presented in Figures 7 and 8. Only the November 2002 groundwater contour maps have been included in this report.

#### **Shallow Groundwater**

In November 2002, the shallow groundwater flow direction appears to be radial from high water level elevations seen at MW-7S and MW-2S. Variability in the elevation of top of rock, the type of subsurface material, clays and silt, and the location of MW-2S and MW-7S adjacent to buildings may have an influence on the groundwater elevations observed and gradients determined. The average gradient calculated from the water levels measured in the shallow water-bearing zone is 0.028 feet per foot. Gradient determined from groundwater level measurements made in December 2002 was consistent with November 2002. The groundwater gradient appears to flatten out moving away from MW-2S and MW-7S. Regionally, groundwater flow direction in the shallow water-bearing zone is to the southwest. On a regional scale, flow gradients are relatively shallow.

#### **Bedrock Groundwater**

In the bedrock water-bearing zone, the groundwater gradient suggests groundwater flow southeast from the western portion of the facility. From the north, the overall flow direction was

south-southeast. On the east side of the site, the flow direction appears to be southwest with a gradient of 0.01 ft./ft. In bedrock, the gradients are low and dependent upon the interconnection of fractures in bedrock. Variability in flow direction may be due to the fractures intercepted and the hydraulic conductivity of the bedrock.

#### **Bedrock Packer Testing**

Hydraulic conductivity was determined for each interval tested in the bedrock monitoring wells installed during the second stage of Phase II work. Calculated hydraulic conductivities are provided in Attachment B. Packer testing was not performed in MW-12D due to a drilling problem related to a collapsing borehole.

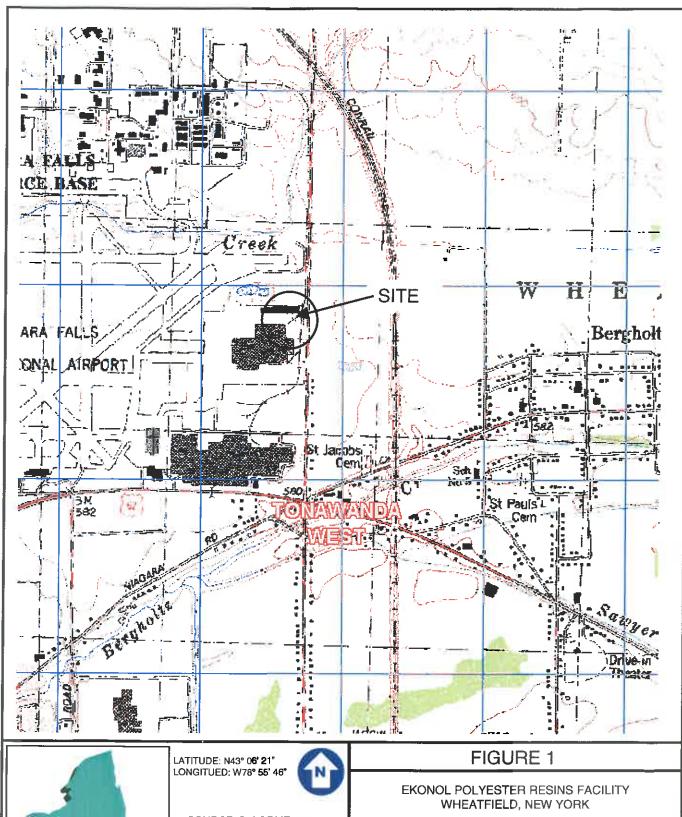
# SECTION 4 CONCLUSIONS

#### 4.1 CONCLUSIONS

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

- Characterization of site soils indicates that the extent of impacts is largely confined to the immediate vicinity of the former containment tank.
- The sewer investigation analytical results indicate that the sewer bedding at the site does not appear to be acting as a preferential pathway.
- The western and southwestern extent of dissolved-phase constituents in the shallow water-bearing zone is generally defined by MW-8S and MW-9S and MW-7S. To the northeast, the extent of shallow groundwater impacts is generally defined at MW-5S.
- Northwest of the former containment tank near MW-1S, south of the former containment tank near MW-6S, and east of the former containment tank near MW-3S, the concentration of contaminants in overburden water-bearing zone indicates that the wells are close to the limit of overburden groundwater impacts.
- In the bedrock water-bearing zone, dissolved-phase impacts on the western side of the site are generally defined by MW-12D. Dissolved-phases of the indicator parameters exist at elevated concentrations in all other bedrock monitoring wells. However, concentrations are significantly lower away from the former containment tank.
- Separate-phase liquid (confirmed with Sudan IV), containing TCE, or its degradation products, and other parameters, was found in well MW-2D.
- The highest concentrations of organic indicator parameters in groundwater were observed in the vicinity of the former containment tank or its associated piping.

In summary, the extent of impacts in soil and shallow groundwater has been defined. Additional investigation is necessary to further define the extent of impacts in the bedrock waterbearing zone.





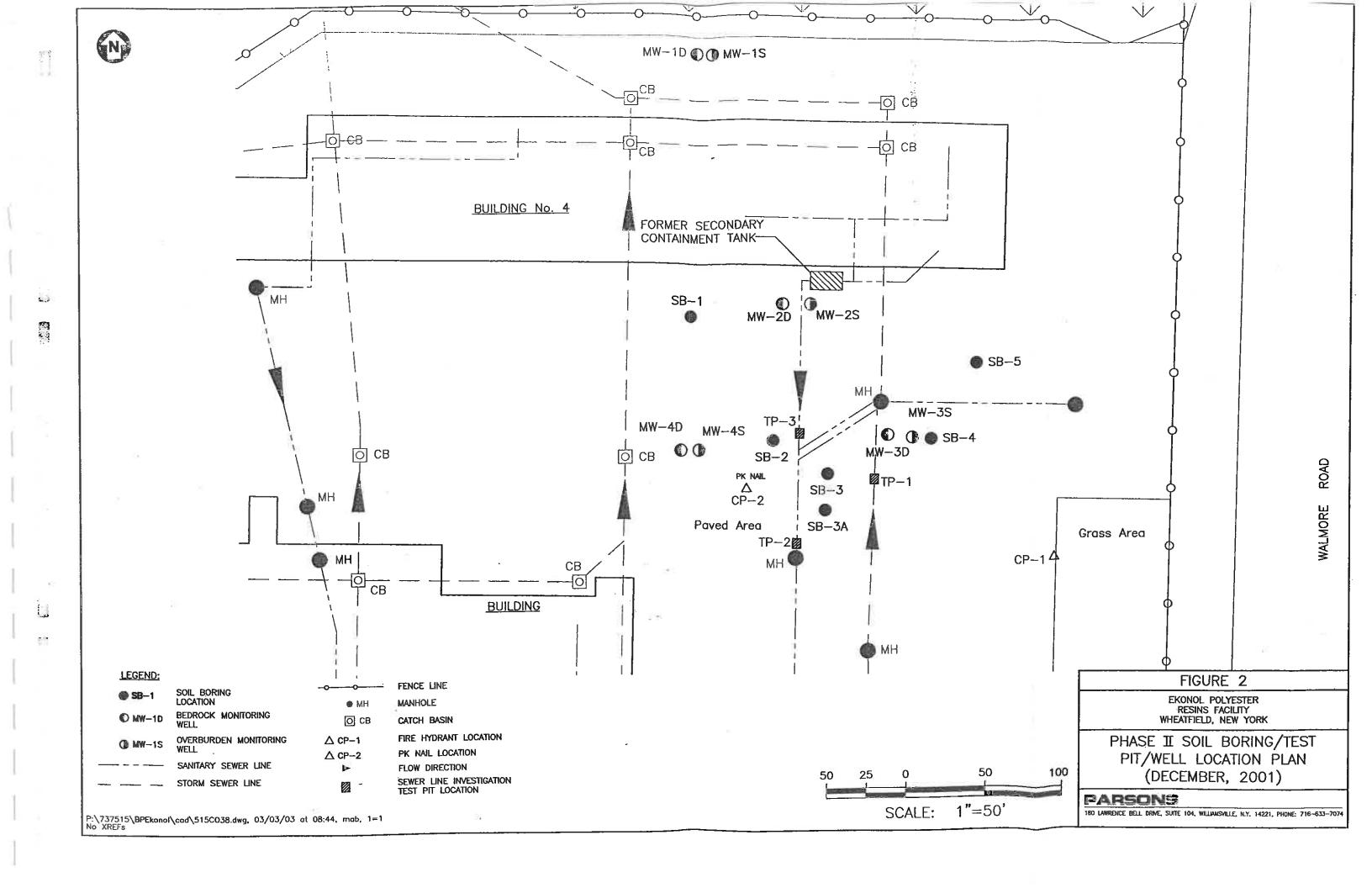
New York Quadrangle

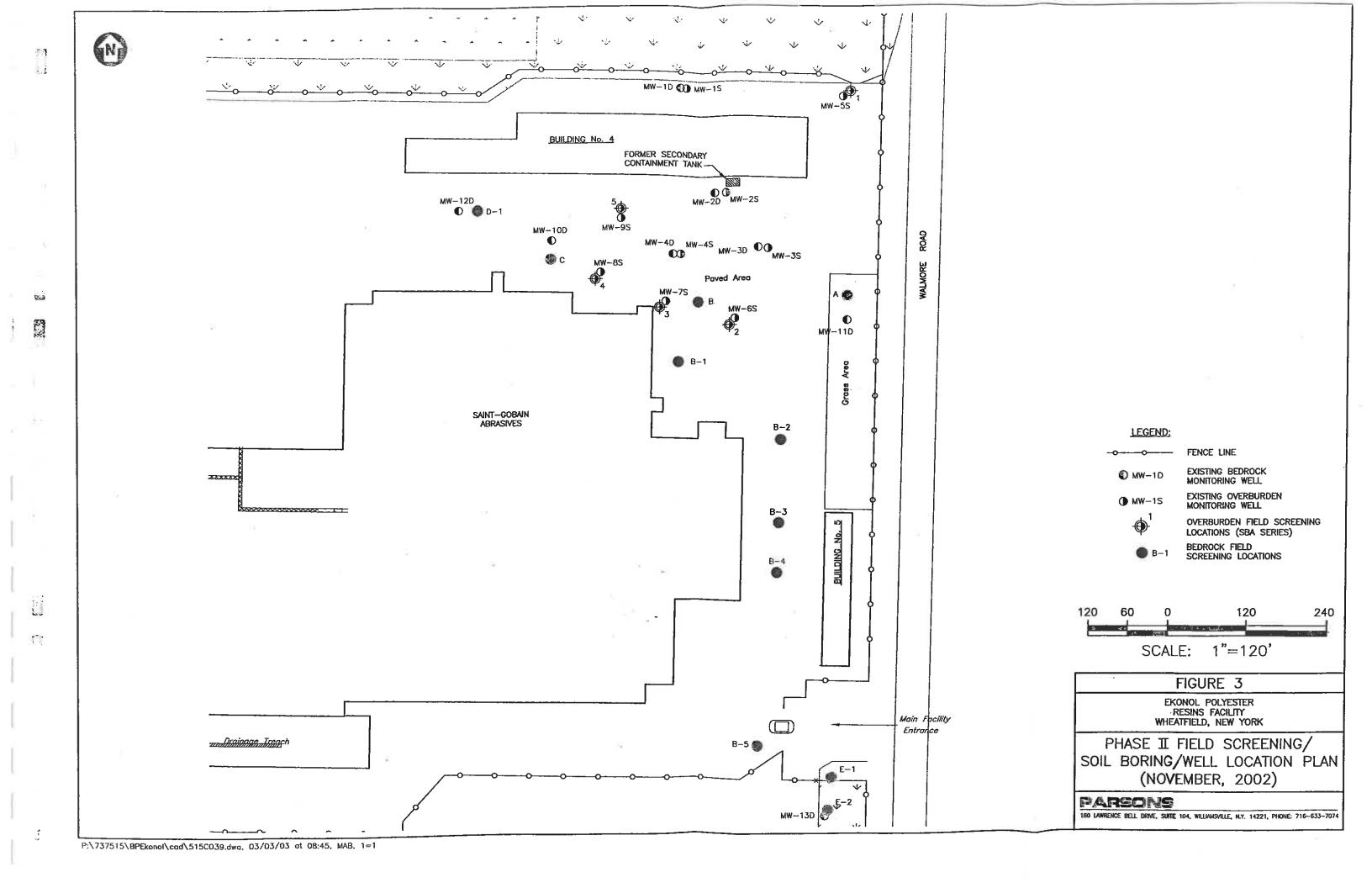
SOURCE: DeLORME 3-D TOPOQUAD PROGRAM

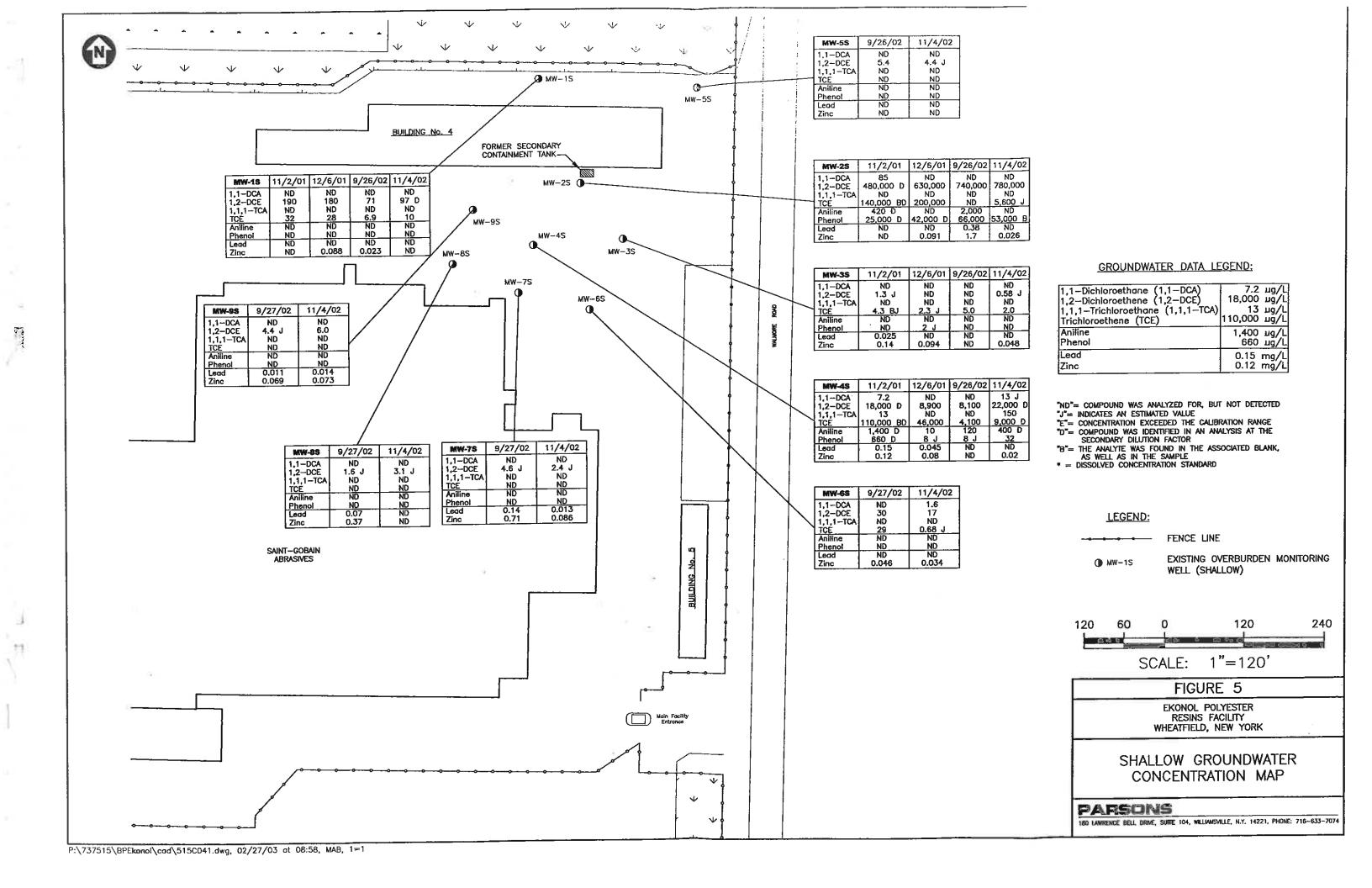
SITE LOCATION MAP

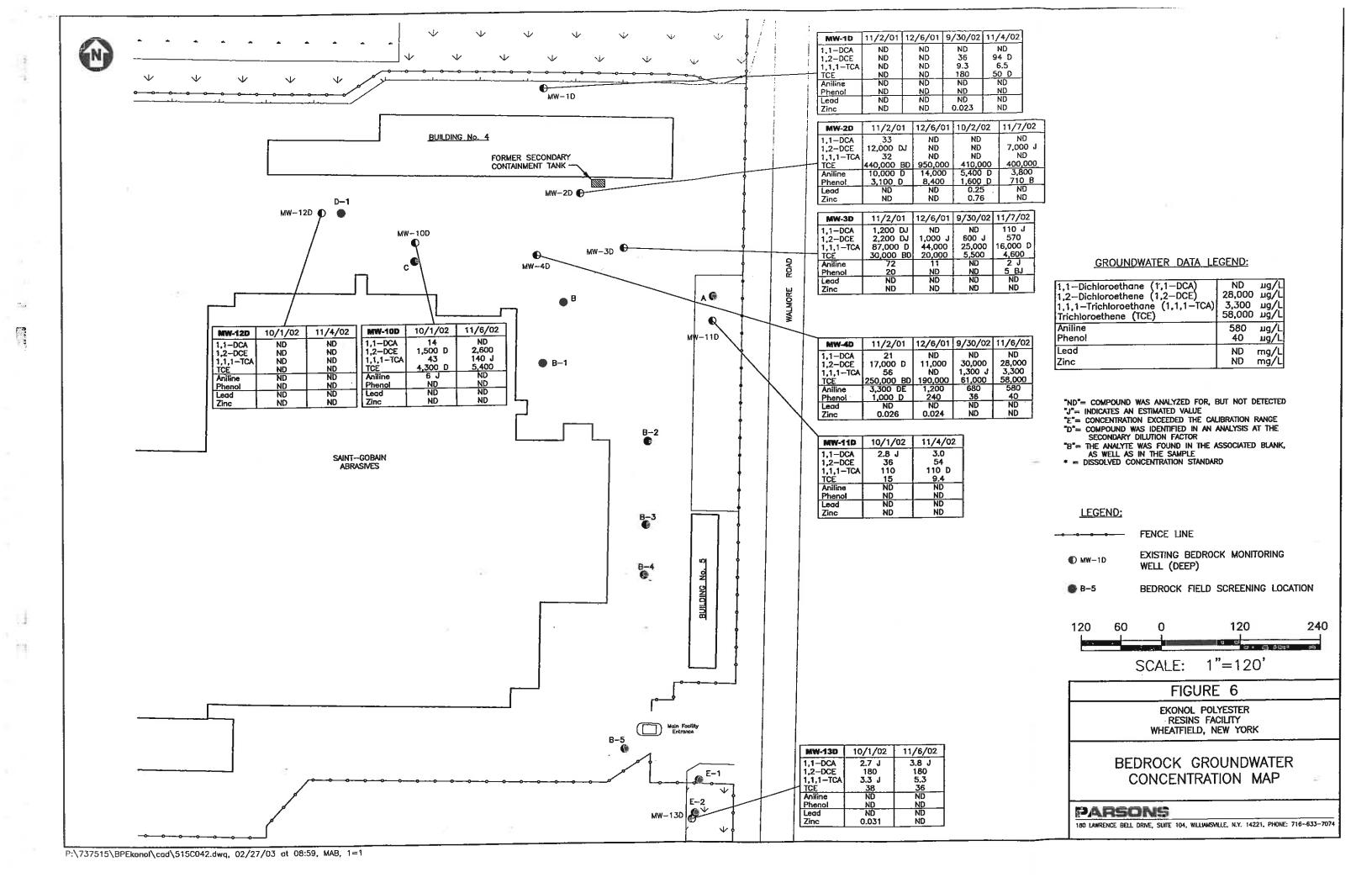
#### **PARSONS**

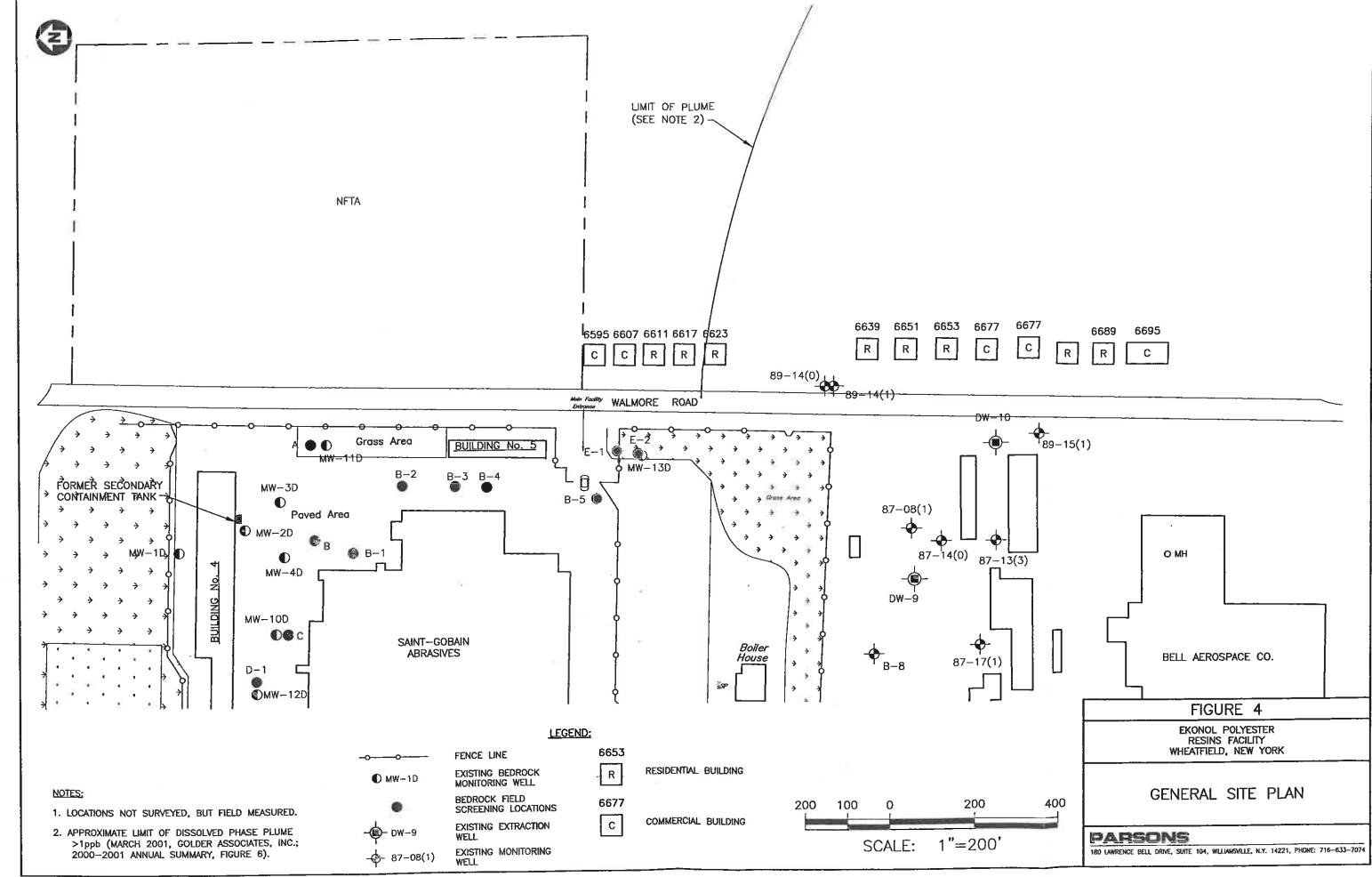
180 LAWRENCE BELL DRIVE\* WILLIAMSVILLE, NEW YORK 14221 (716) 633-7074



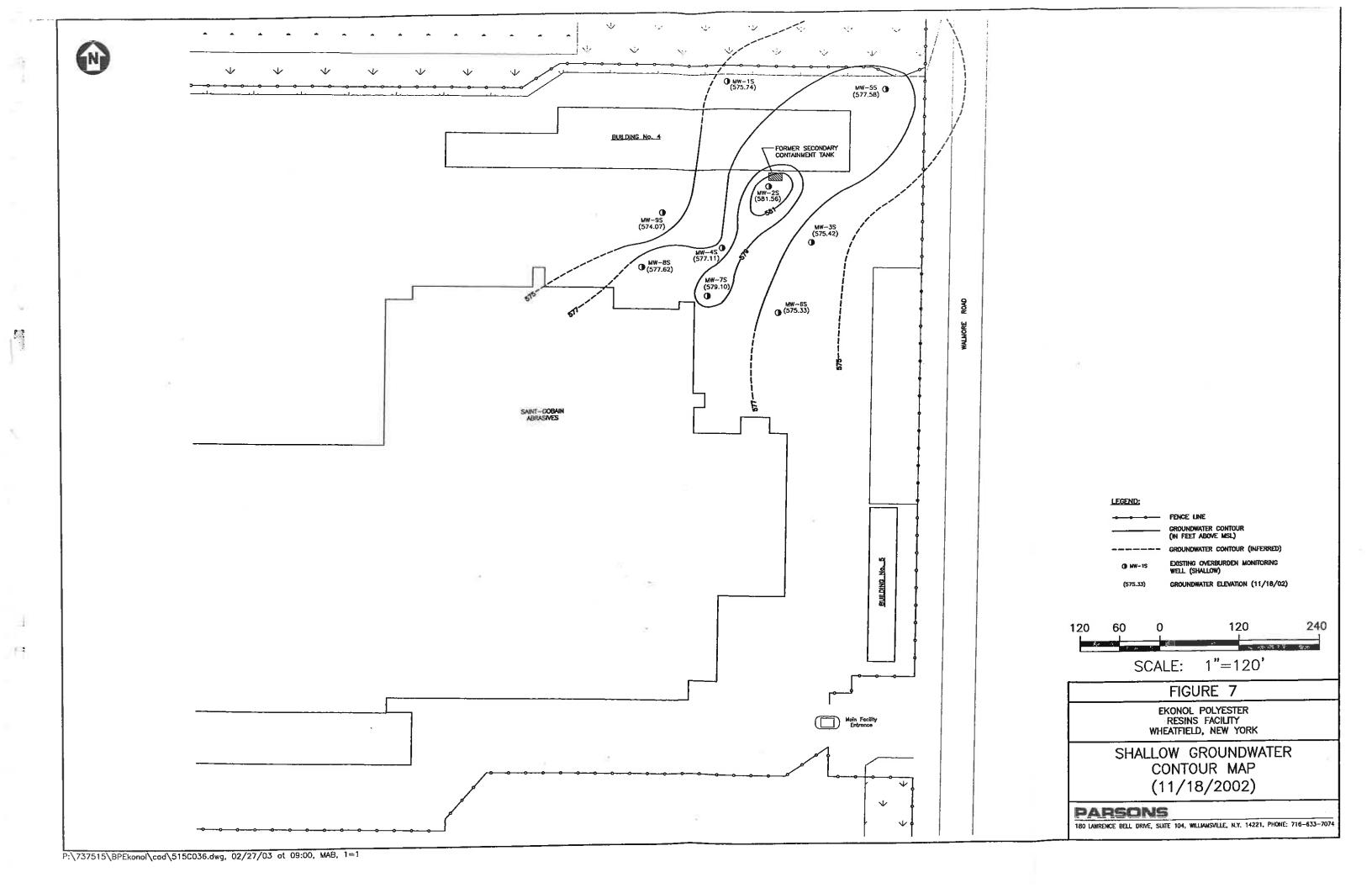


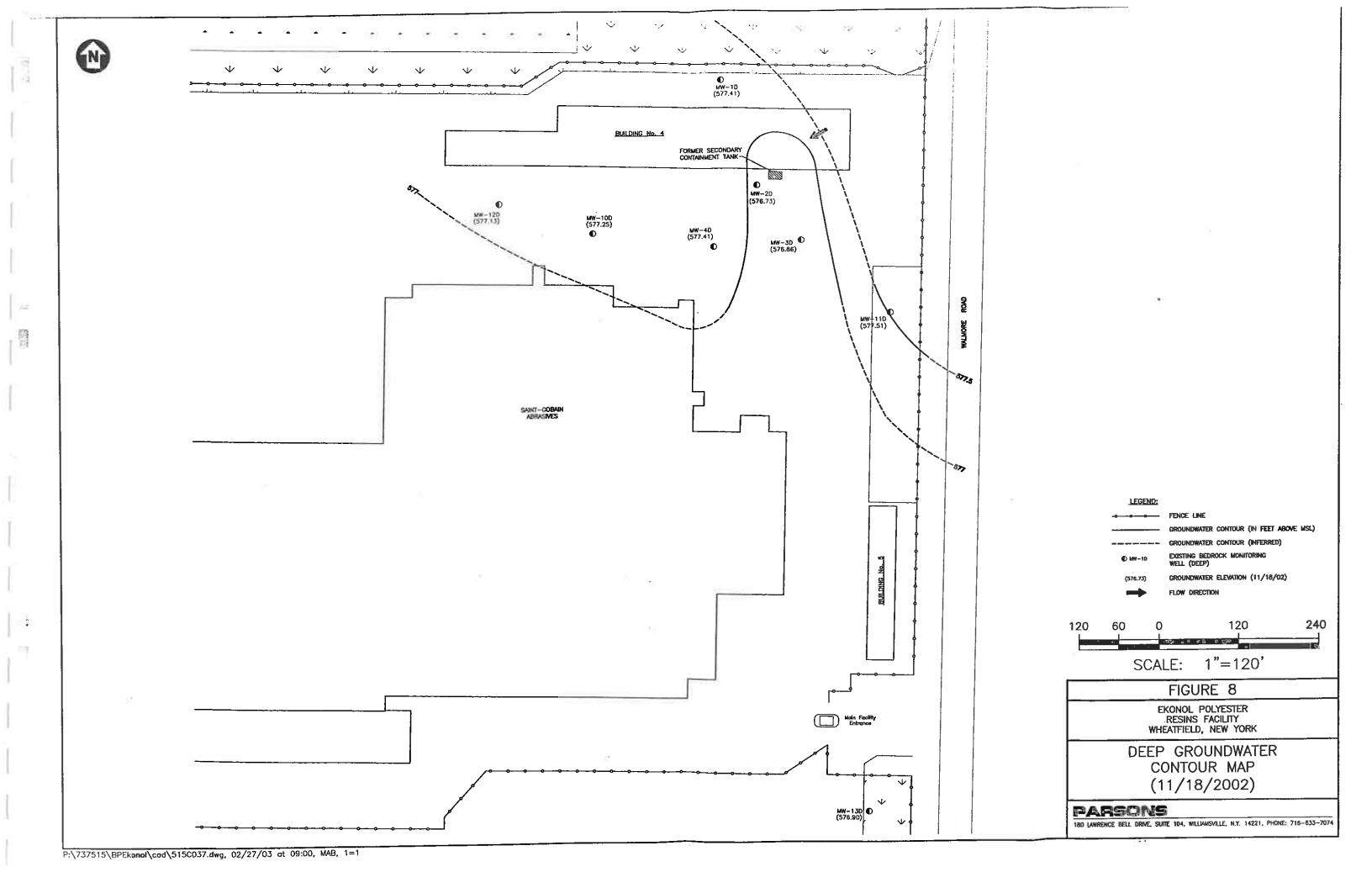






2.3





#### **TABLES**

Table 1

# **Ekonol Facility** Groundwater Field Screening Summary Wheatfield, New York

Field Screening Location ID	Date Sampled	VOH Result (ug/L)
Location ID	Sampled	(ug/L)
SB-1	10/4/01	0.0
SB-2	10/4/01	21
SB-3	10/4/01	143
\$B-3A	10/4/01	10.6
SB-3A SB-4	10/4/01	0.0
SB-5	10/4/01	11.9
MW-1S	6/3/02	34
MW-2S	6/3/02	>200*
MW-3S	6/3/02	0.0
MW-4S	6/3/02	24
MW-1D	6/3/02	10.0
MW-2D	6/3/02	>200*
MW-3D	6/3/02	>200*
	6/3/02	>200*
MW-4D	6/4/02	0.0
SBA-1	6/4/02	0.0
SBA-2	6/4/02	0.0
SBA-3	6/4/02	0.0
SBA-4	6/4/02	0.0
SBA-5	6/13/02	>200*
Location A	6/13/02	>200*
Location B	6/13/02	0.0
Location C	6/20/02	>200*
Location B-1	6/20/02	>200*
MW-6S	6/20/02	12.5
MW-7S	6/24/02	>200*
Location B-2		18.8
Location B-3	6/27/02	130
Location B-4	6/27/02	>200*
Location B-5	6/27/02	
Location D-1	9/18/02	44
Location D-1A**	9/18/02	
Location E-1	9/18/02	191
Location E-1A**	9/18/02	106 31
Location E-2	9/18/02	24
Location E-2A**	9/18/02	t rood over 200

<sup>\*</sup> Analyzing equipment does not read over 200 ug/L.

\*\* Duplicate sample

# Table 2

# Ekonol Facility Soil Boring Analytical Summary Wheatfield, New York

			Sample ID Lab Sample ID	SB-1 8'-10' A1971001	SB-2 8'-10' A1971003	SB-3 8'-10' A1971004	SB-3A 6'-8' A1971007	SB-4 8'-10' A1971005	SB-5 2'-4' A1971006
			Depth	8'-10'	8'-10'	8'-10'	8-8	8'-10'	2'-4'
			Source	STL Buffalo	STL Buffalo				
			SDG	A01-9710	A01-9710	A01-9710	A01-9710	A01-9710	A01-9710
			Matrix	Soil	Soil	Soil	Soil	Soil	Soil
			Sampled	10/4/2001	10/4/2001	10/4/2001	10/4/2001	10/4/2001	10/4/2001
CAS No.	Compound	Standard*	Units						
	VOLATILES								
75-34-3	1,1-Dichloroethane	200	ug/Kg	S	11	2.3	9	QN	S
540-59-0	1,2-Dichloroethene (Total)	300	ng/Kg	2	10	4	2	Q	2
71-55-6	1,1,1-Trichloroethane	800	ug/Kg	QN	2	Q	Q	2	2
79-01-6	Trichloroethene	700	ug/Kg	ND	ND	ND	ND	ND	QN
	SEMIVOLATILES								
62-53-3	Aniline	100	l ng/Kg	QN	QN	Q	QN	QN	QN
108-95-2	Phenol	30 or MDL	ug/Kg	QN	QN	2	Q	Q	Q
	METALS		***		,				
7439-92-1	Lead - Total	SB	mg/Kg	10.9	21.2	6.3	0.7	10.9	9.7
7441-66-6	Zinc - Total	20 or SB	mg/Kg	66.1	104	44.8	48.5	71.1	68.7
* Otopolor	Standards tolon from the Tochnian and Administrative Cidence Management and 44046 Decommended Cail Plannin Chicative 4004	and Administra	Mondance Mon	SVUV# milpuezor	Documended	Coil Cleanin Oh	iontino 1007		

\* - Standards taken from the Technical and Administrative Guidance Memorandum #4046 - Recommended Soil Cleanup Objective - 1994
"MDL"= Method Detection Limit
"SB"= Site Background
"ND"= Compound was analyzed for, but not detected
"J"= Indicates an estimated value

Table 3

# Ekonol Facility MW-1S Analytical Summary Wheatfield, New York

			Sample ID	MW-1S	MW-1S	MW-1S	MW-1S
			Date Sampled	11/2/2001	12/6/2001	9/26/2002	11/4/2002
			Lab Sample ID	A1A87201	A1C13203	A2957201	A2A99705
			Source	STL Buffaio	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9572	A02A997
CAS No.	Compound	Standard*	Units		1/2		
2311000E	VOLATILES			100 F	3 5 1 3 2 2 3		VELT (83,130)
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	190	180	71	97 D
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	32	28	6.9	10
Valle 2	SEMIVOUATILES	AND VALUE OF	THE WAY	Statement		de la	-17/17/2019
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND
A STATE OF THE PARTY OF THE PAR	METALS	TWO SERVICES	THE PARTY NAMED IN	The state	1000		THE REPORT
7439-92-1	Lead - Total	0.025**	mg/L	ND	·ND	ND	ND
7441-66-6	Zinc - Total	2	mg/L	ND	0.088	0.023	ND

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### Table 3 (Cont'd.)

#### Ekonol Facility MW-2S Analytical Summary Wheatfield, New York

			Sample ID	MW-2S	MW-2S	MW-2S	MW-2S
			Date Sampled	11/2/2001	12/6/2001	10/3/2002	11/7/2002
			Lab Sample ID	A1A87205	A1C13208	A2980401	A2B04201
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffal
			SDG	A01-A872	A01-C132	A02-9804	A02B042
CAS No.	Compound	Standard*	Units	C			
	VOLATILES		ON THE PARTY	1685 735 10	SILLES SERVICES		ASSERBLY :
75-34-3	1,1-Dichloroethane	5	ug/L	85	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	480,000 D	630,000	740,000	780,000
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	140,000 BD	200,000	ND	5,600 J
San Marie Land	SEMIVOLATICES	Unit Heavy					MANAGER
62-53-3	Aniline	5	ug/L	420 D	ND	2,000	ND
108-95-2	Phenol	1	ug/L	25,000 D	42,000 D	66,000	53,000 B
THE BUTTE	METALS	FET TO SEC	THE RESERVE AND	A PROPERTY OF	1 TAB		( COV ( )
7439-92-1 7441-66-6	Lead - Total	0.025**	mg/L ma/L	ND ND	ND 0.091	0.38 1.7	ND 0.026

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### Table 3 (Cont'd.)

# Ekonol Facility MW-3S Analytical Summary Wheatfield, New York

		-	Sample ID Date Sampled Lab Sample ID Source SDG	MW-3S 11/2/2001 A1A87209 STL Buffalo A01-A872	MW-3S 12/6/2001 A1C13207 STL Buffalo A01-C132	MW-3S 9/26/2002 A2957203 STL Buffalo A02-9572	MW-3S 11/4/2002 A2A99702 STL Buffalo A02A997
CAS No.	Compound	Standard*	Units	7,017,072			
	VOLATILES		SELECTION OF THE PARTY.	元の大田の田田田	STATE OF STATE	ERCHENDAS NO. 45	ND NO.
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	1.3 J	ND	ND	0.58 J
71-55-6	1.1.1-Trichloroethane	5	ug/L	ND	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	4.3 BJ	2.3 J	5.0	2.0
- Control of the Cont	SEMIYOLATILES	1-2-3-	THE PARTY OF THE P		AND MARKS THE PARTY OF THE PART	BICE IEVEN S	NAME OF THE OWNER, OWNE
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	2 J	ND	ND
	METALS		TOTAL CONTRACTOR		2000年2月1日	ENTERIOR STREET	Tensor State of the last
7439-92-1 7441-66-6	Lead - Total Zinc - Total	0.025** 2	mg/L mg/L	0.025 0.14	ND 0.094	ND ND	ND 0.048

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### Table 3 (Cont'd.)

#### Ekonol Facility MW-4S Analytical Summary Wheatfield, New York

			Sample ID Date Sampled Lab Sample ID Source SDG	MW-4S 11/2/2001 A1A87207 STL Buffalo A01-A872	MW-4S 12/6/2001 A1C13205 STL Buffalo A01-C132	MW-4S 9/26/2002 A2957204 STL Buffalo A02-9572	MW-4S 11/4/2002 A2A99707 STL Buffalo A02A997
CAS No.	Compound	Standard*	Units				
	VOLATILES	0.57 (24.3)	APPEAR THE UNITED	TO SELECT THE PARTY OF	TO THE PARTY OF THE		LECKES MINES AND ADDRESS OF THE PARTY OF THE
75-34-3	1,1-Dichloroethane	5	ug/L	7.2	ND	ND	13 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	18,000 D	8,900	8,100	22,000 D
71-55-6	1.1.1-Trichloroethane	5	ug/L	13	ND	ND	150
79-01-6	Trichloroethene	5	ug/L	110,000 BD	46,000	4,100	9,000 D
	SEMIVOLATILES	2 11 11	DESCRIPTION OF THE PARTY OF THE		是LINKS CTED EX	SE ZEMPLE	THE PERSON NAMED IN
62-53-3	Aniline	5	ug/L	1,400 D	10	120	400 D
108-95-2	Phenoi	1	ug/L	660 D	8 J	8 J	32
	METALS	The Contract of	THE RESIDENCE	THE RESERVE	TO SEPTEMBER		THE WALLES
7439-92-1	Lead - Total	0.025**	mg/L	0.15	0.045	ND	ND
7441-66-6	Zinc - Total	2	mg/L	0.12	0.08	ND	0.02

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

### Ekonol Facility MW-5S Analytical Summary Wheatfield, New York

	<u> </u>		5 1 IS 1	1041.50	1444.50
			Sample ID	MW-5S	MW-5S
			Date Sampled [	9/26/2002	11/4/2002
			Lab Sample ID	A2957202	A2A88703
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9572	A02A887
CAS No.	Compound	Standard*	Units		
THE WALL STREET	VOLATILES	The E			
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	5.4	4.4 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND
Continues of	SEMIVOLATILES			SHOW THE ASSESSMENT	
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND
(MCCHENES SE	METALS	TERRITO SK	的在功士的流		第二字 管理性
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND
7441-66-6	Zinc - Total	2	mg/L	ND	ND_

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

### Ekonol Facility MW-6S Analytical Summary Wheatfield, New York

	<u> </u>		Sample ID	MW-6S	MW-6S
			Date Sampled	9/27/2002	11/4/2002
			Lab Sample ID	A2961401	A2A99703
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A997
CAS No.	Compound	Standard*	Units		
	VOLATILES	DIE PAGE	<b>加速型用器</b>		
75-34-3	1,1-Dichloroethane	5	ug/L	ND	1.6
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	30	17
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	29	0.68 J
SE VENUE OF THE	SEMIVOLATILES	N. C. SART		STAN DO MARSH	TO RESIDENCE
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	.1	ug/L	ND	ND
COMPANY OF	METALS	DESCRIPTION.	<b>美国主意的管理等的</b>	O S S SKOLING SAL	
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND
7441-66-6	Zinc - Total	2	mg/L	0.046	0.034

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

# Ekonol Facility MW-7S Analytical Summary Wheatfield, New York

	<u></u>				
			Sample ID	MW-7S	MW-7S
			Date Sampled	9/27/2002	11/4/2002
			Lab Sample ID	A2961402	A2A88706
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A887
CAS No.	Compound	Standard*	Units		
HOUSE HE WAS	VOLATILES		<b>新加斯特里拉斯</b>		糖(红) [[红]
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	4.6 J	2.4 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND
T-22 5: 20 To 8	SEMIVOLATILES	THE REPORT OF	EMBERTAINE'S	學一個人	MERCIN TRESTOR
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND
SHOP SALE	METALS	Tuboli juli zasti		CONTRACTOR OF THE PARTY	
7439-92-1	Lead - Total	0.025**	mg/L	0.14	0.013
7441-66-6	Zinc - Total	2	mg/L	0.71	0.086

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

# Ekonol Facility MW-8S Analytical Summary Wheatfield, New York

			Sample ID	MW-8S	MW-8S
			Date Sampled	9/27/2002	11/4/2002
			Lab Sample ID	A2961403	A2A88704
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A887
CAS No.	Compound	Standard*	Units		
121112	VOLATILES			abel a reserve	Univerted States
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	1.6 J	3.1 J
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND
ASSESSED OF THE PARTY OF THE PA	SEMINOLATILES	DIESCHE	STEPHEN THE	SECTION AND ADDRESS OF THE PARTY OF THE PART	<b>PERMIT</b>
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	11	ug/L	ND	ND
(48.9 E (8) &)	METALS	NO BUILDING	OF THE LEADING	THE PERSON NAMED IN	
7439-92-1	Lead - Total	0.025**	mg/L	0.07	ND
7441-66-6	Zinc - Total	2	mg/L	0.37	ND 100

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### Ekonol Facility MW-9S Analytical Summary Wheatfield, New York

				144.00	101/00
			Sample ID	MW-9S	MW-9S
			Date Sampled	9/27/2002	11/4/2002
			Lab Sample ID	A2961404	A2A88705
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9614	A02A887
CAS No.	Compound	Standard*	Units		
1391T 12952	VOLATILES	Pad algebrahid		<b>以会是国家的</b>	The second
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	4.4 J	6.0
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND
<b>成7</b> 年 代 法的	SEMIVOLATILES		1 - 100 F 1175	ME SHAMES III	MARKET SELLI
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND
HAR BOOK ALL	METALS	10 - 13 (6) P			EXERCISE SERVICE
7439-92-1	Lead - Total	0.025**	mg/L	0.011	0.014
7441-66-6	Zinc - Total	2	mg/L	0.069	0.073

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

Table 4

### Ekonol Facility MW-1D Analytical Summary Wheatfield, New York

	_ <del></del>		Sample ID	MW-1D	MW-1D	MW-1D	MW-1D
			Date Sampled	11/2/2001	12/6/2001	9/30/2002	11/4/2002
			Lab Sample ID	A1A87202	A1C13201	A2965602	A2A99706
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffalo
			SDG	A01-A872	A01-C132	A02-9656	A02A997
CAS No.	Compound	Standard*	Units		·		
CONTRACTOR	VOLATILES				0.00	APPLICATION OF	A CAURIO
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	ND	ND	36	94 D
71-55-6	1.1.1-Trichloroethane	5	ug/L	ND	ND	9.3	6.5
79-01-6	Trichloroethene	5	ug/L	ND	ND	180	50 D
	SEMICOLATICES	September 1	中心分泌症 新新市			MIN - UE OVE	CO LEDVE LEV
62-53-3	Aniline	5	ug/L	ND	ND	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND	ND	ND
(6	METALS	THE REAL PROPERTY.	TWO THE PARTY		NESSHIPPEN	100 AP 100 A	Control of the second
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND	ND	ND
7441-66-6	Zinc - Total	2	mg/L	ND	ND	0.023	ND_

<sup>\*=</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

### Ekonol Facility MW-2D Analytical Summary Wheatfield, New York

7439-92-1 7441-66-6	Lead - Total Zinc - Total	0.025*** 2	mg/L mg/L	ND ND	ND ND	0.25 0.76	ND ND
	METALS:	THE RESIDENCE	<b>建筑的位置</b>		O VIOLENCE		
108-95-2	Phenol	1	ug/L	3,100 D	8,400	1,600 D	710 B
62-53-3	Aniline	5	ug/L	10,000 D	14,000	5,400 D	3,800
VALUE ITS	SEMIVOLATILES	The second second	大学 大	STATISTICS.	WILLIAM PROPERTY.	PARTIES NO.	SECTION STATE
79-01-6	Trichloroethene	5	ug/L	440,000 BD	950,000	410,000	400,000
71-55-6	1,1,1-Trichloroethane	5	ug/L	32	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	12,000 DJ	ND	ND	7,000 J
75-34-3	1,1-Dichloroethane	5	ug/L	33	ND	ND	ND
101117 (3.57)	VOLATILES	CHEMICA PARTY		ESTIMATE SON	100	ALIKE TO SHE	
CAS No.	Compound	Standard*	Units				ļ
			SDG	A01-A872	A01-C132	A02-9805	A02B042
			Source	STL Buffalo	STL Buffalo	STL Buffalo	STL Buffak
			Lab Sample ID	A1A87204	A1C13209	A2980501	A2B04203
			Date Sampled	11/2/2001	12/6/2001	10/2/2002	11/7/2002
			Sample ID	MW-2D	MW-2D	MW-2D	MW-2D

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### **Ekonol Facility** MW-3D Analytical Summary Wheatfield, New York

108-95-2 7439-92-1	Phenol METALS Lead - Total	0.025**	ug/L mg/L	20 ND	ND ND	ND ND	5 BJ
62-53-3	SEMIVOLATILES Aniline	5	ug/L	72	11	ND	2 J
79-01-6	Trichloroethene	5	ug/L	30,000 BD	20,000	5,500	4,600
71-55-6	1.1.1-Trichloroethane	5	ug/L	87,000 D	44,000	25,000	16,000 D
540-59-0	1.2-Dichloroethene (Total)	5	ug/L	2,200 DJ	1,000 J	600 J	570
75-34-3	1.1-Dichloroethane	5	ug/L	1,200 DJ	ND	ND	110 J
CAS No.	VOLATILES	Statidard	Onits		THE INCHASE	SOUND TO SERVED	
01011		Standard*	SDG Units	A01-A012	W1-0105	702-0000	7,020012
			Source	STL Buffalo A01-A872	STL Buffalo A01-C132	A02-9656	A02B042
			Lab Sample ID	A1A87208	A1C13206	A2965603 STL Buffalo	STL Buffak
			Date Sampled	11/2/2001	12/6/2001	9/30/2002	11/7/2002 A2B04202
			Sample ID	MW-3D	MW-3D	MW-3D	MW-3D

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

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### Ekonol Facility MW-4D Analytical Summary Wheatfield, New York

			Sample ID Date Sampled Lab Sample ID Source SDG	MW-4D 11/2/2001 A1A87206 STL Buffalo A01-A872	MW-4D 12/6/2001 A1C13204 STL Buffalo A01-C132	MW-4D 9/30/2002 A2965604 STL Buffalo A02-9656	MW-4D 11/6/2002 A2A98403 STL Buffalo A02A984
CAS No.	Compound	Standard*	Units				
	VOLATILES	TO DAY THE SALE	TENERAL PROPERTY				THE RESERVE
75-34-3	1,1-Dichloroethane	5	ug/L	21	ND	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	17,000 D	11,000	30,000	28,000
71-55-6	1,1,1-Trichloroethane	5	ug/L	56	ND	1,300 J	3,300
79-01-6	Trichloroethene	5	ug/L	250,000 BD	190,000	61,000	58,000
TANKS OF THE PARTY	SEMIYOLATILES		Cate Date (II)	LOCK BY, I'M SALA	of Tentestan		
62-53-3	Aniline	5	ug/L	3,300 DE	1,200	680	580
108-95-2	Phenol	1	ug/L	1,000 D	240	36	40
	METALS	10000		12 17 5 37	THE REAL PROPERTY.		2000
7439-92-1 7441-66-6	Lead - Total Zinc - Total	0.025** 2	mg/L mg/L	ND 0.026	ND 0.024	ND ND	ND ND

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### Ekonol Facility MW-10D Analytical Summary Wheatfield, New York

			Sample ID	MW-10D	MW-10D
			Date Sampled	10/1/2002	11/6/2002
			Lab Sample ID	A2968203	A2A98402
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A984
CAS No.	Compound	Standard*	Units		
	VOLATILES	在 全 是 是 是	September 1		PERSONAL PROPERTY.
75-34-3	1,1-Dichloroethane	5	ug/L	14	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	1,500 D	2,600
71-55-6	1,1,1-Trichloroethane	5	ug/L	43	140 J
79-01-6	Trichloroethene	5	ug/L	4,300 D	5,400
Name of the last	SEMIVOLATILES		MAN THAT I WIND	CONTRACTOR OF	TO SHOW I
62-53-3	Aniline	5	ug/L	6 J	ND
108-95-2	Phenol	1	ug/L	ND	ND
-E/Ind	METALS		The state of the s		
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND
7441-66-6	Zinc - Total	2	mg/L	ND	ND

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

#### Ekonol Facility MW-11D Analytical Summary Wheatfield, New York

			Sample ID	MW-11D	MW-11D
			Date Sampled	10/1/2002	11/4/2002
			Lab Sample ID	A2968201	A2A99704
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A997
CAS No.	Compound	Standard*	Units		
	VOLATILES:	<b>建筑福息</b>			SIMULENCE IN
75-34-3	1,1-Dichloroethane	5	ug/L	2.8 J	3.0
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	36	54
71-55-6	1,1,1-Trichloroethane	5	ug/L	110	110 D
79-01-6	Trichloroethene	5	ug/L	<u> 15</u>	9.4
MACHINE CO.	SEMIVOLATILES	ALCOHOL:	在 1000000000000000000000000000000000000	10月1日   10月1日	STATE S
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND
A STATE OF THE PARTY OF THE PAR	METALS	A COUNTY OF THE PARTY OF THE PA			THE LANGE
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND
7441-66-6	Zinc - Total	2	mg/L	ND	ND

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

### Ekonol Facility MW-12D Analytical Summary Wheatfield, New York

			Sample ID	MW-12D	MW-12D
			Date Sampled	10/1/2002	11/4/2002
			Lab Sample ID	A2968204	A2A88702
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A887
CAS No.	Compound	Standard*	Units		
Philippine Market	VOLATILES	Maria de la Re	<b>禁薬性を持ちている</b>		
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	ND	ND
71-55-6	1,1,1-Trichloroethane	5	ug/L	ND	ND
79-01-6	Trichloroethene	5	ug/L	ND	ND
CALL CONTRACTOR	SEMIVOLATILES	W. G. S. S	1 P. H. LEW TO D. T.	CONTRACTOR OF THE	
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1 _	ug/L	ND	ND
BOX WATER CONTRACTOR	METALS	ME IN SERV		CHO TO SERVE	White Hard
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND
7441-66-6	Zinc - Total	2	mg/L	ND	ND

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

### Ekonol Facility MW-13D Analytical Summary Wheatfield, New York

			Sample ID	MW-13D	MW-13D
			Date Sampled	10/1/2002	11/6/2002
			Lab Sample ID	A2968202	A2A98401
			Source	STL Buffalo	STL Buffalo
			SDG	A02-9682	A02A984
CAS No.	Compound	Standard*	Units		
	VOLATILES	4 1 To 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	minimal Services		
75-34-3	1,1-Dichloroethane	5	ug/L	2.7 J	3.8 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	180	180
71-55-6	1,1,1-Trichloroethane	5	ug/L	3.3 J	5.3
79-01-6	Trichloroethene	5	ug/L	38	36
	SEMIVO LATILLES	MAN AND LAK			DOMESTIC OF THE PARTY OF THE PA
62-53-3	Aniline	5	ug/L	ND	ND
108-95-2	Phenol	1	ug/L	ND	ND
SAME TO DE	METALS			Na Salary English	
7439-92-1	Lead - Total	0.025**	mg/L	ND	ND
7441-66-6	Zinc - Total	2	mg/L	0.031	ND

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;D"= Compound was identified in an analysis at the secondary dilution factor

<sup>&</sup>quot;B"= The analyte was found in the associated blank, as well as in the sample

<sup>\*\* =</sup> Dissolved concentration standard

			Sample ID	MW-10D-1	MW-10D-2	MW-10D-3	MW-11D-1	MW-11D-2	MW-11D-3	MW-12D-1	MW-13D-1	MW-13D-2	MW-13D-3
			Date Sampled	7/2/2002	7/2/2002	7/2/2002	7/3/2002	7/3/2002	7/3/2002	9/23/2002	9/25/2002	9/25/2002	9/25/2002
			Lab Sample ID	A2682801	A2682802	A2682803	A2685501	A2685502	A2685503	A2943901	A2957301DL	A2957302	A2957303
			Source	STL Buffalo									
			SDG	A02-6828	A02-6828	A02-6828	A02-6855	A02-6855	A02-6855	A02-9439	A02-9573	A02-9573	A02-9573
CAS No.	Compound	Standard*	Units										
	VOLATILES											;	
75-34-3	1.1-Dichloroethane	S	ng/L	ON	Q	QN	9.5	7.3	5.1	2	2.8 DJ	2	2
540-59-0	1.2-Dichloroethene (Total)	ıo	ng/L	33	18.1	12	310	240	36	35	180 D	92	=
71-55-6	1.1.1-Trichloroethane	10	ug/L	Q	Q	2	240 D	160 D	300 D	1.7.5	3.8 DJ	3.5	2
79-01-6	Trichloroethene	ις	ug/L	360 D	360	270	30	24	67	92	40 D	20	3.8.1
	SEMIVOLATILES												
62-53-3	Aniline	ß	ng/L	QN	QN	Q	Q	2	Q	2	2	2	2!
108-95-2	Phenol	-	Ug/L	9	2.3	2	₽	2	2	Q	Q	QV	QN
	METALS	2											
7439-92-1	Lead - Total	0.025**	mg/L	Q	1,6	0.029	0.39	0.62	0.19	1.3	0.077	0.10	690.0
7441-66-6	Zinc - Total	7	mg/L	0.027	1.8	0.14	0.23	0.93	0.44	4.0	0.11	0.10	0.096
				***	21	0001							

<sup>\* =</sup> 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

<sup>&</sup>quot;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

Separate Phase Physical Analytical Summary Wheatfield, New York **Ekonol Facility** 

		Sample ID	MW-2DP Upper Layer	MW-2DP Lower Layer	MW-2SP	MW-3DP
		ס	10/2/2002	10/2/2002	10/2/2002	10/2/2002
		Lab Sample ID	0210-66	0210-66	0210-67	0210-68
		Source	Saybolt	Saybolt	Saybolt	Saybolt
		SDG	L2210.213A	L2210.213A	L2210.213A	L2210.213A
Test	Method	Units				
Interfacial Tension	ASTM D-971	m/um	N/A	N/A	N/A	N/A
Surface Tension	ASTM D-1331A	dynes/cm	47.5	32.5	33.0	48.0
Viscocity at 20 C	ASTM D-445	cSt	1.01	1.228	0.925	0.979
Density at 20 C	ASTM D-4052	g/cm3	1.0003	1.0004	1.0016	1.0004

Definitions of units used:

Interfacial Tension- mn/m = milli newton / meters Surface Tension- dynes/cm = unit of force / centimeters Viscosity- cSt = centistroke Density- g/cm3 = grams / cubic centimeter

Table 7

### Ekonol Facility Separate Phase Chemical Analytical Summary Wheatfield, New York

		••••	u, New York			
			Sample ID	MW-2DP	MW-2SP	MW-3DP
1			Date Sampled	10/2/2002	10/2/2002	10/2/2002
1			Lab Sample ID	A2980702	A2980703	A2980701
1			Source	STL Buffalo	STL Buffalo	STL Buffalo A02-9807
		01 1 1	SDG	A02-9807	A02-9807	AU2-9807
CAS No.	Compound	Standard*	Units			
07.04.4	VOLATILES Acetone	50	ug/L	ND	ND	ND
67-64-1 71-43-2	Benzene	1	ug/L	ND ND	ND	ND
75-27-4	Bromodichloromethane	5	ug/L	ND	ND	ND
75-25-2	Bromoform	50	ug/L	ND	ND	ND
74-83-9	Bromomethane	5	ug/L	ND	ND	ND
78-93-3	2-Butanone	NS	ug/L	ND :	ND	ND ND
75-15-0	Carbon Disulfide	NS	ug/L	ND ND	ND ND	ND
56-23-5	Carbon Tetrachloride	5 5	ug/L ug/L	ND ND	ND	ND
108-90-7	Chlorobenzene Chloroethane	5	ug/L	ND ND	ND	ND
75-00-3 67-66-3	Chloroform	7	ug/L	101,000	ND	ND
74-87-3	Chloromethane	NS	ug/L	ND	ND	ND
124-48-1	Dibromochloromethane	5	ug/L	ND	ND	ND
75-34-3	1,1-Dichloroethane	5	ug/L	ND	ND	5.9
107-06-2	1,2-Dichloroethane	0.6	ug/L	ND	ND	ND
75-35-4	1,1-Dichloroethene	5	ug/L	ND 1	ND 070 000 D	4.4 J
540-59-0	1,2-Dichloroethene (Total)	5	ug/L	611,000 ND	970,000 D ND	46 ND
78-87-5	1,2-Dichloropropane	1 5	ug/L ug/L	ND ND	ND	ND
10061-01-5	cis-1,3-Dichloropropene	0.4	ug/L ug/L	ND	ND	ND
10061-02-6	trans-1,3-Dichloropropene Ethylbenzene	5	ug/L	ND ND	ND	ND
591-78-6	2-Hexanone	50	ug/L	ND	ND	ND
75-09-2	Methylene Chloride	5	ug/L	NĐ	ND	ND
108-10-1	4-Methyl-2-pentanone	NS	ug/L	ND	ND	ND
100-42-5	Styrene	5	ug/L	ND	ND	ND
79-34-5	1,1,2,2-Tetrachloroethane	5	ug/L	ND 45 000 000 D	ND ND	ND 8.9
127-18-4	Tetrachloroethene	5	ug/L ug/L	15,900,000 D ND	ND ND	ND
108-88-3	Toluene 1,1,1-Trichloroethane	5 5	ug/L	ND	ND	590 D
71-55-6 79-00-5	1,1,1-Trichloroethane	1	ug/L	ND	ND	ND
79-01-6	Trichloroethene	5	ug/L	924,000,000 D	ND	110 D
108-05-4	Vinyl Acetate	NS	ug/L	ND	МD	ND
75-01-4	Vinyl Chloride	2	ug/L	ND	50,000 D	ND
1330-20-7	Total Xylenes	5	ug/L_	ND	ND	ND
EN INCHES	SEMIVOLATILES		THE RESIDENCE AND ADDRESS.	ND	ND	ND
83-32-9	Acenaphthene	20 NS	ug/L ug/L	ND	ND ND	ND
208-96-8	Acenaphthylene Analine	5	ug/L	540,000 D	1,900 D	2 J
62-53-3 120-12-7	Anthracene	50	ug/L	ND	ND	ND
56-55-3	Benzo(a)anthracene	0.002	ug/L	22,000 DJ	ND	ND
205-99-2	Benzo(b)fluoranthene	0.002	ug/L	ND	ND	ND
207-08-9	Benzo(k)fluoranthene	0.002	ug/L	ND	ND	ND
191-24-2	Benzo(ghi)perylene	NS	ug/L	ND	ND ND	ND ND
50-32-8	Benzo(a)pyrene	NS NC	ug/L ug/L	ND ND	3,300 DJ	ND
1863-63-4	Benzoic acid	NS NS	ug/L	ND ND	ND ND	ND
100-51-6	Benzyl alcohol Bis(2-chloroethoxy) methane	5	ug/L	ND	ND	ND
111-92-1	Bis(2-chloroethyl) ether	1 1	ug/L	ND	ND	ND
108-60-1	2,2'-Oxybis(1-Chloropropane)	NS	ug/L	ND	ND	ND
117-81-7	Bis(2-ethylhexyl) phthalate	5	ug/L	3,600 DJ	3 J	4 J
101-55-3	4-Bromophenyl phenyl ether	NS	ug/L	ND	ND	ND ND
85-68-7	Butyl benzyl phthalate	50	ug/L	ND ND	ND ND	ND
106-47-8	4-Chloroaniline	5 NS	ug/L ug/L	ND ND	ND	ND
59-50-7	4-Chloro-3-methylphenol 2-Chloronaphthalene	10	ug/L ug/L	ND	ND	ND
91-58-7 95-57-8	2-Chlorophenol	NS	ug/L	ND	2 J	ND
7005-72-3	4-Chlorophenyl phenyl ether	NS	ug/L	ND	ND	ND
218-01-9	Chrysene	0.002	ug/L	ND	0.7 J	ND
53-70-3	Dibenzo(a,h)anthracene	NS	ug/L	ND	ND	ND
132-64-9	Dibenzofuran	NS	ug/L	3,600 DJ	ND	ND
84-74-2	Di-n-butyl phthalate	50	ug/L	ND	ND	ND ND
95-50-1	1,2-Dichlorobenzene	3	ug/L	ND 1,200 DJ	ND ND	ND
541-73-1	1,3-Dichlorobenzene	3 3	ug/L ug/L	21,000 D	ND	ND
106-46-7	1,4-Dichlorobenzene	1 3	uy/L	21,000 0		

#### **Ekonol Facility** Separate Phase Chemical Analytical Summary Wheatfield, New York

			Sample ID	MW-2DP	MW-2SP	MW-3DP
			Date Sampled	10/2/2002	10/2/2002	10/2/2002
			Lab Sample ID	A2980702	A2980703	A2980701
			Source	STL Buffalo	STL Buffalo	STL Buffalo
ĺ			SDG	A02-9807	A02-9807	A02-9807
		Name and Address of the Owner,	SDG	A02-5007	A02-3007	
E34559955	SEMIVOLATILES CONFD.	Standard*	Units	H MATERIAL STATE		
CAS No.	Compound		ug/L	ND	ND	ND
91-94-1	3,3'-Dichlorobenzidine	5 5	ug/L ug/L	: do	ND	ND
120-83-2	2,4-Dichlorophenol	50 50	ug/L ug/L	ND	ND	ND
131-11-3	Diethyl phthalate	50	ug/L ug/L	ND	ND	ND
105-67-9	2,4-Dimethylphenol	50	ug/L ug/L	ND ND	ND	ND
84-66-2	Dimethyl phthalate	i NS	ug/L ug/L	ND	ND	ND
534-52-1	4,6-Dinitro-2-methylphenol	10	ug/L ug/L	ND	ND	ND
51-28-5	2,4-Dinitrophenol	*-		ND	ND	ND
121-14-2	2,4-Dinitrotoluene	5	ug/L	ND ND	ND	ND
606-20-2	2,6-Dinitrotoluene	5	ug/L	ND ND	ND	ND
117-84-0	Di-n-octyl phthalate	50	ug/L	ND ND	0.8 J	ND
206-44-0	Fluoranthene	50	ug/L	6.800 DJ	ND	ND
86-73-7	Fluorene	50	ug/L	ND	ND	ND ND
118-74-1	Hexachlorobenzene	0.04	ug/L		ND ND	ND
87-68-3	Hexachlorobutadiene	0.5	ug/L	ND	ND	ND
77-47-4	Hexachlorocyclopentadiene	5	ug/L	ND	ND ND	ND
67-72-1	Hexachloroethane	5	ug/L	ДN	ND ND	ND ND
193-39-5	Indeno(1,2,3-cd)pyrene	0.002	ug/L	ND	ND ND	ND
78-59-1	lsophoron <del>e</del>	50	ug/L	ND ND	ND ND	ND ND
91-57-6	2-Methylnaphthalene	NS	ug/L	790 DJ	140 DJ	ND ND
95-48-7	2-Methylphenol	NS	ug/L	ND		ND
106-44-5	4-Methylphenol	NS	ug/L	ND	64	
91-20-3	Naphthalene Naphthalene	10	ug/L	5,400 DJ	ND	ND
88-74-4	2-Nitroaniline	5	ug/L	ND	ND	ND
99-09-2	3-Nitroaniline	5	ug/L	ND	ND	ND
100-01-6	4-Nitroaniline	5	ug/L	ND	ND	ND
98-95-3	Nitrobenzene	0.4	ug/L	ND	ND	ND
88-75-5	2-Nitrophenol	NS	ug/L	ND	ND	ND
100-02-7	4-Nitrophenol	NS	ug/L	ND	ND	ND
86-30-6	N-nitrosodiphenylamine	50	ug/L	1,200 DJ	ND	ND
621-64-7	N-Nitroso-Di-n-propylamine	NS	ug/L	ND	ND	ND
87-86-5	Pentachlorophenol	1	ug/L	ND	ND	ND
85-01-8	Phenanthrene	50	ug/L	3,600 DJ	0.8 J	ND
108-95-2	Phenol	1	ug/L	53,000 D	51,000 D	11
129-00-0	Pyrene	50	ug/L	ND	0.9 J	ND
120-82-1	1,2,4-Trichlorobenzene	5	ug/L	220,000 DE	ND	ND
95-95-4	2,4,5-Trichlorophenol	NS	ug/L	ND	ND	ND
88-06-2	2,4,6-Trichlorophenol	l NS	ug/L	ND Values (Class G	ND	ND

<sup>\* =</sup> Standards taken from the Ambient Water Quality Standards and Guidance Values (Class GA) - 1998

<sup>&</sup>quot;NS"= No Standard

<sup>&</sup>quot;ND"= Compound was analyzed for, but not detected

<sup>&</sup>quot;J"= Indicates an estimated value

<sup>&</sup>quot;E"= Concentration exceeded the calibration range

<sup>&</sup>quot;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

		Sample ID Lab Sample ID Source SDG	TP #1 A1B98501 STL Buffalo A01-B985	TP #2 A1B98503 STL Buffalo A01-B985	TP #3 A1B98502 STL Buffalo A01-B985
Compound	Standard*	Matrix Sampled Units	Soil 12/3/2001	Soil 12/4/2001	12/4/2001
VOLATILES					
1,1-Dichloroethane	200	gy/gu	QN	24	QN
1,2-Dichloroethene (Total)	300	ug/Kg	2	2	2
1,1,1-Trichloroethane	800	ug/Kg	Q	2	2
Trichloroethene	700	ug/Kg	ND	ND	QN
SEMIVOLATILES		¥ .			
Aniline	100	ng/Kg	QN	QN	QN
Phenol	30 or MDL	ug/Kg	ND	ND	ON
METALS					
Lead - Total	SB	mg/Kg	15.1	10	9.7
Zinc - Total	20 or SB	mg/Kg	87.2	88.8	70.8

<sup>\* -</sup> Standards taken from the Technical and Administrative Guidance Memorandum #4046 - Recommended Soil Cleanup Objective - 1994 "MDL"= Method Detection Limit "SB"= Site Background "ND"= Compound was analyzed for, but not detected

Table 9

Ekonol Facility Groundwater Elevation Table Wheatfield, New York

											170								
Water Table Elevation 12/11/02 (Feet)		579.67	581.52	576.10	577.21	•	576.91	579.51	575.33	577.08		575.10	576.25	576.23	576.79	576.62	576.68	576.83	575.68
Depth to Water 12/11/02 (Feet TOC)		5.39	3.59	8.73	8.58	•	8.73	6.75	10.65	8.58		10.43	8.94	8.74	8.83	8.85	11.74	9.02	12.21
Water Table Elevation 11/18/02 (Feet)	,	575.74	581.56	575.42	577.11	577.58	575.33	579.10	577.62	574.07		577.41	576.73	576.86	577.41	577.25	577.51	577.13	576.90
Depth to Water 11/18/02 (Feet TOC)		9.32	3.55	9.41	8.68	8.03	10.31	7.16	8.36	11.59		8.12	8.46	8.11	8.21	8.22	10.91	8.72	10.99
Water Table Elevation 10/21/02 (Feet)		577.60	576.85	576.99	576.98	577.14	577.28	578.18	575.70	576.27		576.99	576.31	576.40	577.01	576.84	576.99	577.82	576.25
Depth to Water 10/21/02 (Feet TOC)		7.46	8.26	7.84	8.81	8.47	8.36	8.08	10.28	9.39		8.54	888	8.57	8.61	8.63	11.43	8.03	11.64
Water Table Elevation 9/25/02-10/3/02 (Feet)		578.21	580.23	579.41	575.26	575.59	575.39	576.80	574.33	575,68		576.38	575.44	575.76	576.35	576.00	576.11	576.00	575.27
Depth to Water 9/25/02-10/3/02 (Feet TOC)		6.85	4.88	5.42	10.53	10.02	10.25	9.46	11.65	9.98		9.15	9.75	9.21	9.27	9.47	12.31	9.85	12.62
Top of Well Casing Elevation (Feet)		585.06	585.11	584.83	585.79	585.61	585.64	586.26	585.98	585.66		585.53	585.19	584.97	585.62	585.47	588.42	585.85	587.89
Monitoring Well ID	Shallow	MW-1S	MW-2S	MW-3S	MW-4S	MW-5S	MW-6S	MW-7S	MW-8S	MW-9S	Deep	MW-1D	MW-2D	MW-3D	MW-4D	MW-10D	MW-11D	MW-12D	MW-13D

<sup>&</sup>quot;-" Unable to take reading due to snow cover

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

### ATTACHMENT A BORING LOGS AND DRILLING RECORDS

			<u>-</u>		PARSONS	BORING NO. SB-1
Combactor:	Zebra Env	ironmental C	огр.		DRILLING RECORD	BORING NO. SB-1
Driller:	Dominic P	ino				Sheet 1 of 1
Inspector:	Andy Janil				PROJECT NAME Ekonol Facility	
Rig Type:	Geoprobe				PROJECT NUMBER 737515	Location: Southwest of Ekonol Facility
Method:	Direct Pus					Elevation:  N Walmore Rd.
Observations		10/4/2001			Weather Sunny 65 F	N Walmore Rd.
Depth of Wa	ter	-10° bgs		<u> </u>	10/4/01 0955	Ekonol Facility
				ļ	Date/Time Start	X X
Top of Boring	Elevation				Date/Time Finish 10/4/01 0925	1 1 1
		<u> </u>		<u> </u>		WELL CONSTRUCTION DIAGRAM
PID	Sample	Sample	Rec.	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DINGRAM
Reading	Cede	Depth	(ft)			<del>                                     </del>
					UNIVIE	,
	<b>↓</b>				SOIL CLASS	
	1	0			Stiff, brown, Silty CLAY, some gray Silt throughout	1" SCH 40 PVC well
	001	1		<del></del>	Still, brown, Sitty CLA 1, some gray one anoughous	riser
<del> </del>	SS-1	3		<del></del>		
0.80	+	4	3.5		CI	3.5' bgs
0,00	<del> </del>	5			Stiff, brown, Silty CLAY, some gray Silt throughout	
	SS-2	6				
		7			_	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
0.40	Ť .	8	4.0		CI	1" SCH 40 PVC well
		9			Stiff, brown, Silty CLAY, moist at 10'	screen, 0.010" slot
	SS-3	10				
		11	<u></u>		G	
5.70	- <del></del>	12	4.0		Stiff, moist/wet, red/brown, Silty CLAY CI	
0,60	SS-4	13	1.2		Shiri, moist/wet, red/orown, Shity CLAT	1000 1300 1300
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**PARSONS** BORING NO. \$B-2 DRILLING RECORD Zebra Environmental Corp. Dominic Pino **Ekonol Facility** PROJECT NAME Sheet Andy Janik 737515 Location: Southwest of Ekonol Facility PROJECT NUMBER Geoprobe Rig Type: Elevation: Direct Push Sunny 65 F Walmore Rd. Weather 10/4/2001 Observations ~IO bgs Depth of Water Ekonol Facility Date/Time Start 10/4/01 0945 Top of Boring Elevation 10/4/01 1025 Date/Time Finish WELL CONSTRUCTION DIAGRAM FIELD IDENTIFICATION OF MATERIAL SPT Rec. PID Sample Reading Depth **(ft)** UNIFIED SOIL CLASS 0 1" SCH 40 PVC well Stiff, brown/black, Silty CLAY 1 riser SS-1 2 CL 2.5' bgs 4.0 0,50 4 Stiff, brown, Silty CLAY, some f- Sand throughout 5 SS-2 6 7 1" SCH 40 PVC well ML 4.0 0,00 screen, 0.010" slot Stiff, brown, Silty CLAY, moist at 10' 9 SS-3 10 11  $\mathbf{CL}$ 4.0 0.80 12 TOR @ 12.5' bgs Wet, brown, Sitty CLAY, some m-Gravel GC SS-4 0.70 13 0,4 14 STANDARD PENETRATION SUMMARY: TOR- TOP OF ROCK

					DA SCONE	
					PARSONS DRILLING RECORD	BORING NO. SB-3
Contractor:		ironmental C	огр.		DRILLING RECORD	DOMING NO.
Driller:	Dominic P		-		PROJECT NAME Ekonol Facility	Sheet 1 of 1
Inspector:	Andy Janil	<u> </u>				Location: Southwest of Ekonol Facility
Rig Type:	Geoprobe				PROJECT NUMBER 737515	Elevation:
Method:	Direct Pus	h 10/4/2001		<del>                                     </del>	Weather Sunny 65 F	N Waimore Rd.
Observations		-11 bgs			W Cathol	¯1+ <u></u>
Depth of Wate	a	~11 0gs			Date/Time Start 10/4/01 1050	Ekonol Facility
Top of Boring	Elevation					
100 00 20000	T				Date/Time Finish 10/4/01 1125	X III
PID	Sample	Sample	Rec.	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DIAGRAM
Reading	Code	Depth	(ft)			
recauling	1 0000	20pia	(4)			
					UNOP	l i
		0			SOIL CLA	LSS. 1" SCH 40 PVC well
		1			Stiff, brown, Silty CLAY	riser
	SS-1	2		1		l lise
		3		<u> </u>		CL 2.5' bgs
0.20		4	3.0		Stiff, brown, Silty CLAY	
	SS-2	5	-	-	Sill, blowi, sity CLA I	CL 1" SCH 40 PVC weil screen, 0.010" slot  TOR @ 12.5' bgs
	33-2	7		<del>                                     </del>		
0.00		8	4.0	<del>                                     </del>		CL 1" SCH 40 PVC weil
0.00	-	9	<u>-</u>		Stiff, red/brown, Silty CLAY, moist at 11'	screen, 0.010" slot
-	SS-3	10			- ' ' · · · · · · · · · · · · · · · · ·	
		- 11				
1,60		12	4.0			CL mon o 12 63
0.40	SS-4	13	0.9		Wet, brown, Silty CLAY, some m-Gravel	GC TOR @ 12.5' bgs
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		ARD PEN		ON	CYP CO F A TOU.	
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المرسانة

						ARSONS ILLING RECORD		BORING	NO.	SB-3A	
Contractor:		ironmental (	.orp.			LEINO (LEGOTAL					
Driller:	Dominic P					Ekonal Essilibi		Sheet	1	of 1	
Inspector;	Andy Janil	-			PROJECT NAME	Ekonol Facility					
Rig Type:	Geoprobe				PROJECT NUMBER	737515		Location:	Sour	west of Ekonol Facility	
Method:	Direct Pus							Elevation:		uturu Bd	7.1
Observations		10/4/2001		<u> </u>	Weather	Sunny 65 F		Ŋ	71	almore Rd.	11
Depth of Water	<u> </u>	~11.5' bgs			and the state of the state of	10/4/01 1/10		<b> </b>	Etu	nol Facility	11
				ļ	Date/Time Start	10/4/01 1610			Еко	not racinty	11
Top of Boring I	Elevation			<u> </u>	TO 4 2001 - 201-1-2	10/4/01 1/45		1		.	
	1		<b> </b>	-	Date/Time Finish	10/4/01 1645					1 1
PID	Sample	Sample	Rec.	SPT	FIELD IDEN	TIFICATION OF MATERIAL		WE:	LL CON	STRUCTION DIAGRA	M
Reading	Code	Depth	(ft)								
								l		1	
							UNIFIED				
		0					SOIL CLASS.				
		1			Stiff, brown, Silty CLAY, so	me black mottling		ii	•	1" SCH 40 PV	C well
	SS-1	2								riser	
		3								<u> </u>	
1.70		4	3.0				CL			2.5' bgs	
		5			Stiff, brown, Silty CLAY, so	me m-Gravel, trace f-Sand					
	SS-2	6		<u> </u>	•						
		7		<u> </u>			3.07			\$# 00TT 40 DV	C11
10.50		8	4.0				ML		-	1" SCH 40 PV	
	1	9		ļ	Stiff, brown, Silty CLAY, me	oist at 11.5'				screen, 0.010"	SIDU
	SS-3	10						. =			
10.00		11	<del></del>	<del> </del>			CT				
10.30	00.4	12	4.0	<del> </del>	Wet, brown, Silty CLAY, sor	no ma Cantrol	CL GC			TOR @ 12.5' bgs	
2.00	SS-4	13	0.5		Wet, brown, Silty CLA 1, soi	me m-Graver				TOR (a) 12.5 Ugs	
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	STAND	ARD PEN	ETRATIC	ON	·					<u> </u>	
1	TOR=	TOP OF I	ROCK		SUMMARY:						
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	7.1	ironmental C				PARSONS DRILLING RECORD		BORING I	NO.	SB-4	
Contractor:	Dominic P		oup.						_		
Driller;					PROJECT NAME	Ekonol Facility		Sheet	1	af 1	
Inspector:	Andy Junil	k				737515		Location:		vest of Ekonol Facility	
Rig Type:	Geoprobe				PROJECT NUMBER_	10/010		Elevation:	Double	TOOL OF LIMONOT & BUSINES	
Method:	Direct Pus				T174b	Sunny 65 F		N	Wa	Imore Rd.	$\top$
Observations		10/4/2001			Weather	Stilliny 05 F		<b>†</b> '∔	***		-
Depth of Water		~9' bgs				10/4/01 1055		Ι'	Elem	ol Facility	
					Date/Time Start	10/4/01 1255		1	Likon	or racinty]	
Top of Boring I	Elevation			<u> </u>		10/4/01 1225				, II	
<u></u>				<u> </u>	Date/Time Finish	10/4/01 1335		<del> </del>		<u> </u>	<del>-</del>
PID	Sample	Sample	Rec.	SPT	FIELD	IDENTIFICATION OF MATERIAL		WEL	L CONS	TRUCTION DIAGRAM	VI.
Reading	Code	Depth	(ft)	1							
REAGING		Берия	(2.5)								
	+			<del></del>	1		UNIFIED	,	- !		
	<del> </del>	0					SOIL CLASS				
	—-	1		ļ	Stiff, brown, Silty CLA	V some black mottling		1 F	<del></del>	1" SCH 40 PVC	well
	CC 1				Butt, otown, birty can't	1,0011001111111111111111111111111111111		1 11	- 1	riser	
<u> </u>	SS-1	2		<del></del>	-			1 11	-1		
		3	- 2.5		-		CL			2.5' bgs	
0,30		4	3.5	<del> </del>	Ou'ce Language Giles CT AN	Y, some m-Gravel, trace f-Sand		1 <b> </b>	- 1		
		5		<u> </u>	STIR, Drown, Stity CLA	1, Some m-Graver, trace 1-Sand			- 1		
	SS-2	6		<del>                                     </del>	-				- 1		
	<u> </u>	7		<u> </u>	-		ML		4	— 1" SCH 40 PVC	tave!!
0.30	<u> </u>	8	4.0					ATTI OLI TERRITATI DI TERRITATI	'	screen, 0.010" sl	
	<u> </u>	9		<u> </u>	Stiff, brown, Silty CLA	Y, moist at 9			- 1	solcon, o.oro si	10.
	SS-3	10						臺	- 1		
	<u> </u>	11			4		CT.		- 1		
0.40		12	4.0		***************************************		CL GC		I,	TOD (2.12 5) b	
0.20	SS-4	13	0.5		Wet, brown, Silty CLAY	Y, some c-Gravel	GC.			TOR @ 12.5' bgs	
		14						i	ł		
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		ARD PEN		DN							
	TOR	TOP OF	ROCK		SUMMARY:	<del>-</del>					
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		-			PARSONS			00.5
Contractor:	Zebra Env	ironmental C	Corp.		DRILLING RECORD	B	ORING NO.	\$B-5
Driller:	Dominic P	ino			_,			. 1
inspector:	Andy Janii	k			PROJECT NAME Ekonol Facility	_	Sheet 1	of 1
Rig Type:	Geoprobe				PROJECT NUMBER 737515	_	Location: Sout	west of Ekonol Facility
Method:	Direct Pus		<del></del>		Weather Sunny 65 F			almore Rd.
Observations		10/4/2001			Weather Sunny 65 F		<del>[</del> "	-
Depth of Water	r	~11' bgs			Date/Time Start 10/4/01 1345		Eko	nol Facility
Top of Boring	Flevation	$\vdash$						х
Top or Diving	T				Date/Time Finish 10/4/01 1425	_		
PID	Sample	Sample	Rec.	SPT	FIELD IDENTIFICATION OF MATERIAL	ı	TEMP. CON	STRUCTION DIAGRAM*
Reading	Code	Depth	(n)					
			` .					
					UNIF			
		0			SOIL CL	ASS		1" SCH 40 PVC well
		1		<u> </u>	Stiff, brown, Silty CLAY			riser
	SS-1	2					11	7.27
3,90	-	3	3.0			CL		3.0' bgs
3,90	+	5	J.V		Stiff, brown, Silty CLAY, trace m-Sand		薑	
	SS-2	6						1
		7						1" SCH 40 PVC well
1.40	╄	8	4.0		Stiff, brown, Silty CLAY, moist at 11'	ML	BINATCHAHRUBARIOCHANINIAGUCHURARU	screen, 0.010" slot
	00.3	9 10	<del>                                     </del>	<b></b>	Stiff, brown, Sifty CLAY, moist at 11	- 1		Bottom, o.o.to biov
	SS-3	11	<b>-</b>			- 1	薑	
2.30	+	12	4.0	-		CL	≣	
1.40	SS-4	13	1.0		Moist, brown, Silty CLAY, some c-Gravel	GC		TOR @ 13.0' bgs
		14						
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						<u>_</u>		<u> </u>
		ARD PEN		ON				
	TOR	TOP OF	ROCK		SUMMARY: * Wells were removed and abandoned following sampling	rig.	<u>.</u>	
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PARSONS BORING NO. SBA-1 DRILLING RECORD Zebra Environmental Corp. Phil Orsi **Ekonol Facility** PROJECT NAME Andy Janik 737515 Northeast of Ekonol Facility Location: PROJECT NUMBER Rig Type: Geoprobe Elevation: Direct Push Cloudy/Showers 55 F Weather 6/4/2002 Observations Depth of Water ~9' bgs Ekonol Facility 6/4/02 0915 Date/Time Start Top of Boring Elevation 6/4/02 0950 Walmore Rd. Date/Time Finish TEMPORARY FIELD IDENTIFICATION OF MATERIAL SPT Rec. PĮD WELL CONSTRUCTION DIAGRAM Reading Depth UNIFIED SOIL CLASS. 0 1" SCH 40 PVC well Brown, Silty CLAY, some gray Silt throughout 1 riser SS-1 2 3 CL4 3.7 1.7 Stiff, red/brown, CLAY SS-2 6 7 CL 4.0 1.9 8 Stiff, brown, Silty CLAY, moist at 9', saturated to 12' 9 10.0' bgs SS-3 10 11 - 1" SCH 40 PVC well CL 2.1 12 4.0 screen, 0.010" slot Stiff, moist/wet, red/brown, Silty CLAY SS-4 13 14 CL TOR @ 15.0' bgs 2.2 15 4.0 STANDARD PENETRATION Temporary piezometer installed to obtain water sample for field SUMMARY: TOR= TOP OF ROCK screening.

					PARSONS DRILLING RECORD				BORING NO. SBA-2				
Contractor: Driller:	Zebra Envi Phil Orsi	ironmental Co	orp.		DI DI	VILLING IXLOUID			21.00	<u>~</u>			
Inspector:	Andy Janil	٢			PROJECT NAME	Ekonol Facility		Sheet	1	of	1		
Rig Type:	Geoprobe				PROJECT NUMBER	737515		Location:		of Ekonol P	acility		_
Method:	Direct Pusi				777 4	Cloudy/Showers 55 F		N Walmore Rd.				11	-
Observations		6/4/2002 -11.4 bgs		ļ	Weather	Cloudy/allowers 33 F		[∔	**	annois ita.			
Depth of Wat	er	-11.4 ogs			Date/Fime Start	6/4/02 1010			Eke	nol Facility			
Top of Boring I	Elevation							1					
					Date/Time Finish	6/4/02 1045		<b>.</b>		х		ш.	
PID	Sample	Sample	Rec.	SPT	FIELD IDE	NTIFICATION OF MATERIAL				EMPORAI			
Reading	Code	Depth	(ft)	<u> </u>		<u> </u>		W	ELL CON	STRUCTIO	N DIAGRA	LMI	
	ļ				-		UNIFIED						
	-	0		<del> </del>	-		SOIL CLASS.						
	<del> </del>	1			Red/brown, Silty CLAY, so	ome gray Silt throughout			4	1" S	CH 40 PV	/C we	ll
	SS-1	2								risea			
		3			]		CT.			1			
1.5		4	3.3		Stiff, red/brown, CLAY		CL						
<del></del> _	SS-2	5		<del> </del>	Suii, rea/brown, CLA i								
<del> </del>	33-2	7			†			1 1					
4.3	1	8	4.0				CL			l			
		9			Stiff, brown, Silty CLAY, 1	noist at 11.4'		1 ]	=	9.0'	bgs		
	SS-3	10			4				<u> </u>	1" 8	CH 40 P	IC we	:11
3.8	ļ	11 12	4.0		-		CL				en, 0.010		
3.0	SS-4	13	4.0		Stiff, moist/wet, red/brown,	CLAY	***************************************	1					
2.3	1 50 .	14	2.5			·	CL			TOR @	4.0' bgs		
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		ARD PENI		N				1					
1	TOR:	TOP OF F	ROCK			orary piezometer installed to obtain water	a sample for field						_
					screen	prog.							
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Contractor: Zebra Environmental Corp.					PARSONS DRILLING RECORD				BORING NO. SBA-3				
Contractor: Drifler:	Phil Orsi	ronmental Co	np.										
Inspector:	Andy Janik	<del></del>			PROJECT NAME		Ekonol Facility		Sheet	1	of 1		
Rig Type:	Geoprobe				PROJECT NUMBER		737515		Location:	South	of Ekonol Facility		
Method: Direct Push									Elevation:				
Observations 6/4/2002				Weather		Cloudy/Showers 55	F	גיו	W	almore Rd. ——			
Depth of Wate	T	-11.9 bgs			D. t. / Cim Ctuat		6/4/02 1240		'	Rko	nol Facility		
					Date/Time Start 6/4/02 1240			- Exonor Facility					
Top of Boring E	levation				Date/l'ime Finish		6/4/02 1315				x		
PID	Sample	Sample	Rec.	SPT		LD IDENTIF	ICATION OF MATERIAL			T	EMPORARY		
	Code	Depth	(ft)	52.2					WI	ELL CON	STRUCTION DIAGR	AM .	
Reading	Code	Deptil	(11)		<u> </u>								
<u> </u>					1			UNIFIED					
		0						SOIL CLASS.		[2	18 GOVT 40 D	57/C11	
		1			Brown/gray, Silty CL	.AY					1" SCH 40 P riser	VC well	
	SS-1	2			ł						riser		
		3	- 20					CL					
2.9	-	<u>4</u> 5	2.0		Stiff, red/brown, CLA	AV			1 1	1			
<u> </u>	SS-2	6			Sun, red/orown, CLF				1 1	1			
<del></del>	33-2	7			1								
2.8		8	4.0					CL				i	
	<del>                                     </del>	9			Stiff, red/brown, Silty	y CLAY, n	noist at 11.9'				8.5' bgs	;	
	SS-3	10									1 N COVY 40 D	aza11	
		<sup></sup> 11						CT.		•	1" SCH 40 P screen, 0.010		
3.0		12	4.0				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	CL			Screen, 0.010	3 SIOL	
	SS-4	13			Stiff, moist, red/brow	vn, CLAY,	some m-gravei	CL			TOR @ 13.5' bgs		
3.1	-	14	2.0					CL		≌	TORE CONTROL OF		
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		ARD PENI		N					,				
	TOR-	TOP OF R	OCK		SUMMARY:		piezometer installed to obtain w	ater sample for field					
						screening.					· · · · · · · · · · · · · · · · · · ·		

					PARSONS DRILLING RECORD					BORING NO. SBA-4				
Contractor: Zebra Environmental Corp.						ORILLING R	ECOKD		BUKING NU. SBA-4					
Driller:	Phil Orsi						Ekonol Facility		Sheet	1	of 1			
Inspector:	Andy Janik	<u> </u>			PROJECT NAME PROJECT NUMBER		737515		Location:		of Ekonol Facility			
Rig Type:					PROJECT NUMBER		70.010		Elevation:					
Method:	etbod: Direct Push bservations 6/4/2002			Weather	Ċ	loudy/Showers 55 F		N Walmore Rd.						
Observations Depth of Wate	<del></del>	-10,5' bgs							<b>†</b>					
					Date/Time Start		6/4/02 1425		ļ	Eko	nol Facility			
Top of Boring E	levation				D. M. Tiniah		6/4/02 1500			x				
<u> </u>					Date/Time Finish		ON OF MATERIAL		-		EMPORARY	<u> </u>		
PID	Sample	Sample	Rec.	SPT	FIRL	DIDENTIFICATION	ON OF MATERIAL		WE		STRUCTION DIAG	RAM		
Reading	Code	Depth	(ft)			<del></del>		* -	****	ZILI COITI				
								UNIFIED						
	<del>                                     </del>	0						SOIL CLASS.		p				
	<del>                                     </del>	1			Stiff, brown/black, Sil	y CLAY				<b>-</b>		PVC well		
	SS-1	2									riser			
		3			<b>{</b> ,			CL						
4.2	<u> </u>	4	1.7		Stiff, red/brown, CLA	V some grav Si	t throughout	.,,,	1					
<del></del>	SS-2	5 6			Sun, rear brown, Clar	1, some gray on	e alloughout			1				
	33-2	7		-	1									
4.2		8	4.0		<u> </u>			CL		1				
		9			Stiff, red/brown, Silty	CLAY, some gr	ay Silt		ļ	<u>_</u>	8.5' bgs			
	SS-3	10		ļ	Moist at 10.5'					<b>_</b>	1" SCH 40	PVC well		
10	1	11	-20		-			CL		<b>1</b>	screen, 0.0			
4.0	SS-4	12 13	3.0	-	Wet/ moist, red/brown	CLAY, some r	n-gravel			<u>=</u>				
3.8	55-4	14	2.5		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		CL		<u> </u>	TOR @ 13.5' b	gs		
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	STAND	ARD PEN	ETRATIO	N	<del></del>									
		TOP OF I			SUMMARY:	Temporary piezome	eter installed to obtain wa	ter sample for field	1					
						screening.								
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						PARSONS		DODING	. NO	en	IA E		
Contractor:		ronmental Co	огр.	,		DRILLING RECORD		BORING	i NO.	- SE	A-5		_
Driller:	Phil Orsi	<u> </u>				Flored Fraith		<b>6</b> 1	1	of	1		- 1
Inspector:	Andy Janil				PROJECT NAME	Ekonol Facility 737515		Sheet Location:		of Ekonol Fa			
Rig Type:	<del></del> :				PROJECT NUMBER	13/3/3		Elevation:	3000	OI DADBOUT A	- iny		
Method: Direct Push Observations 6/4/2002					Weather	Cloudy/Showers 55 F		Ŋ					
Depth of Wate		~11.4' bgs		<del></del>	11 Cullici			4			1	11	
Departer 11 and	2	11.1 0gs			Date/Time Start	6/4/02 1325				nol Facility	1	Н	
Top of Boring I	levation								×		i		
					Date/Time Finish	6/4/02 1350							_
PUD	Sample	Sample	Rec.	SPT	FIELD I	DENTIFICATION OF MATERIAL				EMPORARY			
Reading	Code	Depth	(ft)					WE	LL CON	STRUCTION	DIAGRA	M	
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_	<del> </del> _					90	UNIFIED IL CLASS.	ŀ					
	<del>                                     </del>	0			Stiff, red/brown, Silty Cl	I AV some grav Silt	IL CLASS.		<b>—</b>	1" SC	H 40 PV	Сw	/ell
	SS-1	2			Billi, lewolowii, birty C	Litt, some gray but				riser			
	33-1	3			1								
4.7	<del>                                     </del>	4	3.1				CL			İ			
	<del> </del>	5			Stiff, red/brown, CLAY,	, some gray Silt							
	SS-2	6			]					1			ļ
		7			]								
4.1		8	4.0				CL	1 1		9.0' b	ac		
		9			Stiff, red/brown, Silty C	LAY		l ⊨		<sup>9.0</sup> <sup>0</sup>	ga		
	SS-3	10		-	Moist at 11.4				4	1" SC	H 40 PV	Сw	vell
3.7	<del> </del>	11 12	4,0		+		CL		<b>.</b>		n, 0.010"		
3.1	SS-4	13	-4,0	-	Wet/ moist, red/brown, (	CLAY, some f-gravel	,						
3.4	55-4	14	2.0		1		CL		3	TOR @ 14	1.0' bgs		
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		RD PENI		N	SUMMARY: To	emporary piezometer installed to obtain water sar	nnle for field						
	TOR=	TOP OF R	COCK		_	reening.	-Pio 101 House						
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PARSONS MW-1S DRILLING RECORD BORING NO. SJB Services, Inc. Steve Wolkiewicz, Andy Morris **Ekonol Facility** PROJECT NAME Andy Janik North of Ekonol Facility 737515 Location: PROJECT NUMBER ACKER AD II, SoilMax Rig Type: Elevation: 4.25-inch HSA/SS Walmore Rd. Sunny 50 F Weather 10/22/2001 Depth of Water ~9° bgs **Ekonol Facility** 10/22/01 1210 Date/Time Start Top of Boring Elevation Date/Time Finish 10/22/01 1515 FIELD IDENTIFICATION OF MATERIAL WELL CONSTRUCTION DIAGRAM Sample Sample (ft) Code Depth Reading Flush-mount UNIFIED SOIL CLASS. protective casing 0 Grout 0-0.5'- concrete slab 0.20 1 ML Stiff, brown, Silty CLAY, some m-Gravel 2 1.0 3-7 SS-1 Bentonite seal Stiff, brown, Silty CLAY, some gray Silt, well sorted pebbles 0.00 3 14-15 ML SS-2 throughout sample. 4 1.5 16-14 2" SCH 40 PVC well 5 8-10 Stiff, brown, Silty CLAY, some gray Silt throughout sample. 0,00 CL riser 6 14-18 SS-3 5.7' to 15.7' Very stiff, brown, Silty CLAY, some gray Silt throughout sample, 0,00 7 48-35 CL screen interval slightly moist at 7.8-8.0 8 2.0 31-29 SS-4 Sand Moist, brown, stiff, Silty CLAY, some gray Silt 5-5 0.00 9 SS-5 10 2.0 5-8 2" SCH 40 PVC well Moist/wet, stiff, red/brown, Silty CLAY, gray Silty Clay throughout, 6-7 0.00 11 screen, 0.010" slot 10-9 some well rounded m-Gravel. ML SS-6 12 1.5 Wet, red/brown, Silty CLAY, some f-Sand throughout, at 13.8' 2-3 0.40 13 ML some black staining with m-Gravel. SS-7 14 1.2 4-4 Well depth @ 15.7 Wet, red/brown, Silty CLAY, angular m-Gravel throughout. 3-12 0.00 15 TOR @ 15.7' GC 14-50/.2 SS-8 16 1.0 STANDARD PENETRATION SUMMARY: Top of competent bedrock (TOR) defined as auger and split TOR = TOP OF ROCKspoon (SS) refusal. SS = SPLIT SPOON ST = SHELBY TUBE

					1	PARSUNS						
Contractor:	nt SJB Services, Inc.					DRILLING RECORD	BORING NO. MW-2S					
Driller;	Steve Wolkiewicz, Andy Morris						_					
luspector:	Andy Jani	k يرز			PROJECT NAME	Ekonol Facility		Sheet 1	of 1			
Rig Type:	ACKER A	D II, SoilMa	K.		PROJECT NUMBER	737515		Location: Sou	th of Ekonol Facility			
Method:	4,25-inch	HSA/SS						Elevation:				
Observations	Observations 10/23/2001				Weather	Cloudy 50 F		N Wa	Imore Rd.			
Depth of Water	at	~10° bgs						'				
					Date/Time Start	10/23/01 0935		Ek	onol Facility			
Tep of Boring	Elevation	ļ		 				x III				
<u></u>	<del> </del>		<u> </u>		Date/Time Finish	10/23/01 1110						
PID	Sample		Rec.	SPT	FIEL	D IDENTIFICATION OF MATERIAL		WELL CON	STRUCTION DIAGRAM			
Reading	Code	Depth	(ft)		<del></del>			<del></del>	Ι			
-	<del> </del>	<del></del>			1	IIN	IFIED	1	_ Flush-mount			
-	-	0			•		CLASS.	-	protective casing			
21,40		1		3	0-0.5'- concrete slab		CARROCA		Grout			
21.40	SS-1	2	0,5	5-6	4	y CLAY, trace organics	ML					
33.00	35-1	3	0,5	7-12		LAY, some dark staining throughout			Bentonite seal			
35.00	SŞ-2	4	0,4	13-12	J		ML		1			
72,40	+	5	<u> </u>	20-17	Stiff, brown, Silty C	LAY, some gray Silt throughout sampl			2" SCH 40 PVC			
	SS-3	6	1.2	16-18	1	, , , ,	CL		well riser			
69.70		7	<u> </u>	16-9	Very stiff, brown, Si	ilty CLAY, some gray Silt throughout s	ample	←	Sand			
	SS-4	8	1.4	16-17			CL		7.5'-12.5'			
-		9		19-18	No recovery- rock in	n spoon cap			screen interval			
	SS-5	10	-	13-10	]				2" SCH 40 PVC			
107		11		7-5	Moist/wet, stiff, bro	wn, Silty CLAY, some m-Gravel,			well screen, 0.010"			
	SS-6	12	2.0	5-7	black/green staining	at 11.7' to 12.0'	CL		slot size			
133		13.		4-50/.1	Moist/wet, brown, S	ilty CLAY, with plastic odor			Well depth @ 12.5'			
	SS-7	14	1.0				CL		TOR @ 12.5'			
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		ARD PENE		4			411					
		TOP OF R			SUMMARY:	Top of competent bedrock (TOR) defined as aug	ger and split					
		SPLIT SPC				spoon (SS) refusal.						
	SI =	SHELBY T	UBE									
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Contractor.	SJB Service	er. Inc.			ļ	DRILLING RECORD	BORI	NG NO.	MW-3S
Driller.			ı Manie						
	Steve Wolkiewicz, Andy Morris  Andy Janik PROJECT NAME				PROJECT NAME	Ekonol Facility	Sheet	1	of 1
Inspector:	ACKER AD II, SoilMax				PROJECT NUMBER		Location	n: Sout	heast of Ekonol Facility
Rig Type:					11001201110111		Elevation	n;	
Method:					Weather	Weather Cloudy 50 F			Valmore Rd.
Observations		10/23/2001			***************************************	0.1040, 171	<b>-</b>   <b>Y</b>		
Depth of Water	·	~11' bgs			Date/Time Start	10/23/01 1445		Ekr	nol Facility
					Date Time Start	10/25/01 11/0			
Top of Boring I	Elevation				Date/Time Finish	10/23/01 1600			x
	<del>                                     </del>			CDT	<del></del>	DIDENTIFICATION OF MATERIAL	77	ELL CON	STRUCTION DIAGRAM
PID	Sample	Sample	Rec.	SPT		DENTIFICATION OF WITTERED	"	202 0011	
Reading	Code	Depth	(ft)		<del></del>	<del></del>	<del>i -</del>		
	<del>                                     </del>				-	UNIFIED	ı		- Flush-mount
	<del> </del>				1	SOIL CLASS.		4	protective casing
0.40	-	0	-	3	0-0.5'- concrete slab	JOHN CHARLE		THE .	Grout
9.40		1	1.0		+	, AV	CL	100	]
11.50	SS-1	2	1.0	4-6	Stiff, brown, Silty Cl	LAY, some gray Silt throughout,		101	Bentonite seal
11.60	<del> </del>	3		17-20	-		п		Dentoine som
-	SS-2	4	0.8	18-15	some m-Gravel		AL	P.	2" SCH 40 PVC
10.20	<del> </del> -	5		3-4	Stiff, brown, Silty Cl	LAY, some gray Silt throughout sample	ct		well riser
	SS-3	6	1.5	7-18	guest est		CL		Sand
7.10	<u> </u>	7		25-34	Stiff, brown, Silty C	LAY, some gray Silt throughout sample	cr		7.5'-12.5'
	SS-4	8	2,0	24-48			CL		screen interval
11.10	<del> </del>	9		4-7	Same description as		ct l		2" SCH 40 PVC
	SS-5	10	1.5	7-8			CL		well screen, 0.010"
6.9	<del> </del>	11		9-10	-	n, Silty CLAY, some gray Silt throughout,	.		
	SS-6	12	2.0	8-9	trace of m-Gravel		<u>vir</u>		slot size
7.7	<u> </u>	13	ļ	4-50/.1	4	n, Silty CLAY, some gray Silt throughout,	ar   3		Well depth @ 12.6'
	SS-7	14	0.5		trace of m-Gravel		CL 4		TOR @ 12.6'
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	STAND	ARD PENE	TRATIO	N					
	TOR =	TOP OF R	OCK		SUMMARY:	Top of competent bedrock (TOR) defined as auger and s	olit		<u></u>
	SS =	SPLIT SP	OON			spoon (SS) refusal.			<del></del>
1	ST=	SHELBY	TUBE						
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Contractor:	SJB Service	es. Inc.				DRILLING RECORD		BORING NO. MW-4S			
Driller:		kiewicz, And	y Morris			<del></del>					
Inspector:	Andy Janil				PROJECT NAME	Ekonol Facility		Sheet 1	of 1		
Rig Type:	ACKER AD II, SoilMax				PROJECT NUMBER	737515		Location: South	west of Ekonol Facility		
Method: 4.25-inch HSA/SS								Elevation:			
Observations		10/24/2001	I		Weather	Rain 60 F		N W	almore Rd.		
Depth of Water		-10° bgs				<del></del> -		l <sup>τ</sup>			
					Date/Time Start	10/24/01 1040		Eko	nol Facility		
Top of Boring	Elevation										
	T				Date/Time Finish	10/24/01 1140		х			
PID	Sample	Sample	Rec.	SPT	FIELI	DENTIFICATION OF MATERIAL	L	WELL CONS	TRUCTION DIAGRAM		
Reading	Code	Depth	(ft)						r <del> </del>		
							UNIFIED		Flush-mount		
		0					SOIL CLASS.	4	protective casing		
-		1		-	0-0.9'- concrete slab				Grout		
	SS-1	2	-	5-4	Minimal recovery, p	iece of concrete in spoon cap					
1.70		3		8-10	Stiff, brown, Silty C	LAY, some gray Silt throughout	ι,		Bentonite seal		
	SS-2	4	1.2	14-16	some m-Gravel		ML				
0.20		5		4-8	Stiff, brown, Silty C	LAY, some gray Silt throughout			2" SCH 40 PVC		
	SS-3	6	1,4	12-20			CL		well riser		
3.20		7		18-26	Stiff, brown, Silty C	LAY, some gray Silt throughou	t sample		Sand		
	SS-4	. 8	2.0	33-38	]		CL		8.2'-13.2'		
1.90		9	1	4-7	Moist, stiff, red/brov	vn, Silty CLAY			screen interval		
	SS-5	10	2.0	9-9	1		CL		2" SCH 40 PVC		
2.6		11		7-6	Moist/wet, red/brow	n, Silty CLAY			well screen, 0.010"		
	SS-6	12	2.0	9-8	]		CL		slot size		
14.0		13		12-13	Moist/wet, red/brow	n, Silty CLAY, some gray Silt t	hroughout,		Well depth @ 13.2'		
	SS-7	14	0.5		trace of m-Gravel		MI		TOR @ 13.2'		
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-	STAND	ARD PENI	ETRATIO	N							
1		TOP OF R			SUMMARY:	Top of competent bedrock (TOR) defi	ned as auger and split				
		- SPLIT SP				spoon (SS) refusal.					
		SHELBY									
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Centractor:	SJB Service	es, Inc.				DRILLING RECORD		BORING NO.	MW-5S
Driller:		ies, Keith Oli	iver						
Inspector:	Andy Janik				PROJECT NAME	Ekonol Facility 737515		Location: North	neast of Ekonol Facility
Rig Type:		D II, SoilMan			PROJECT NUMBER	131313		Elevation:	loast of Laterier Laterier
Method:				Γ	Weather	Sunny 70 F		Й	х
Observations		6/10/2002		<del></del>	vv camer	builty 101		1	
Depth of Water	<u> </u>	~9.6' bgs	<u> </u>		Date/Time Start	6/10/02 1105		Eko	nol Facility
Top of Boring	Viti				Dutty I Into Count			1	
Top of Boring	Elevation				Date/Time Finish	6/10/02 1225		Wal	more Rd.
PID	Sample	Sample	Rec.	SPT		D IDENTIFICATION OF MATERIAL	,	WELL CON	STRUCTION DIAGRAM
Reading	Code	Depth	(ft)						
					1		UNIFIED		Flush-mount
		0					SOIL CLASS.	1	protective casing
2.2		1		-	0-1.0'- Concrete slat				Grout
	SS-1	2	0,5	2-3		LAY, some organic staining	ML		
2,3		3		5-7	Stiff, brown/gray, S	ilty CLAY			
	SS-2	4	1.3	10-20		***************************************	ML.		07 54 : 141
2.3	<u> </u>	5		4-8	Stiff, brown, Silty C	LAY, some gray Silt throughout			2" Stainless steel well riser
	SS-3	6	1.7	15-21			CL	1 10 10 .	Well riser  Bentonite seal
2.3	ļ	7		12-15	Very stiff, brown, S	ilty CLAY, some gray Silt throug	nout sample CL		Sand
	SS-4	8	2.0	31-37	N P 1 / 1 -4500	City Of AN annual City	CL		Sanu
3.3	00.5	9	20	3-4	Moist, orown, suit,	Silty CLAY, some gray Silt	CL		10.1' to 15.1'
- 20	SS-5	10	2.0	5-4 3-2	Moiethwet etiff red	/brown, Silty CLAY, gray Silt thi			screen interval
3.2	SS-6	11	2.0	3-3	trace of f-Gravel	biomi, only carri, gray and an	ML		2" Stainless steel
3.2	33-0	13	2.0	3-2	1	AY, trace of f-Gravel	pa = 190441111111111111111111111111111111111		well screen,
3.2	SS-7	14	1.8	3-2	1	<b>,</b>	ML		0,010" slot
2.2	1	15		29-50/0.3	Wet, red/brown, CL	AY, angular pieces of bedrock th	roughout		Well depth @ 15.1
	SS-8	16	0.5	-	Ī		ML		TOR @ 15.1'
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	STAND	ARD PENI	ETRATIO	N					
1		TOP OF I			SUMMARY:	Top of competent bedrock (TOR) define	ed as auger and split		
	SS =	SPLIT SP	OON			spoon (SS) refusal.			
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PARSONS BORING NO. MW-6S DRILLING RECORD SJB Services, Inc. Driller: Matt Matthies, Keith Oliver **Ekonol Facility** PROJECT NAME Location: South of Ekonol Facility 737515 PROJECT NUMBER ACKER AD II, SoilMax Rig Type: Elevation: 4.25-inch HSA/SS Walmore Rd. -Sunny 70 F Weather 6/14/2002 Observations Depth of Water ~l 1.5' bgs **Ekonol Facility** 6/14/02 0925 Date/Time Start Top of Boring Elevation 6/14/02 1115 Date/Time Finish WELL CONSTRUCTION DIAGRAM FIELD IDENTIFICATION OF MATERIAL Sample Reading Code Depth (ft) Flush-mount UNIFIED SOIL CLASS. protective casing 0 Grout 0-1.0'- Concrete slab. 2.3 1 ML 0.5 Stiff, brown, Silty CLAY, some gray Silt SS-1 2 Stiff, brown/gray, Silty CLAY, some gray Silt Bentonite seal 3 5-4 2.1 ML 10-10 0.9 SS-2 4 Stiff, brown, Silty CLAY, some gray Silt throughout sample, 2" Stainless steel 5-8 2.2 5 CL well riser SS-3 6 1.7 16-21 trace of f-Sand, brown Very stiff, brown, Silty CLAY 7 18-22 2.2 CL Sand SS-4 8 2.0 22-27 Very stiff, brown, Silty CLAY 2.0 9 4-5 9.8' to 14.8' CL SS-5 10 2.0 7-9 screen interval Moist/wet, stiff, red/brown, Silty CLAY 2.1 11 4-5 2" Stainless steel ML SS-6 12 1.9 7-12 well screen, 2.5 13 12-22 Wet, red/brown, CLAY, trace of f-Gravel 0,010" slot ML 0.8 26-27 SS-7 14 10-50/0.3 Wet, red/brown, CLAY, angular pieces of bedrock throughout Well depth @ 14.8' 2.0 15 TOR @ 14.8' ML 0.5 SS-8 16 STANDARD PENETRATION Top of competent bedrock (TOR) defined as auger and split SUMMARY: TOR = TOP OF ROCK SS = SPLIT SPOON spoon (SS) refusal. ST = SHELBY TUBE

PARSONS MW-7S BORING NO. DRILLING RECORD SJB Services, Inc. Driller; Jon Keherer, Keith Oliver **Ekonol Facility** PROJECT NAME Andy Janik 737515 Location: South of Ekonol Facility ACKER AD II, SoilMax PROJECT NUMBER Rig Type: Elevation: 4.25-inch HSA/SS Walmore Rd. ---Sunny 60 F Weather 6/17/2002 Observations ~10.9° bgs Depth of Water **Ekonol Facility** 6/17/02 1035 Date/Time Start Top of Boring Elevation 6/17/02 1145 Date/Time Finish WELL CONSTRUCTION DIAGRAM FIELD IDENTIFICATION OF MATERIAL SPT Rec. Sample Depth Reading Flush-mount UNIFIED protective casing SOIL CLASS. 0 Grout 0-0.8'- Concrete slab 1.6 1 3 Concrete pieces and Gravel SS-1 2 0,6 6-10 Bentonite seal Stiff, black/brown/gray, Silty CLAY, some m-Gravel 1.7 3 ML SS-2 4 0,8 6-8 2" Stainless steel Stiff, brown, Silty CLAY, some gray Silt throughout sample, 13-12 5 1.8 well riser some angular Sand crystals CL 1.2 11-16 SS-3 6 Very stiff, brown, CLAY, some gray Silt throughout sample, Sand 7 41-32 1.7 CL 1.9 26-39 some Sandy, m-Gravel 8 **SS-4** 8.0' to 13.0' Moist, brown, stiff, Silty CLAY 15-14 1.6 9 CL screen interval SS-5 10 1.1 11-6 2" Stainless steel Moist/wet, stiff, red/brown, Silty CLAY, some f-Gravel 4-5 1.7 11 well screen, ML 5-11 SS-6 12 2.0 0.010" slot Wet, red/brown, CLAY, angular pieces of bedrock throughout 1.6 13 8-14 ML Well depth @ 13.0' 25-50/0.0 SS-7 14 0.4 TOR @ 13.0' 15 16 STANDARD PENETRATION Top of competent bedrock (TOR) defined as auger and split SUMMARY: TOR = TOP OF ROCK spoon (SS) refusal. SS = SPLIT SPOON ST = SHELBY TUBE

PARSONS MW-8S BORING NO. DRILLING RECORD SJB Services, Inc. Jon Keherer, Keith Oliver Driller: **Ekonol Facility** PROJECT NAME Andy Janik/Eric Felter Southwest of Ekonol Facility 737515 Location: PROJECT NUMBER ACKER AD II, SoilMax Rig Type: Elevation: 4,25-inch HSA/SS Method: Sunny 65 F Walmore Rd. Weather 6/19/2002 Observations Depth of Water -11.0' bgs 6/18/02 0845 **Ekonol Facility** Date/Time Start Top of Boring Elevation 6/19/02 0940 Date/Time Finish WELL CONSTRUCTION DIAGRAM FIELD IDENTIFICATION OF MATERIAL Rec. PID Sample Sample Reading Code Depth (ft) Flush-mount UNIFIED protective casing SOIL CLASS. 0 Grout 0-1.2'- Concrete slab 1 1.4 ML Stiff, brown, Silty CLAY, some concrete bits 2 0.4 5-5 SS-1 Stiff, brown/gray, Silty CLAY 5-9 1.6 3 2" Stainless steel ML 10-15 SS-2 4 0.9 well riser 37-20 No Recovery 5 11-10 SS-3 6 Very stiff, brown, Silty CLAY, some gray Silt throughout sample Bentonite seal 6-8 0.2 7 CL Sand 38-40 SS-4 8 1.2 Moist, brown, stiff, Silty CLAY, some gray Silt, trace f-Gravel 9 40-11 0.5 9.2' to 14.2' CL12-14 SS-5 10 1.2 Moist/wet, stiff, red/brown, Silty CLAY, gray Silt throughout, screen interval 10-6 0.5 11 ML 4-5 trace of f-Gravel SS-6 12 1.4 Wet, red/brown, CLAY, trace of f-Gravel 2" Stainless steel 6-7 0.2 13 ML well screen, SS-7 14 1.6 6-7 0.010" slot Wet, red/brown, CLAY, angular pieces of bedrock throughout 15 50/0.2 0.5 Well depth @ 14.2 MI. SS-8 16 0.2 TOR @ 14.2' STANDARD PENETRATION Top of competent bedrock (TOR) defined as auger and split TOR = TOP OF ROCK SUMMARY: SS = SPLIT SPOON spoon (SS) refusal. ST = SHELBY TUBE

PARSONS MW-9S BORING NO. DRILLING RECORD SJB Services, Inc. Jon Keherer, Keith Oliver **Ekonol Facility** PROJECT NAME Southwest of Ekonol Facility 737515 Location: PROJECT NUMBER ACKER AD II, SoilMax Rig Type Elevation: 4.25-inch HSA/SS Method: Walmore Rd. ~ Sunny 70 F Weather 6/14/2002 Observations ~9.7 bgs Depth of Water 6/14/02 1345 **Ekonol Facility** Date/Time Start Top of Boring Elevation Date/Time Finish 6/14/02 1505 WELL CONSTRUCTION DIAGRAM FIELD IDENTIFICATION OF MATERIAL PID Sample Sample Rec. Reading Code Depth (ft) Flush-mount UNIFIED protective casing SOIL CLASS. 0 Grout 0-1.0'- Concrete slab 2.1 1 ML Stiff, black, Silty CLAY, trace organics SS-1 2 0.6 4-5 Stiff, brown, Silty CLAY, some gray Silt throughout sample 6-6 2.3 3 ML 2" Stainless steel 8-15 SS-2 4 0.5 Stiff, brown, Silty CLAY, some gray Silt throughout sample, well riser 1.9 5 7-7 CL 9-11 trace of f-Sand, brown **SS-3** 6 1,3 Bentonite seal Very stiff, brown, Silty CLAY 7 17-19 2.2 CL Sand SS-4 8 1.8 27-32 9 5-6 Moist, red/brown, stiff, Silty CLAY 2.3 9.2' to 14.2' CL 10 7-8 SS-5 2.0 screen interval 11 5-5 No Recovery 2" Stainless steel SS-6 12 4-4 well screen, 13 4-3 Wet, red/brown, CLAY 2.1 0.010" slot ML SS-7 14 2.0 2-3 Well depth @ 14.2' Wet, red/brown, CLAY, angular pieces of bedrock throughout 50/0.2 2.2 15 TOR @ 14.2' ML SS-8 16 0.4 STANDARD PENETRATION Top of competent bedrock (TOR) defined as anger and split SUMMARY: TOR - TOP OF ROCK spoon (SS) refusal. SS = SPLIT SPOON ST = SHELBY TUBE

						PARSONS	BORING NO. MW-1D		
-	SJB Services, Inc					DRILLING RECORD	BORING NO.		
-	Steve Wolkiewic Andy Janik	z, Andy b	dorris		PROJECT NAME	Ekonol Facility	Sheet 1 of 1		
	ACKER AD II,	SoilMax			PROJECT NUMBER	737515	Location: North of Ekonol Facility		
•	6.25" HSA/5.875		Cone/HQ	Coring			Elevation:		
					Weather	Cloudy 45 F			
						1021/01 1215	X Ekonol Facility		
				<u> </u>	Date/Time Start Coring	10/31/01 1315	Taking I dealing		
	· ··· · · · · · · · · · · · · · · · ·		<del></del>	_	Date/Time Finish Coring	10/31/01 1520	Walmore Rd.		
HQ Core	Range	Depth	Rec.	RQD		IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DIAGRAM		
Run			(%)	(%)					
							Flush-mount		
							protective ca		
		0		<u> </u>					
		2					4" Steel casi		
		3	<del>                                     </del>		For description of over	burden material see Drilling Record of MW-IS	(0.05-17.71)		
		4		-	_ ·	-			
		5					2" SCH 40 P		
		6					well riser		
		7	<u> </u>						
		8		<del>                                     </del>			The state of the s		
		9	-	<del>                                     </del>					
		11	├						
		12							
		13					Grout		
#1	14.6'-24.6'	14	96.0	82.0	Start of Run #1, grout from installation of 4* steel casing (14.60'-15.90')	14.0'			
		15	<u> </u>	<u> </u>			TOR @ 15.7		
		16	<del>                                     </del>	ļ.—	Massive, light gray, dolomite, slightly por	rous to hand break (15 90'-18 10')			
		17			Massive, light gray, dolomite, porous, bre	eak on stylolitic horizon (18.10'-19.35')	Bentonite se		
		19	$\vdash$		Gray, dolomite, porous, stylolitic horizon	is to break on bedding plane (19.35'-20.25')	19.0'		
		20			Gray dolomite, fractured rubble (20.25'-2	0.72')			
		21	<u> </u>		•	oral beddings, to break on bedding plane (20.72'-24.13')	20.14'-30.14 screen interv		
		22	<u> </u>		Loss of circulation at 22'		Sand		
#2	24 (122 2)	23	00.0	04.0	Tight to doub grow delemits permit corre	l beddings, vuggy, break on weathered bedding plane with			
#2	24.6'-32.2'	24	99.0	94.0	pieces of Shale (24.60'-26.28')	order of the second of the sec			
		26	i		Gray, dolomite, vugged with orange/brow	vn Gypsum crystals, to mineralization at break (26.28°-26.65°)	20.14'-30.14 screen interv Sand  2" SCH 40 P well screen.		
		27			Gray, dolomite, slightly vugged to break	at bedding plane (26.65'-27.70')	1100000000		
		28				cture on stylolitic horizon, slightly vugged to weathered break	0.010" slot		
		29	_	-	(27.70'-29.13') Dark gray, dolomite, some porous coral b	andding clightly yngged (29 13'-30 21')	0.010" slot 2' well sum		
	ļ	30 31	<del> </del>	-	Dark gray, dolomite, some porous coral of	htly vugged with mineralization and stylolitic horizons			
		32	<del>                                     </del>	1	(30.21'-32.14')		TD @32.14		
		33		$\vdash$	, , , , , , , , , , , , , , , , , , , ,				
		34					1		
				ļ					
		<u> </u>	ـــــ	<del> </del>					
	<del>                                     </del>	<del> </del>	<b>├</b>	├					
	<del> </del>	<del> </del>	<del> </del>	-					
<del></del>	STANDARD	PENET	TRATIO	N	<u> </u>				
	TOR- TO				SUMMARY: TOR was determine	ned at HSA auger refusal.			

					PARSONS			
Confractor:	SJB Services, In	C.			DRILLING RECORD	BORING NO. MW-2D		
Driller:	Steve Wolkiewicz, Andy Morris							
	Andy Janik				PROJECT NAME Ekonol Facility	Sheet 1 of 1		
	ACKER AD II,	SoilMax			PROJECT NUMBER 737515	Location: South of Ekonol Facility		
	6.25" HSA/5.87		Cone/HO	Corine		Elevation:		
TYMANIAL.	0.25 110783.41	7001101			Weather Cloudy 45 F	Ŋ		
				Н		T		
				$\vdash$	Date/Time Start Coring 10/31/01 0845	Ekonol Facility		
						x		
	<del></del>			-	Date/Time Finish Coring 10/31/01 1118	Walmore Rd.		
HO C	Range	Depth	Rec.	RQD	FIELD IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DIAGRAM		
HQ Core	Kanta	рерии		(%)				
Run			(%)	(~)				
						Flush-mount		
		0				protective ca		
	-	1						
				$\vdash$		4" Steel casi		
					For description of overburden material see Drilling Record of MW-2S	(1.0'-15.7		
					1.01 description of overometer minerial see 2111111g 100010 011111			
		5				2" SCH 40 I		
				-		well riser		
		6						
	ļ	7						
	ļ	8				Grout		
	ļ	9						
		10		_				
		11						
	ļ	12				13'		
		13				TOR @ 13.3		
		14			(15.00) 15.5(1)	1000		
#1	15.2'-24.8'	15	99.0	89.0	Start of Run #1, grout from installation of 4" steel casing (15.20'-15.56')	Bentonite se		
		16			Light gray, dolomite, slightly porous to break on Silty bedding plane (15.56-16.51')	pontona se		
		17			Massive, light gray, dolomite, more porous to break (16.51'-17.24')	17'		
		18			Massive, light gray, dolomite, porous (17.24-18.22')	18,0'-28,0'		
		19			7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7			
	<b> </b>	20			Gray, dolomite, porous, stylolitic horizons, slightly vugged (18.22'-20.11')	Sold Salar		
		21			Gray, dolomite, porous, to break on Silty bedding plane (20.11-21.80')	Sand		
		22			Light gray, dolomite, incomplete fracture at 22.93' (21.80'-23.32') Loss of circulation at 23'			
110		23		04.0	Light gray, dolomite, to rubble zone (23.32'-24.80')  Light to dark gray, dolomite, vuggy with some Gypsum crystals, to break on mineralized bedding	2" SCH 40 I		
#2	24.8'-30.0'	24	99.0			well screen,		
	<del>                                     </del>	25		<del> </del>	plane (24.80'-27.60')	0,010" slot		
	1-	26	-		Brownish-gray, dolomite, porous, vuggy, stylolitic horizons to break (27.60'-28.15')	Sand  2" SCH 40 I  well screen, 0.010" slot		
	1	27		<del> </del>	Brownish-gray, dolomite, to break on weathered plane (28.15-28.42')	2' well sum		
<del></del>	<del> </del>	28	-		Gray, dolomite, slightly vugged, to break on Shale bedding plane (28.42'-29.22')			
	<del>                                     </del>	29		├─	Gray, dolomite, slightly vugged, to break on Snale bedding plane (28.42-29.22)  Gray, dolomite, slightly vugged to break, near vertical fracture with Sphalerite crystals (29.22'-29.99')	тр@30.0		
	-	30		$\vdash$	tray, dosounte, sugnity vugged to oreas, near ventical nature with spiratetre crystals (27.22-27.77)			
	<del> </del>	31		<del> </del>				
		32		<del>                                     </del>				
		33		$\vdash$		1		
	ļ	34						
	-			├—	1			
	<b>.</b>							
	ļ			<del> </del>				
	ļ <u></u>			├—				
	<u> </u>	<u> </u>		<u> </u>				
	STANDARD			N				
	TOR= TO	OP OF R	OCK		SUMMARY: TOR was determined at HSA auger refusal.			
						<del></del>		

						PARSONS	
Contractor:	SJB Services, In	c.				DRILLING RECORD	BORING NO. MW-3D
Driller:	Steve Wolkiewi		Morris				
	Andy Janik				PROJECT NAME	Ekonol Facility	Sheet 1 of 1
	ACKER AD II,	SoilMax			PROJECT NUMBER	737515	Location: Southeast of Ekonol Facility
Method:	6.25° HSA/5.87		Cone/HO	Coring	<del></del>		Elevation:
picatou.	0.25 11240.0				Weather	Sunny 45 F	N Walmore Rd.
					2		T    T
	-				Date/Time Start Coring	10/30/01 1345	Ekonol Facility
·					Date/Time Finish Coring	10/30/01 1600	x
HQ Core	Range	Depth	Rec.	RQĐ		FIELD IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DIAGRAM
Run	Kange	Dep	(%)	(%)			
Kuii			(/-)	(74)	· · · · · · · · · · · · · · · · · · ·		
<del></del>							Flush-mount
<del> </del>		0					protective casing
<b> </b>		1					
		2		-			4" Steel casing
୍ୟ	For de		For description	of overburden material see Drilling Record of MW-3S	(0,5'-14.6' bgs)		
"-	<del> </del>	4		$\vdash$	Tor description		
<b> </b>	<del>                                     </del>	5		$\vdash$	1		2" SCH 40 PVC
-	6 7		1		well riser		
<b> </b>							
<del></del>		8					Grout
		_		ļ			
	-	10	_	-	-		
-		11			1		11'
	-	12	<del></del>	-	-		TOR @ 12.6
		13	2000		7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	drill break at 14.65' (14.20'-15.00')	Bentonite seal
#1	14.2'-15.0'	14	100.0	100.0	Light gray, massive, dolomite,	racture on bedding plane (15.00'-15.68')	
#2	15.0'-25.0'	15	98,0	90	Light gray, massive dolomite, i	ging, mineralization at fracture (15.68'-16.13')	15'
<b></b>	<del> </del>	16				lomite, to drill break (16.13'-16.80')	15.9'-25.9'
<b></b>	<del> </del>	17		<del>                                     </del>	Light to dark gray, massive, oo.	ionne, io uni brone (10:15 10:05)	screen interval
		18	<del></del>	├──	Tieta emu manaiun dolomita	some vugging, slightly porous to drill break (16.80'-19.93')	
	<del> </del>	19 20		1	Light gray, massive, dotomic,	Some vaggme, anguly porote to an over (correction)	■ Sand
<b>—</b>	<del> </del>	21		<del> </del> -	Light ones magning dolomits	to weathered fracture (19.93'-22.30')	Sand 2" SCH 40 PVC well screen, 0.010" slot
	<del> </del>	22			Light gray, massive, dolomic,	ne (22.30'-23.15') Lost circulation at 22.5'	weil screen,
<b> </b>	<del> </del>	23		<del> </del>	Light gray, massive, dolomite (		0,010" slot
-	<del> </del>	24	┢		Light gray, massive, colonice (	2012 2017-)	
J	<del> </del>	25		<del> </del>	Light gray, dolomite rubble zor	ne to 25.0' (24.00'-25.00')	l' well sump
#3	25.0'-26.9'	<del></del>	100.0	100.0	Light gray, dolomite (25.00'-25		
् <u>र</u>	23.0-20.7	27	100.0	1	Light to dark gray, dolomite, m	ore porous, vuggy with some Gypsum crystals (25.60'-26.90')	TD @ 26.90'
	<del> </del> -	28					
m —		29		$\vdash$	†		1
-	<del>                                     </del>	30	<del>                                     </del>		1		
	<del>                                     </del>	31		1	1		
	<del> </del>	32			1		
$\vdash$	<del>                                     </del>	33		$\vdash$	1		
	+	34	<del>                                     </del>	<del> </del>	1		
<b>—</b>	┼──	<del>                                     </del>	-		1		1
	<del> </del>	-	$\vdash$		1		
-	t	<del> </del>			1		
-	<del> </del>	I			†		
-	1	<del>                                     </del>	<del> </del>		1		
-	CTEAND ATT	BESTEVA	DATE:	N.	<u> </u>		
1	STANDARD TOR= TO			14	SUMMARY: TOR	was determined at HSA auger refusal.	
	10K-10	of of K	JUK		John Markett Tox		
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				-	PARSONS	
					DRILLING RECORD	BORING NO. MW-4D
Contractor:	SJB Services, Ir					
Driller.	Steve Wolkiewi	icz, Andy	Morris		PROJECT NAME Ekonol Facility	Sheet I of 1
'aspector.	Andy Janik				707/45	Location: Southwest of Ekonol Facility
Rig Type:	ACKER AD II,				PROJECT NUMBER 737515	Elevation:
Method:	6.25° HSA/5.87	3" Roller	Cone/HQ	Coring	Weather Sunny 45 F	N Walmore Rd.
					weather	<b> </b>
		-	-		Date/Time Start Coring 10/30/01 0915	Ekonol Facility
		<del>                                     </del>		<del></del>	Date Time State Costing	
	T				Date/Time Finish Coring 10/30/01 1150	x
HQ Core	Range	Depth	Rec.	RQD	FIELD IDENTIFICATION OF MATERIAL	WELL CONSTRUCTION DIAGRAM
Ron	Range	Deput	(%)	(%)	•	
Kun	1		(79)	(/4)		
						Flush-mount
	1	0				protective casi
		1				
	<del>                                     </del>	2				4" Steel casing
	<del> </del>	3		<b></b>	For description of overburden material see Drilling Record of MW-4S	(0.9'-14.8' b
		4			_ <u>-</u>	
		5				2" SCH 40 PV
		6				well riser
		7		<u> </u>		
		8				
		9				Grout
		10				
		11				12'
		12				
		13	1			TOR @ 12.8'
#1	12.8'-14.8'	14	19.0	0.0	Grout from 4" steel casing installation (12.80'-14.80')	Bentonite seal
#2	14.8'-24.8'	15	99.0	92.0		15.60
ļ		16	<u> </u>		Light gray, laminated, dolomite to drill break (14.80'-16.40')	15.5
<u> </u>		17		<del> </del>		17.6'-27.6'
<u> </u>	<u> </u>	18				screen interval
·	ļ.——-	19		<del> </del>	7 1 1 1 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1	Sand
		20			Light gray, massive, dolomite to drill break (16.40'-20.90')	screen interval Sand 2" SCH 40 PV well screen, 0.010" slot
ļ	<del> </del>	21		-	Light gray, massive, dolomite to break on bedding plane (20.90'-22.65')	well screen,
<u> </u>	<del> </del>	22		-	Light gray, dolomite, some vugging and mineralization (22.65-23.37)	0.010" slot
$\vdash$	<del>                                     </del>	24		1	Light gray, dolomite rubble zone (23.37'-24.80') Loss of circulation at 23.5'	
#3	24.8'-29.6'		100.0	100.0	Brownish-gray, dolomite, vuggy, porous to break (24.80'-26.97')	
<del>                                     </del>	24.8-23.0	26	100.0	100,0	Dioministration, 1466), possible to broad (1911-1911)	
	<del> </del>	27			Brownish-gray, dolomite, vuggy, porous, lighter gray at 27.2' to break (26.97'-27.74')	2' well sump
		28			Light gray, dolomite, vuggy to fracture (27.74'-28.70')	
	<del>                                     </del>	29		<del>                                     </del>	Light gray, dolomite, vuggy with Gypsum crystals to break (28.70'-29.60')	TD @ 29.60'
	<del>                                     </del>	30		1		
	<del>                                     </del>	31		1		
		32		l		
	1	33				
-	1	34		1		
[						
	STANDARD	PENET	RATIO	N		
1	TOR=TO	OP OF R	OCK		SUMMARY: TOR was determined at HSA auger refusal.	
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1						

PARSONS						MULLID			
Contractor:	SJB Services, Inc.					DRILLING RECORD	BORING NO. MW-11D		
Driller:	Jon Kehmer, Mike	Kukoleca							
Inspector.	Andy Junik				PROJECT NAME	Ekonol Facility			
Rig Type:	ACKER AD II, Soi	<u>iMax</u>			PROJECT NUMBER	737515	Location:		
Method:	6.25" HSA/5,875"	Roller Car	ne/HQ Con	ing		77 MY	Elevation:	Walmore Rd.	
			-		Weather	Hazy/Humid 85 F	Ŋ	Walmore Ro.	
						### /00 . 00 / O		Ekonol Facility	
					Date/Time Start Coring	7/3/02 0940	1	Ekonol Factory	
						7/2/02 1455		x	
					Date/Time Finish Coring	7/3/02 1455	WEIT	CONSTRUCTION DIAGRAM	
HQ Core	Range	Depth	Rec.	RQD		FIELD IDENTIFICATION OF MATERIAL	WELL	CONSTRUCTION DIAGRAM	
Run			(%)	(%)					
					•		r	Stick-up	
			-		•			protective casing	
		0						A STATE OF THE PARTY OF THE PAR	
		1						Concrete pad	
		2			Danai-tion a	f overburden material is consistent with other well locations.		Consider pas	
		3			Description	i dyethurden material is consistent with outer wen locations.			
		5		-				2" Stainless steel	
		6						well riser	
		7						###	
		- 8						1181	
		9		<del></del>			33	4" Steel casing	
		10		_				[#	
		11						Grout	
		12					. 1		
		13		-				TOR @ 12,30'	
#1	14,50'-19.30'	14	100.0	50.0	Light to dock contr. dolomi	te, rubble zone, heavily fractured (14.50'-15.45')	2821	2	
#1	14,30-19.30	15	100.0			te, laminated, some stylolitic horizons (15.45'-16.05')			
		16				te, rubble zone, heavily fractured (16.05'-17.40')		<b>◄</b> —Bentonite seal	
		17				te, to fracture at 18.05' on mineralized bedding plane (17.40'-18.40')			
_		18			Light to dark gray, dolomi	te, laminated, some stylolitic horizons to break on bedding plane (18.40'-18.65')		17.40'-27.40'	
<b></b>		19		-		te, mineralized bedding planes to drill break (18,65'-19.30')		screen interval	
#2	19.30'-24.50'	20	100,0	87.0		te, fracture at 19.55' on bedding plane (19.30'-19.80')		17.40'-27.40' screen interval  Sand  2" Stainless steel well screen, 0.010" slot	
		21			Light to dark gray dolomit	e, laminated with stylolitic horizons, to fracture on bedding plane (19.80'-22.40')		<b>←</b> Sand	
		22					,,,		
		23			]			2" Stainless steel	
		24			Light to dark gray dolomit	e, laminated with stylolitic horizons, to drill break (22.40'-24.50')		well screen,	
#3	24.50-29.80	25	100.0	94.0	Light to dark gray dolomit	e, some stylolitic horizons to fracture on bedding plane (24.50'-25.27')		0.010" slot	
		26			Light to dark gray dolomit	e, porous, some vugging to weathered fracture (25.27-25.46')			
L		27			Light gray dolomite, poro	as, vuggy, numerous stylolitic horizons to fracture with c-Gravel (25.46-26.38')			
		28	<b> </b>		3	as, vuggy, with mineralization, some fossiliferous corals (26.38'-29.80')	9	2' Well sump	
		29		<u> </u>	Hand break at 28.39			TD @ 20 40'	
		30	<u> </u>					TD @ 29.40'	
<u> </u>		31							
<u> </u>		32		<b>—</b>					
<u> </u>		-	<u> </u>						
<u> </u>				_				İ	
<del></del>			<b></b>	<del>  -  </del>					
<u> </u>				<b></b>					
<b>_</b>				<del> </del>					
<del> </del>		<b>-</b>	<b>-</b>	-					
				-					
<del></del>			—	-					
<u> </u>	-		_	<del> </del>					
	<del> </del>								
	Date of Date of State of	PAPT	I TOTAL						
	STANDARD I				SUMMARY:	TOR was determined at HSA suger refusal.			
	TOR=TO	Ur KU	C.K.		SUMMERK 1:	A LOSS TIME WATER SHEETE AND ARMY IN STREET, ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED AND ASSAULTED ASSAULTED AND ASSAULTED AND ASSAULTED ASSAULTED ASSAULTED ASSAULTED AND ASSAULTED ASSAULT			
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					PARSONS	POPPIC NO MILITAR
	Contractor: SJB Services, Inc.				DRILLING RECORD	BORING NO. MW-12D
	Dale Matthies, Matt	t Matthies			PROJECT NAME Ekonol Facility	
-	Andy Janik	. 14 %			PROJECT NAME EXONO FACILITY PROJECT NUMBER 737515	Location: Southwest of Ekonol Facility
	6.25" HSA/5.875" I		e/HO C	ine	I ROJECT MURIDIA	Elevation:
MCORPE:	120/U3.813" P	waser Cott			Weather Sunny 65 F	Walmore Rd.
						T
					Date/Time Start Coring 9/23/02 1005	Ekonol Facility
						x
					Date/Time Finish Coring 9/24/02 1540	MENT CONSTRUCTION AND COLUM
HQ Core						WELL CONSTRUCTION DIAGRAM
Run			(%)	(%)		
				-		Flush-mount
		0				protective casing
		1				
		2		-		Concrete pad
		3			Description of overburden material is consistent with other well locations.	
	4					
		5				2" Stainless steel
		6				well riser
	7 8 9					
						4" Steel casing
						The District Country
		10 11	$\vdash$	<del>                                     </del>		
		12	-			Grout
		13				
		14				
		15				
		16				
<u> </u>		17				TOP @ 19.7
		18			10.70	TOR @ 18.7'
#1	19.70'-24.70'	19	78.0	57.0	Light to dark gray dolomite, heavily fractured rubble zone, some pieces of grout (19.70'-20.70')	Bentonite scal
		20 21	<del> </del>	_	Light to dark gray dolomite, porous, some stylolitic hoxizons, to break on bedding plane (20.70'-21.75')	
		22			Light to dark gray dolomite, porous, to break on Sandy (brown), weathered bedding plane (21.75'-22.45')	20,40'-30,40'
		23			Light to dark gray dolomite, some brown, fossiliferous corals, porous with stylolitic horizons, to drill	screen interval
		24		-	break (22.45'-23.55')	
#2	24.70'-29.70'	25	100.0	100.0	Gray dolomite, heavily fractured subble zone (24.70'-26.40')	
		26			Brown, porous, fossiliferous corals in gray, dolomite, to fracture (26.40'-26.80')	Sand
		27			Brown, porous, fossiliferous corals in gray, dolomite, to fracture (26.80'-27.65')	2" Stainless steel
		28			Brown, porous, fossiliferous corals in gray, dolomite, becoming laminated in light to dark gray	screen interval  Sand  2" Stainless steel well screen,
Po	00.701.05.001	29	100.0	05.5	dolomite, slightly vugged, some mineralization, hand break at 28.60' (27.65'-29.68')	I III 0.010" slot
#3	29.70'-35.00'	30 31	100.0	95.0	Gray, dolomite, heavily fractured, rubble zone (29.70'-30.10') Gray dolomite, to weathered bedding plane (30.10'-30.70')	
		32		<del>                                     </del>	Dark gray, dolomite, laminated, vugged with some mineralization, to fracture (30.70'-32.30')	2' Well sump
		33	<b></b>		Dark gray, dolomite, laminated, vugged, some mineralization, stylolitic horizons to fracture (32.30'-33.14')	TD of Well @ 32.40'
		34			Dark gray, dolomite, laminated, vugged with mineralization and corals, horizontal and vertical stylolitic	
		35			horizons to vertical fracture (33,14'-34,19') Hand break at 33,59'	
		36			Dark gray/brown, dolomite, some vugging, laminated to vertical fracture/drill break (34.19'-35.00')	TD of Boring @ 35.0'
		37				
		38		ļ		
1		39		ł		
1						
1						
		1				
<del></del>	STANDARD P	ENET	ATTON			
	TOR= TO			•	SUMMARY: TOR was determined at HSA sugger refusal.	
	.0101		y-4		Due to difficulty in drilling, well was not set at total depth of boring.	
L						

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in the second

					PARSONS			
Contractor;	SJB Services, Inc.					DRILLING RECORD	BORING NO	o. MW-13D
Driller:	Dule Matthies, Ma	tt Matthic	s					
Inspector;	Andy Janik				PROJECT NAME		<b>}</b>	<del></del>
Rig Type:	CME 550-X, ATV	Drill Rig			PROJECT NUMBER	737515	Location:	Southeast of Ekonol Facility
Method:	6.25" HSA/5.875"	Roller Co	ne/HQ Co	ring			Elevation	
C					Weather	Sun 70 F	Ŋ	Walmore Rd.
<u> </u>							1 '	
					Date/Time Start Coring	9/25/02 1115	4	Ekonol Facility
				<u></u>			ļ	
	Date/Time Finish Coris				Date/Time Finish Coring	9/25/02 1550		x
HQ Core	Range	Depth	Rec.	RQD		FIELD IDENTIFICATION OF MATERIAL	WELL	CONSTRUCTION DIAGRAM
Run			(%)	(%)			<del></del>	
<b>!</b>				<u> </u>			E	<b>-</b>
				_			1 1	Stick-up protective casing
		0					L	protective casing
		1		<u> </u>				Concrete pad
		2			Dtustus	Complete the second is consistent with other wall locations		Concrete pad
		3			Description	of overburden material is consistent with other well locations.	7	
		4					200	2" Stainless steel
		5	<b> </b>	_				well riser
<u> </u>		6	<del></del>				and the state of	
		7	┢				<b>-</b> (*)	
		<u>8</u>	_	$\vdash$				4" Steel casing
		10		<del>                                     </del>				* 6*
		11						Grout
		12	_	<del></del>				
		13	-					TOR @ 12.70'
#1	14.00'-19.00'		100.0	22.0	Light to dark array dolors	ite, porous, numerous breaks on bedding planes and stylolitic horizons, 21		
- "1	14,00-15,00	15	100.0	22,0	breaks in this core section			
		16			Didate in this voice section	.(2.100 2/102)		Bentonite seal
		17						
		18			Light to dark gray, dolon	ite, stylolitic horizons to near vertical fracture with mineralization (17.83'-18.32')	1 117	17.90'-27,90'
		19			Light to dark gray, dolon	ite, stylolitic horizons to weathered, vertical fracture (18.32'-19.00')		screen interval
#2	19.00'-24,00'	20	100.0	68.0	Light to dark gray, dolon	ite, numerous breaks on bedding planes and stylolitic horizons, 13		screen interval  Sand  2" Stainless steel
		21			breaks in this core section	1 (19.00'-21.85')	1 13	Sand
		22			Light to dark gray, dolom	ite, stylolitic horizons to vertical, weathered fracture (21.85'-22.31')		
		23			Light to dark gray, dolon	ite, stylolitic horizons, large vug and vertical fracture at 23.30', to vertical		
		24			fracture/drill break (22.31	!-24.00)	4 []	well screen, 0.010" slot 2' Well sump
#3	24,50'-29,80'	25	90,0	90.0	Light to dark gray, massi	ve, dolomite, some stylolitic horizons to mineralized fracture (24.00'-25.00')	1 10	0.010" slot
		26			Dark gray, dolomite, mas	sive, to mineralized bedding plane (25.00'-28.55') Hand break at 27.70'	177	
		27				4 11 11 1 (AB FEI AC CON		2' Well sump
		28			Dark gray, dolomite, mas	sive, to break on weathered bedding plane (28.55'-29.90')		2 VVoli Suliip
<u> </u>		29						TD @ 29.90'
	-	30	<del>                                     </del>				<del>                                     </del>	.5 8 22.77
ļ		31	-	-				
<del></del>		32						
			-	$\vdash$			ŀ	
<del></del>							l .	
			_	<b></b>			l.	
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			_				]	
							1	
			1	<del>                                     </del>	1		1	
							1	
							J	
	STANDARD I	ENETI	RATION					
	TOR= TO	OF RC	CK		SUMMARY:	TOR was determined at HSA auger refusal.		

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# ATTACHMENT B PACKER TEST RESULTS

#### MEMORANDUM

December 17, 2002

To:

File

From:

Eric A. Felter

Subject:

Packer Test Analytical Results

Attached are the preliminary results of the packer testing of two bedrock wells. Test data collected from MW-10 in the deeper two test zones did not provide a solution due to the well going dry during each test at one (1) gallon per minute (gpm). Preliminary results have been calculated for the shallowest zone in MW-10 and for all three zones in MW-11.

	Summ	ary of Packer To	est Analyses (cm/s	s)						
MW-11D										
	Depth (ft.)	1 gpm test	3 gpm test	6 gpm test						
Interval 1	14.5 to 19.3	9.8*10 <sup>-3</sup>	1.1*10 <sup>-2</sup>	1.0*10 <sup>-2</sup>						
Interval 2	19.3 to 24.5	4.4*10 <sup>-3</sup>	8.7*10 <sup>-3</sup>	6.8*10 <sup>-3</sup>						
Interval 3	24.5 to 29.8	3.0*10 <sup>-2</sup>	2.7*10 <sup>-2</sup>	2.7*10 <sup>-2</sup>						
		MW-1	.0D							
	Depth (ft.)	1 gpm test	3 gpm test	6 gpm test						
Interval 1	16.5 to 21	1.8*10-3	3.0*10 <sup>-3</sup>	3.5*10 <sup>-3</sup>						
Interval 2	21 to 26.5	2.9*10-4	Dry	Dry						
Interval 3	26.5 to 31.5	2.3*10-4	Dry	Dry						

Note: The 1 gpm tests for MW-10D intervals 2 and 3 were analyzed using the Theis equations:

$$T = \frac{Q}{4\pi s} W(u) \qquad \qquad \& \qquad \qquad S = \frac{4Tu}{r^2 \frac{1}{u}}$$

Where:

 $Q = pumping rate (ft^3/min)$ 

r = radius of or from the pumping well (ft)

s = drawdown (ft)

m = aquifer saturated thickness (feet)

#### MEMORANDUM

December 19, 2002

To:

File

From:

Eric A. Felter

Subject:

Packer Test Analytical Results

Attached are the preliminary results of the packer testing of the bedrock well MW-13D.

	Summ	ary of Packer To	est Analyses (cm/s	s)
		MW-1	3D	
	Depth (ft.)	1 gpm test	3 gpm test	6 gpm test
Interval 1	14 to 19	9.3*10 <sup>-2</sup>	8.0*10 <sup>-2</sup>	1.3*10 <sup>0</sup>
Interval 2	19 to 24	4.0*10 <sup>-3</sup>	1.6*10 <sup>-2</sup>	5.6*10 <sup>-2</sup>
Interval 3	24 to 29.9	4.8*10 <sup>-3</sup>	4.0*10-2	4.7*10 <sup>-1</sup>

# ATTACHMENT C GROUNDWATER SAMPLING RECORDS

#### Phase II

November 2001

#### WELL SAMPLING RECORD Well MW-1S Ekonol Facility Site Name Date 11/2/2001 Time 1000 Andy Janik Samplers Total Well Depth (TOC) 14.77 feet Initial Static Water Level (TOC) 6.11 feet Well Diameter (inches) 2.0 **Purging Data** Dedicated Bailer Method Water Volume = (Total Depth of Well - Depth To Water) x Casing Volume per Foot 14.77 6.11 gallons = 1.4 Casing Volumes (gal/ft.): 0.092 2-inch 0.16 1.5-inch 1-inch 0.041 0.36 4-inch 0.64 6-inch 1.4 3-inch 10 inch 8-inch 2.5 Volume of Purge Water Removed 5 gallons Sampling Data Method Dedicated Bailer Method **Bottle** Pres. **Parameters** HCI 8260 2-40ml vials TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TCA 8270 2-1L amber bottles phenol & aniline 1- 10oz. Plastic bottle HNO3 6010B Zn & Pb Field Parameters 1 Volume 2 Volume | 3 Volume Sample pН 8.11 8.97 9.14 8.16 60.4 60.6 65.3 62.9 Temp. (F) 1.27 1.29 Spec. Cond. (uS/cm) 1.45 1.23

Comments:	Water was brown in color, turbid. Sample was taken from well	
at 1100.		

Turbidity (NTU)

Site Name	Ekonol Facil	ity			Well _	MW-2S
Samplers	Andy Janik		0			11/2/2001 1200
Total Well D Initial Static Well Diamet	Water Level (	тос)	11.90 8.95 2.0	feet feet		
Purging D	<u>ata</u>					
Method	Dedicat	ed Bailer				
Water Volur	ne = (Total De	epth of Well - I 11.90 0.5	Depth To W	ater ) x Casi 8.95	ing Volume pe	or Foot 0.16
Casing Volu	ımes (gal/ft.):			<del></del>		
1-inch 3-inch 8-inch	0.041 0.36	1.5-inch 4-inch			2-inch 6-inch 10 inch	0.16 1.4 4
Volume of I Sampling Method		Removed ed Bailer		3	gallons	
Parameters		Bot 2-40mi		Pres. <i>HCl</i>	Method 8260	
TCE; 1,2-DCA; 1,		2-40///	viais	1101		
phenol & an		2-1L amber l	bottles		8270	
Zn & Pb		1- 10oz. Plas	stic bottle	HNO3	6010B	
E-U Davi			0.1/2/	2 Veluma	Sample	
Field Para	ameters	1 Volume 8.15	2 Volume 8.06	3 Volume 8.01	7.96	
рн Temp. (F)	•	61.8	62.5	62.6	61.0	
Spec. Cond	(uS/cm)	1.42	1.50	1.49	1.39	
Turbidity (N		-	-	-		
		prown in color,	turbid. San	ıple was tak	en from well a	t 1315.

Site Name	Ekonol Facili	ty			Well	MW-3S
					Date	11/2/2001
Samplers	Andy Janik				Time	
Samplers	Alluy Jallik	<del></del>				7000
					•	
Total Well D	enth (TOC)		12.15	feet		
	Water Level (1	roc)	5.70	feet	•	
Well Diamet		/	2.0			
					•	
Purging D	<u>ata</u>	9				
Method	Dedicate	ed Bailer				
Water Volun	ne = (Total De	pth of Well - i	Depth To W		ing Volume pe	
	=	12.15		5.70	Χ	0.16
	体	1.0	gallons			
Caeina Volu	mes (gal/ft.):					•
1-inch		1.5-inch	0.092		2-inch	0.16
3-inch					6-inch	1.4
8-inch			0.54		10 inch	4
0-11101	2.0				10 11101	· · · · · · · ·
	Purge Water R Data	emoved		4	gallons	
Volume of F	_	emoved		4	gallons	
	<u>Data</u>	emoved ed Bailer	-	4	gallons	
Sampling Method	<u>Data</u> Dedicate	ed Bailer	- tie			
Sampling Method Parameters	Data Dedicate	<i>ed Bailer</i> Bot		Pres.	Method	
Sampling  Method  Parameters TCE; 1,2-D0	Data  Dedicate	ed Bailer				
Sampling Method Parameters	Data  Dedicate	<i>ed Bailer</i> Bot		Pres.	Method	
Sampling Method Parameters TCE; 1,2-DC 1,1-DCA; 1,	Data  Dedicate  CE; 1,1-TCA	ed Bailer Bot 2-40mi	vials	Pres.	Method	
Sampling  Method  Parameters TCE; 1,2-D0	Data  Dedicate  CE; 1,1-TCA	<i>ed Bailer</i> Bot	vials	Pres.	Method 8260	
Sampling Method Parameters TCE; 1,2-DC 1,1-DCA; 1,	Data  Dedicate  CE; 1,1-TCA	ed Bailer Bot 2-40ml 2-1L ambe	vials er bottles	Pres.	Method 8260	
Sampling Method  Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & an	Data  Dedicate  CE; 1,1-TCA	ed Bailer Bot 2-40mi 2-1L ambe	vials er bottles	Pres. HCl	Method 8260 8270	
Sampling Method  Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & and	Data  Dedicate  Dedicate  DE;  1,1-TCA  illine	ed Bailer  Bot 2-40ml  2-1L ambe 1-10oz. Pla	vials er bottles estic bottle	Pres. HCl - HNO3	Method 8260 8270 6010B	
Sampling Method  Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb	Data  Dedicate  Dedicate  DE;  1,1-TCA  illine	Bot 2-40mi 2-1L ambe 1-10oz. Pla	er bottles estic bottle 2 Volume	Pres. HCl - HNO3	Method 8260 8270 6010B	
Sampling Method  Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb  Field Para pH	Data  Dedicate  Dedicate  DE;  1,1-TCA  illine	Bot 2-40mi 2-1L ambe 1- 10oz. Pla 1 Volume 8.24	er bottles estic bottle  2 Volume 8.18	Pres. HCl - HNO3 3 Volume 8.15	Method 8260 8270 6010B Sample 8.32	
Sampling Method Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb  Field Para pH Temp. (F)	Data  Dedicate  Description  De	Bot 2-40ml 2-1L ambe 1-10oz. Pla 1 Volume 8.24 61.0	er bottles estic bottle  2 Volume 8.18 61.4	Pres. HCl - HNO3 3 Volume 8.15 61.3	8270 6010B Sample 8.32 60.6	
Sampling Method  Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb  Field Para pH Temp. (F) Spec. Cond.	Data  Dedicate  Dedicate  DE; 1,1-TCA  illine  meters  (uS/cm)	Bot 2-40mi 2-1L ambe 1-10oz. Pla 1 Volume 8.24 61.0 1.05	er bottles estic bottle  2 Volume 8.18	Pres. HCl - HNO3 3 Volume 8.15	Method 8260 8270 6010B Sample 8.32	
Sampling Method  Parameters TCE; 1,2-DC 1,1-DCA; 1,  phenol & and Zn & Pb  Field Para pH Temp. (F)	Data  Dedicate  Dedicate  DE; 1,1-TCA  illine  meters  (uS/cm)	Bot 2-40ml 2-1L ambe 1-10oz. Pla 1 Volume 8.24 61.0	er bottles estic bottle  2 Volume 8.18 61.4	Pres. HCl - HNO3 3 Volume 8.15 61.3	8270 6010B Sample 8.32 60.6	
Sampling Method  Parameters TCE; 1,2-DC 1,1-DCA; 1,  phenol & and Zn & Pb  Field Para pH Temp. (F) Spec. Cond. Turbidity (N	Data  Dedicate  Dedicate  DE; 1,1-TCA  illine  meters  (uS/cm)	Bot 2-40ml 2-1L ambe 1-10oz. Pla 1 Volume 8.24 61.0 1.05	er bottles estic bottle  2 Volume 8.18 61.4 1.26	Pres. HCl - HNO3 3 Volume 8.15 61.3 1.40	Method 8260 8270 6010B Sample 8.32 60.6 1.39	nt 1615.

Site Name Ekonol Facility	Well <u>MW-4S</u>
Samplers Andy Janik	Date <u>11/2/2001</u> Time <u>1330</u>
Total Well Depth (TOC) Initial Static Water Level (TOC) Well Diameter (inches)  12.47 feet 8.91 feet 2.0	
Purging Data	
Method <u>Dedicated Bailer</u>	
Water Volume = (Total Depth of Well - Depth To Water ) x Casing = 12.47 - 8.91 x	
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 10 inch 4
8-inch 2.5	TO IIICII 4
Volume of Purge Water Removed 3 ga Sampling Data	llons
Method Dedicated Bailer	
Parameters Bottle Pres.	Method
TCE; 1,2-DCE; 2-40ml vials HCI	8260
1,1-DCA; 1,1,1-TCA	
	0070
phenol & aniline 2-1L amber bottles -	8270
Zn & Pb 1- 10oz. Plastic bottle HNO3	6010B
	<del></del>
Field Parameters 1 Volume 2 Volume 3 Volume	Sample
pH 8.19 8.12 8.07	8.23
Temp. (F) 61.3 62.2 61.8	61.0
Spec. Cond. (uS/cm) 1.69 1.77 2.01	1.86
Turbidity (NTU)	

Site Name	Ekonol Facili	ty	.=.,		, Well ,	MW-1D
Samplers	Andy Janik				Date_ Time_	11/2/2001 1020
Total Well Do Initial Static V	Nater Level (*	roc)	31.57 8.00 2.0	feet feet	•	
Purging Da	ata					
Method	Dedicate	ed Bailer				
Water Volum	e = (Total De				sing Volume pe	er Foot
	=	31.57	llene	8.00	X	0.16
	=	3.8	gallons			
Casing Volum	nes (gal/ft ):	<del></del> .				
1-inch		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 P	urge Water R <u>Data</u>	emoveď		12	gallons	
Method	Dedicate	ed Bailer				
Parameters		Bott	ile	Pres.	Method	
TCE; 1,2-DC	E;	2-40ml	vials	HCI	8260	
1,1-DCA; 1,1						
phenol & ani	line	2-1L ambe	r bottles		8270	
Zn & Pb		1- 10oz. Pla	stic bottle	HNO3	6010B	
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	
pH		9.49	9.22	8.79	8.14	
Temp. (F)		61.3	58.7	58.3	60.2	
Spec. Cond.		0.88	0.93	0.91	0.93	
Turbidity (NT	ປ)	-	_			
Comments:		ght gray in col d MSD were a	lor. Sample Ilso taken fi	was taken om this wei	from well at 11 I.	30

Site Name	Ekonol Facili	ty			Well _	MW-2D
					Date_	11/2/2001
Samplers	Andy Janik				Time_	1225
•						
Total Well D Initial Static Well Diamet	Water Level (	roc)	29.91 8.36 2.0	feet feet		
Purging D	ata					
Method	Dedicate	ed Bailer				
Water Volun	ne = (Total De	pth of Well - D 29.91 3.4	Depth To Wa	ater ) x Casi 8.36	ng Volume pe <i>x</i>	r Foot 0.16
Casing Volu	mes (gal/ft.):					
1-inch		1.5-inch	0.092		2-inch	0.16
3-inch			0.64		6-inch	1.4
8-inch	2.5		<u></u>	<u>.</u>	10 inch	4
Volume of F	Purge Water R <u>Data</u>	temoved		12	gallons	
Method	Dedicate	ed Bailer				
Parameters		Bott	tle	Pres.	Method	
TÇE; 1,2-D		2-40ml	vials	HCI	8260	
1,1-DCA; 1,						
phenol & an	iline	2-1L ambe	er bottles	-	8270	
Zn & Pb		1- 10oz. Pla	stic bottle	HNO 3	6010B	
				0.44	0	
Field Para	<u>meters</u>	1 Volume	2 Volume	3 Volume 8.17	Sample 8.29	
pH		8.05 60.7	8.04 60.3	59.9	60.4	
Temp. (F)	(uSlom)	1.15	1.16	1.07	1.03	
Spec. Cond. Turbidity (N			-	-	-	
		ght gray in co	lor. Sample	was taken t	rom well at 13	00.

Site Name Ekonol Fac	ility			Well .	MW-3D
Samplers <u>Andy Janik</u>				Date_ Time_	11/2/2001 1530
Total Well Depth (TOC) Initial Static Water Level Well Diameter (inches)	(ТОС)	26.27 8.21 2.0	feet feet		
Purging Data					
Method Dedica	ted Bailer	-			
Water Volume = (Total D		Depth To W			er Foot 0.16
=	26.27 2.9	gallons	8.21	x	0.70
	2,0				
Casing Volumes (gal/ft.):					0.40
1-inch 0.04				2-inch	0.16
3-inch 0.3 8-inch 2.		0.64		6-inch 10 inch	1.4 4
Volume of Purge Water  Sampling Data	Removed		10	gallons	
	nted Bailer	-			
Devenuetore	Bot	fla	Pres.	Method	
Parameters TCE; 1,2-DCE;	2-40m		HCI	8260	
1,1-DCA; 1,1,1-TCA					
		1 - 111 -		0070	
phenol & aniline	2-1L ambe	er dollies		8270	
Zn & Pb	1- 10oz. Pla	astic bottle	НИОз	6010B	
		r			
Field Parameters	1 Volume		3 Volume	Sample	
pH (C)	8.26	8.19	8.15 59.9	8.33 60.7	
Temp. (F)	63.0 1.01	60.2 1.07	1.09	1.08	
Spec. Cond. (uS/cm) Turbidity (NTU)	1.01	7.07	7.05	7.00	
Comments: Water was	light gray in co	lor. Sample	was taken i	from well at 1	600.
			<del></del>		

Site Name	Ekonol Facili	ity	<u></u>		Well	MW-4D
Samplers	Andy Janik				Date Time	11/2/2001 1400
Total Well D Initial Static Well Diamet	Water Level (	тос)	28.85 8.27 2.0	feet feet		
Purging D	<u>ata</u>					
Method	Dedicate	ed Bailer	-			
Water Volun	ne = (Total De	epth of Well -	Depth To W	ater) x Casi	ng Volume per	Foot
	=	28.85	-	8.27	x	0.16
	=	3.3	gallons			
Cooler Volu	mes (gal/ft.):					
Casing volu 1-inch		1.5-inch	0.092	<del></del>	2-inch	0.16
3-inch					6-inch	1.4
8-inch					10 inch	4
Sampling Method		ed Bailer				
Mediod			-			
				_		
Parameters		Bot		Pres.	Method	
TCE; 1,2-DC	CE;	Bot 2-40m		Pres. HCI	Method 8260	
TCE; 1,2-DC	CE;					
Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & an	DE; 1,1-TCA		l vials			
TCE; 1,2-DC 1,1-DCA; 1,	DE; 1,1-TCA	2-40m	l vials er bottles	HCI	8260	
TCE; 1,2-DC 1,1-DCA; 1, phenol & an	DE; 1,1-TCA	2-40m 2-1L amb	l vials er bottles	HCI -	8260 8270	
TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb	CE; 1,1-TCA illine	2-40m. 2-1L ambe 1- 10oz. Pk	l vials er bottles	HCI - HNO3	8260 8270 6010B	
TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb	CE; 1,1-TCA illine	2-40m. 2-1L ambe 1- 10oz. Pla 1 Volume	er bottles	HCI - HNO3	8260 8270	
TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb Field Para pH	CE; 1,1-TCA illine	2-40m. 2-1L ambe 1- 10oz. Pla  1 Volume 8.65	er bottles astic bottle 2 Volume	HCI - HNO3	8260 8270 6010B Sample	
TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb Field Para pH Temp. (F)	CE; 1,1-TCA illine meters	2-40m. 2-1L ambe 1- 10oz. Pla 1 Volume	er bottles astic bottle 2 Volume 8.38	HCI - HNO 3 3 Volume 8.26	8270 6010B Sample 8.58	
TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb Field Para pH Temp. (F) Spec. Cond.	CE; 1,1-TCA illine meters (uS/cm)	2-40m. 2-1L ambe 1- 10oz. Pla  1 Volume 8.65 63.7	er bottles astic bottle 2 Volume 8.38 60.7	HCI HNO 3 3 Volume 8.26 60.3	8270 6010B Sample 8.58 61.3	
TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb Field Para pH Temp. (F) Spec. Cond. Turbidity (N	CE; 1,1-TCA illine meters (uS/cm) TU)	2-40m.  2-1L ambe  1- 10oz. Pla  1 Volume  8.65  63.7  1.23	er bottles astic bottle 2 Volume 8.38 60.7 1.16	HOI  HNO3  3 Volume  8.26  60.3  1.14	8270 6010B Sample 8.58 61.3 1.15	
TCE; 1,2-DC 1,1-DCA; 1, phenol & and Zn & Pb Field Para pH Temp. (F) Spec. Cond. Turbidity (N	CE; 1,1-TCA illine meters (uS/cm) TU)	2-40m.  2-1L ambe  1- 10oz. Pla  1 Volume  8.65  63.7  1.23	er bottles astic bottle 2 Volume 8.38 60.7 1.16	HOI  HNO3  3 Volume  8.26  60.3  1.14	8270 6010B Sample 8.58 61.3 1.15	30.

#### Phase II

December 2001.

Site Name	Ekonol Facili	ty			Well	MW-1S
					Date	12/5/2001
Samplers	Andy Janik				Time	1515
ouproro		<u> </u>			_	
Total Well Do Initial Static V Well Diamete	Nater Level (1	гос) <u>-</u>		feet feet		
Purging Da	ata					
Method	Dedicate	ed Bailer				
<b>184</b> 4 - 134-1	CE-tal Da	pth of Well - D	lanth Ta W	otor ) v Cas	ing Volume ne	er Foot
Water Volum	e = { 1 otal De	ptn of vveil - 1. <i>14.7</i> 7		6.12	X	0.16
	=		gallons			
Cooing Volu	nes (gal/ft.):					<u> </u>
1-inch		1.5-inch	0.092	-	2-inch	0.16
3-inch			0.64		6-inch	1.4
8-inch					10 inch	4
Sampling	<sup>r</sup> urge Water R <u>Data</u>	emoved	•		galions	
Method	Dedicate	ed Bailer				
Parameters		Bott	le	Pres.	Method	
TCE; 1,2-DC		2-40ml	vials	HCI	8260	
1,1-DCA; 1,						
phenol & an	line	2-1L amber b	ottles	-	8270	
		1- 4 oz. Plasi	lio hottlo	HNO 3	6010B	
Zn & Pb		1-4 UZ. Flasi	ac botae	111403	00100	
					0	
Field Para	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample	
pН		8.44	8.48	8.48	8.58	
Temp. (F)		62.5	60.8	59.7	53.8	
Spec. Cond		1.36	1.32	1.37	1.25	
Turbidity (N	TU)			-		
Comments:		ght brown in o	olor, Samp	le was take	n from well	

Total Well Depth (Initial Static Water Well Diameter (Incomputed Purging Data)  Method  Water Volume = (Incomputed Purging Volumes (Incomputed Purger Sampling Data)  Method  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TCA; 1,1-TCA; tal Dep  (gal/ft.):  0.041 0.36 2.5	oth of Well - I 11.90 1.3 1.5-inch 4-inch	gallons 0.092	3.57	Time	Foot	
Initial Static Water Well Diameter (incomputed purging Data) Method  Water Volume = (incomputed purging Data)  Casing Volumes (incomputed purgent purg	Total Dep  (gal/ft.):  0.041 0.36 2.5	oth of Well - I 11.90 1.3 1.5-inch 4-inch	3.57 2.0 Depth To W	feet /ater) x Cas 3.57	2-inch 6-inch 10 inch	0.16 0.16 1.4
Method  Water Volume = ( = = = = = = = = = = = = = = = = = =	(gal/ft.): 0.041 0.36 2.5 Water Re	11.90 1.3 1.5-inch	gallons 0.092	3.57	2-inch 6-inch 10 inch	0.16
Water Volume = (  = = = = = = = = = = = = = = = = =	(gal/ft.): 0.041 0.36 2.5 Water Re	11.90 1.3 1.5-inch	gallons 0.092	3.57	2-inch 6-inch 10 inch	0.16
Casing Volumes ( 1-inch 3-inch 8-inch  Volume of Purge Sampling Data  Method  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TG  phenol & aniline	(gal/ft.): 0.041 0.36 2.5 Water Re	11.90 1.3 1.5-inch 4-inch	gallons 0.092	3.57	2-inch 6-inch 10 inch	0.16 0.16
Casing Volumes ( 1-inch 3-inch 8-inch  Volume of Purge Sampling Data  Method  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TG  phenol & aniline	(gal/ft.): 0.041 0.36 2.5 Water Re	11.90 1.3 1.5-inch 4-inch	gallons 0.092	3.57	2-inch 6-inch 10 inch	0.16 0.16
Casing Volumes ( 1-inch 3-inch 8-inch  Volume of Purge Sampling Data Method Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC	0.041 0.36 2.5 Water Re	1.5-inch 4-inch	0.092		6-inch 10 inch	1.4
1-inch 3-inch 8-inch  Volume of Purge Sampling Data  Method  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline	0.041 0.36 2.5 Water Re	4-inch			6-inch 10 inch	1.4
1-inch 3-inch 8-inch  Volume of Purge Sampling Data  Method  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline	0.041 0.36 2.5 Water Re	4-inch			6-inch 10 inch	1.4
3-inch 8-inch Volume of Purge Sampling Data Method Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TG	0.36 2.5 Water Re	4-inch			6-inch 10 inch	1.4
8-inch  Volume of Purge  Sampling Data  Method  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TG  phenol & aniline	2.5 Water Re				10 inch	
Volume of Purge Sampling Data Method Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TG	Water Re	emoved		4		
Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline	D !! 4 -	4.0 - 2				
TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline	Dedicate	a Baller	•			
TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline		Bot	tle	Pres.	Method	
1,1-DCA; 1,1,1-TC		2-40m	l vials	HCI	8260	
	CA					
		2-1L ambe	er bottles	-	8270	
Zn & Pb		1- 4 oz. Pla	stic bottle	HNO3	6010B	
Field Paramete	<u>∍rs</u> [	1 Volume	2 Volume		Sample	
pH		8.61	8.27	8.28	7.76	
Temp. (F)	1	60.3	61.5	61.6	53.2	
Spec. Cond. (uS/e	cm) [	1.61	1.69	1.73	1.48	
Turbidity (NTU)	Į		<u> </u>	<u> </u>		
			4-1-0-0		1495 on 19/6/04	1
Comments: Wat	_	0				۲.
	er was cle	ear. Sample	was taken i	rom wen at	1423 011 12/0/01	

J	Ekonol Facilit	<u></u>			Well _	MW-3S
						12/5/2001
Samplers	Andy Janik				Time_	1550
Total Well D	enth (TOC)		12.15	feet		
	Water Level (T	OC)		feet		
Nell Diamet			2.0			
Purging D	<u>ata</u>					
Method	Dedicate	d Bailer				
Water Volun	ne = (Total Der					
	=	12.15 1.1	gallons	5.41	X	0.16
	7.	<u> </u>	gallons			
Casing Volu	mes (gal/ft.):					
1-inch		1.5-inch			2-inch	0.1
3-inch	0.36	4-inch	0.64		6-inch	1.
8-inch	2.5				10 inch	
Volume of 1	Purge Water Re	emovea	,	3	gallons	
	<u>Data</u>				gallons	
Volume of I Sampling Method	_			3	yanors	
Sampling Method	<u>Data</u> <u>Dedicate</u>		tle	Pres.	Method	
Sampling Method Parameters	<u>Data</u> <u>Dedicate</u>	d Bailer			. •	
Sampling Method Parameters TCE; 1,2-D0	<u>Data</u> <u>Dedicate</u> CE;	<i>d Bailer</i> Bot		Pres.	Method	
Sampling Method Parameters TCE; 1,2-DC 1,1-DCA; 1,	Data  Dedicate  CE; 1,1-TCA	<i>d Bailer</i> Bot	vials	Pres.	Method	
Sampling Method	Data  Dedicate  CE; 1,1-TCA	d Bailer Bot 2-40ml	vials or bottles	Pres.	Method 8260	
Sampling Method Parameters TCE; 1,2-D0 1,1-DCA; 1, phenol & an	Data  Dedicate  CE; 1,1-TCA	ed Bailer Bot 2-40ml 2-1L ambe	vials or bottles	Pres. HCI	Method 8260 8270	
Sampling Method Parameters TCE; 1,2-D0 1,1-DCA; 1, phenol & an	Data  Dedicate  CE; 1,1-TCA	ed Bailer Bot 2-40ml 2-1L ambe	er bottles stic bottle 2 Volume	Pres. HCl - HNO3	Method 8260 8270 6010B	
Sampling Method Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & an Zn & Pb Field Para	Data  Dedicate  CE; 1,1-TCA	d Bailer  Bot 2-40ml  2-1L ambe 1- 4 oz. Pla	vials er bottles stic bottle	Pres. HCI - HNO3	Method 8260 8270 6010B Sample 8.10	
Sampling Method Parameters TCE; 1,2-D0 1,1-DCA; 1, phenol & an Zn & Pb Field Para	Data  Dedicate  CE; 1,1-TCA	Bot 2-40ml 2-1L amber 1- 4 oz. Pla 1 Volume 9.43 61.0	er bottles stic bottle 2 Volume	Pres. HCl  -  HNO 3  3 Volume  8.40  60.2	8270 8270 6010B Sample 8.10 54.5	
Sampling Method Parameters TCE; 1,2-D0 1,1-DCA; 1,	Data  Dedicate  CE; 1,1-TCA  illine	Bot 2-40ml 2-1L ambe 1- 4 oz. Pla 1 Volume 9.43	vials er bottles stic bottle 2 Volume 9.17	Pres. HCl - HNO 3	Method 8260 8270 6010B Sample 8.10	
Sampling Method Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & an Zn & Pb  Field Para pH Temp. (F)	Data  Dedicate  CE; 1,1-TCA  illine  ameters  (uS/cm)	Bot 2-40ml 2-1L amber 1- 4 oz. Pla 1 Volume 9.43 61.0	stic bottles  2 Volume 9.17 60.4	Pres. HCl  -  HNO 3  3 Volume  8.40  60.2	8270 8270 6010B Sample 8.10 54.5	
Sampling Method Parameters TCE; 1,2-DC 1,1-DCA; 1, phenol & an Zn & Pb Field Para pH Temp. (F) Spec. Cond Turbidity (N	Data  Dedicate  CE; 1,1-TCA  illine  ameters  (uS/cm)	2-1L amber  1- 4 oz. Pla  1 Volume  9.43 61.0 0.88	vials er bottles stic bottle  2 Volume 9.17 60.4 1.34	Pres. HCl  -  HNO 3  3 Volume  8.40  60.2  1.63  -	8270 8270 6010B Sample 8.10 54.5 1.26	4440

Site Name	Ekonol Facili	ity			Well _	MW-4S
Samplers	Andy Janik		· · · · · · · · · · · · · · · · · · ·			12/5/2001 1610
	Depth (TOC) Water Level ( ter (inches)	тос)	12.47 8.47 2.0	feet feet	· ·	
Purging D	ata					
Method	Dedicate	ed Bailer				
Water Volur	ne = (Total De	pth of Well - I 12.47 0.6	Depth To W - gallons	ater ) x Cas 8.47	ing Volume pe	er Foot 0.16
Casing Volu	ımes (gal/ft.):	<del></del>		·		
1-incl 3-incl 8-incl	0.041 0.36	4-inch			2-inch 6-inch 10 inch	0.16 1.4 4
Volume of I	Purge Water R <u>Data</u>	lemoved		3	gallons	
Method	Dedicate	ed Bailer				
Parameters TCE; 1,2-DC 1,1-DCA; 1,	CE;	Bot <i>2-40ml</i>		Pres. HCI	Method 8260	
phenol & an	iline	2-1L ambe	er bottles		8270	
Zn & Pb		1- 4 oz. Pla	stic bottle	HNO 3	6010B	
				0.14.1	Ormada	
Field Para	meters	1 Volume 8.51	2 Volume 8.17	3 Volumе 8.11	Sample 7.90	
рп Temp. (F)		61.2	61.3	61.0	57.3	
Spec. Cond	(uS/cm)	1.83	1.89	1.97	1.63	
Turbidity (N		-	-	-	-	
Comments: on 12/6/01.	Water was b	rown in color,	turbid. San	nple was tal	en from well a	t 1225

Site Name	Ekonol Facili	ty	·		Well	MW-1D
Samplers	Andy Janik				Date1 Time	2/6/2001 0925
Total Well D Initial Static Well Diame	Water Level (1	roc)		feet feet		
Purging D	ata					
Method	Dedicate	ed Bailer				
Water Volur	me = (Total De	31.57	epth To Wa	ater) x Cas 7.45	ing Volume per	Foot 0.16
		3.8	gailoris			
Casing Volu 1-incl 3-incl 8-incl	0.36		0.092 0.64		2-inch 6-inch 10 inch	0.16 1.4 4
Volume of	Purge Water R	emoved		12	gallons	
Sampling	Da <u>ta</u>					
Method		ed Bailer				
Parameters	:	Bott	le	Pres.	Method	
TCE; 1,2-D		2-40ml		HCI	8260	
1,1-DCA; 1,						
phenol & ar	iline	2-1L ambe	r bottles		8270	
Zn & Pb		1- 4 oz. Pla	stic bottle	HNO3	6010B	
Cield Dow	amotore	1 Volume	2 Volume	3 Volume	Sample	
Field Para	2111 <u>0101</u>	9.91	9.61	8.57	8.66	
Temp. (F)		56.7	54.8	54.6	53.9	
Spec. Cond	l. (uS/cm)	0.64	0.87	0.88	0.87	
Turbidity (N			-	-	-	
Comments:	Water was li ample, MS, an	ght gray in col d MSD were a	lor. Sample ilso taken fi	was taken om this we	from well at 101 ll.	5.

Site Name Ekonol Facili		Well _	MW-2D					
				Date	12/6/2001			
Samplers Andy Janik				Time	1430			
Total Well Depth (TOC)  Initial Static Water Level (TOC)  Well Diameter (inches)  29.91 feet  7.77 feet  2.0								
Purging Data								
Method Dedicat	ed Bailer	ı						
Water Volume = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot = 29.91 - 7.77 x 0.16								
=	3.5	gallons						
Casing Volumes (gal/ft.):				<u>.</u>				
1-inch 0.041	1.5-inch	0.092		2-inch	0.16			
3-inch 0.36				6-inch	1.4			
8-inch 2.5				10 inch	4			
Volume of Purge Water Removed 11 gallons  Sampling Data								
Method Dedicat	ed Bailer	•						
Parameters	Bot	tle	Pres.	Method				
TCE; 1,2-DCE;	2-40ml		HCI	8260				
1,1-DCA; 1,1,1-TCA								
	0.41	n haddaa		8270	<del> </del>			
phenol & aniline	2-1L ambe	er bottles		02/0				
Zn & Pb	1- 4 oz. Pla	stic bottle	HNO 3	6010B				
Field Parameters	1 Volume	2 Volume	3 Volume	Sample				
pH	8.37	8.30	7.83	7.75				
Temp. (F)	54.9	55.3	54.6	54.5				
Spec. Cond. (uS/cm)	0.88	1.10	1.04	1.03				
Turbidity (NTU)				<u>-</u>				
Comments: Water was o	lear with visib	le sheen. S	ample was	taken from we	ll at 1510.			

Site Name	Ekonol Facili	ty		<del></del> -	Well _	MW-3D
						12/6/2001
Samplers	Andy Janik				Time _	1305
Total Well D Initial Static Well Diamet	Water Level (	roc)	26.27 7.59 2.0	feet feet		
Purging Da	ata					
Method	Dedicate	ed Bailer	-			
Water Volum	ne = (Total De		Depth To W		ng Volume per	
	=	26.27 2.9	gallons	7.59	Х	0.16
Casina Valu	mes (gal/ft.):		-			
1-inch		1.5-inch	0.092		2-inch	0.16
3-inch		4-inch			6-inch	1.4
8-inch					10 inch	4
Sampling Method	<del></del>	ed Bailer				
Mediod	Dogodi		•	_		
Parameters		Bot		Pres.	Method	
TCE; 1,2-DC		2-40m	vials	HCI	8260	
1,1-DCA; 1,	1,1-TCA					
phenol & an	iline	2-1L ambe	er bottles	-	8270	
Zn & Pb		1- 4 oz. Pla	stic bottle	HNOз	6010B	
		F*				
		1 Volume	2 Volume	3 Volume 7.93	Sample	
	meters			1 / 96.5	7.94	
pН	meters	8.63	8.27			
Field Para pH Temp. (F)	<del>.</del>	8,63 57.8	56.8	55.4	55.2	
pH Temp. (F) Spec. Cond.	(uS/cm)	8.63 57.8 0.89	56.8 0.94	55.4 0.93	55.2 0.94	
pH Temp. (F)	(uS/cm)	8,63 57.8	56.8	55.4	55.2	
pH Temp. (F) Spec. Cond. Turbidity (N	. (uS/cm) TU)	8.63 57.8 0.89	56.8 0.94 -	55.4 0.93	55.2 0.94 -	00.
pH Temp. (F) Spec. Cond. Turbidity (N	. (uS/cm) TU)	8.63 57.8 0.89	56.8 0.94 -	55.4 0.93	55.2 0.94	00

#### WELL SAMPLING RECORD Well MW-4D Ekonol Facility Site Name Date 12/6/2001 Time 1130 Samplers Andy Janik Total Well Depth (TOC) 28.85 feet Initial Static Water Level (TOC) 7.65 feet 2.0 Well Diameter (inches) **Purging Data** Dedicated Bailer Method Water Volume = (Total Depth of Well - Depth To Water ) x Casing Volume per Foot 28.85 gallons 3.4 Casing Volumes (gal/ft.): 0.16 2-inch 1.5-inch 0.092 1-inch 0.041 6-inch 0.36 4-inch 0.64 1.4 3-inch 10 inch 8-inch 2.5 11 gallons Volume of Purge Water Removed Sampling Data Dedicated Bailer Method Method Pres. Bottle **Parameters** 8260 2-40ml vials HCI TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TCA 2-1L amber bottles 8270 phenol & aniline 6010B НИО з 1-4 oz. Plastic bottle Zn & Pb 3 Volume Sample 2 Volume Field Parameters 1 Volume 8.07 8.14 8.34 рΗ 8.58 56.5 56.5 56.8 56.5 Temp. (F) 0.97 0.99 0.91 Spec. Cond. (uS/cm) 0.27 Turbidity (NTU) Comments: Water was light gray in color. Sample was taken from well at 1210.

#### Phase II

September 2002

Site Name Ekonol Facili	ty			Well	MW-1S
				Date	9/25/2002
Samplers Dan Lipp					1350
Total Well Depth (TOC)		14.75			
Initial Static Water Level (	TOC)	6.85	feet		
Well Diameter (inches)		2.0			
Purging Data					
Method Peristaltic pu	ımp at 500mL	per minute			
Water Volume = (Total De	pth of Well - I 14.75				er Foot <i>0.16</i>
=	1.3	gallons	0.00		
Casing Volumes (gal/ft.):	4 E in ala	0.092		2-inch	0.16
1-inch 0.041 3-inch 0.36				6-inch	1.4
8-inch 2.5		0.01		10 inch	4
Volume of Purge Water R  Sampling Data  Method Peristaltic pu	temoved omp at 500mL	per minute		gallons	
		<u>, , , , , , , , , , , , , , , , , , , </u>		li d'adda a al	
Parameters TCE; 1,2-DCE;	Bottle. 2-40ml vials		Pres. HCI	Method 8260	
1,1-DCA; 1,1,1-TCA	Z-TOTH VIGIO				
1,1 = <u>1,4 1,1,1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u>					
phenol & aniline	2-1L amber	bottles	-	8270	
Zn & Pb	1- 4 oz. Plas	tic	НИОз	6010B	
ZII & PD	bottle	<i>LIC</i>	7,1100	00.102	<del></del>
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
pH	6.84	7.51	7.43	7.85	
Temp. (C)	15.80	17.76	16.05	16.10	
Spec. Cond. (uS/cm)	5.00	4.46	4.51	4.78	
Turbidity (NTU)	114.0	24.2	18.5	799.0	
Dissolved Oxygen (DO)	2.00	0.29	0.11	0.51	
ORP	-127	-116	-95	-143	
Nitrate (mg/L)	-	-	0.0	0.0	
Ferrous Iron (mg/L)	-	-	1.5	1.8	
Sulfate (mg/L)	_		80	42	
Comments: Sudan IV testaken at 1345 on 9/26/02.		ve. Water w	as light brov	vn in color. Sa	ample was

Site Name	Ekonol Facili	ty			Well	MW-2S
					Date	10/2/2002
Samplers	Andy Janik					1030
oumpioro	Jaime Davids	son			-	
Total Well D Initial Static Well Diamet	Water Level (1	гос)	12.12 4.88 2.0			*(
Purging D	<u>ata</u>					
Method	Peristaltic pu	mp at 500mL	per minute			
Water Volun	ne = (Total De	pth of Well - [	Depth To W	ater) x Cas	ing Volume p	er Foot
		12.12		4.88		0.16
	(E)	1.2	gallons			
Casina Volu	mos (gal/ft ):	·				
1-inch	mes (gal/ft.): 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			<u> </u>	4	galions	
Method	Peristaltic pu	mp at 500mL	per minute			
Parameters		Bottle 2-40ml vials		Pres. <i>HCl</i>	Method 8260	
1,1-DCA; 1,	1,1-TCA					
phenol & an	iline	2-1L amber l	ottles		8270	<del></del>
priegor & arr	<i></i>	L IL ambor L				
Zn & Pb		1- 4 oz. Plas	tic	HNO3	6010B	
	·	bottle		<del></del>		
Field Dere	metera	1 Volume	2 Volume	3 Volume	Sample	
Field Para	meters	5.92	6.67	7.15	6.70	
pH Town (C)		22.22	25.81	23.27	15.57	
Temp. (C) Spec. Cond	(uClom)	0.000	0.000	0.000	0.000	
Turbidity (N		258.0	239.0	252.0	249.0	
Dissolved O	-	8.97	5.76	6.97	8.95	
ORP	xygen (DO)	70	36	-67	-6	
Nitrate (mg/	1.	-	-	0.0	0.0	
Ferrous Iron	•		-	3.6	3.8	
		<del></del>		80	80	
Sulfate (mg/	'L')		l			
	Sudan IV tes 15 on 10/3/02.	t was negativ	e. Water wa	as clear witi	h sheen. Sam	ole was

Site Name	Ekonol Facili	ty			Well	MW-3S
					Da <b>te</b>	9/26/2002
Samplers	Dan Lipp				Time	
•						
Total Well D	epth (TOC) Water Level (	roc)	12.05 5.42			
Well Diamet	er (inches)		2.0			
Purging D	ata					
Method	Peristaltic pu	mp at 500mL	. per minute			
Water Volum	ne = (Total De	pth of Well - !	Depth To W	ater) x Cas	sing Volume p	er Foot
	=	12.05	-	- 40		0.16
	=	1.1	gallons			
Casing Volu	mes (gal/ft.):					
1-inch		1.5-inch			2-inch	0.16
3-inch			0.64		6-inch	1.4
8-inch	2.5				10 inch	4
Volume of F	Purge Water R	emoved	2.5 t	o dry	gallons	
0	D-4-					
<u>Sampling</u>	<u>Data</u> Peristaltic pu	ımn at 500ml	ner minute			
Methou .	renstant pu	inip at Joonic	por minuto			
Parameters	;	Bottle		Pres.	Method	
TCE; 1,2-DC		2-40ml vials		HCI	8260	
1,1-DCA; 1,	1,1-TCA		,			
phenol & an	iline	2-1L amber	bottles		8270	
Zn & Pb		1- 4 oz. Plas	tic	НМОз	6010B	
231 0 7 15	· · · · · · · · · · · · · · · · · · ·	bottle				
				<del></del>		
<u>Field Para</u>	<u>meters</u>	1 Volume	2 Volume		Sample	
рН		7.69	7.64	7.62	7.44	
Temp. (C)		18.82	18.44	17.75	18.67	
Spec. Cond	. (uS/cm)	3.14	3.13	3.28	3.51	
Turbidity (N	TU)	143.0	17.0	28.0	66.2	
Dissolved O	xygen (DO)	3.52	0.95	1.80	4.33	
ORP		-148	-151	-127	-94	
Nitrate (mg/	L)	-	-	0.0	0.0	
Ferrous Iron	n (mg/L)		-	3.0	2.8	
Sulfate (mg/	L)		-	80	80	
Comments:	Sudan IV tes	at was negativ	ve. Water w	as light brov	vn in color. Sa	ample was
taken at 145	50 on 9/26/02.					

Site Name Ekonol Facili	ity			Well _	MW-4S
				Date	9/26/2002
Samplers Dan Lipp				Time	0930
Total Well Depth (TOC)		12.50			
Initial Static Water Level (	TOC)	10.53	teet		
Well Diameter (inches)		2.0			
Purging Data					
Method Peristaltic pu	ımp at 500mL	. per <u>mi</u> nute			
Water Volume = (Total De			ater) x Cas	ing Volume p	er Foot
=	<u>12.50</u> 0.3	gallons	10.53	X	0.16
_=	0.3	ganons			
Casing Volumes (gal/ft.):					
1-inch 0.041				2-inch	0.16
3-inch 0.36		0.64		6-inch 10 inch	1.4 4
8-inch 2.5	<del> </del>			TO ITICIT	
Volume of Purge Water F Sampling Data	•			gallons	
Method Peristaltic pt	ımp at 500mL	. per minute	· · · · · · · · · · · · · · · · · · ·		
Parameters	Bottle		Pres.	Method	
TCE; 1,2-DCE;	2-40ml vials		HCI	8260	
1,1-DCA; 1,1,1-TCA					
phenol & aniline	2-1L amber	bottles		8270	
	d don Dlag	.4'	HNO з	6010B	
Zn & Pb	1- 4 oz. Plas bottle	uc	111403	00100	
		1			
Field Parameters	1 Volume	2 Volume		Sample	
pН	7.19	7.04	7.01	7.35	
Temp. (C)	17.48	17.43	17.33	18.38	
Spec. Cond. (uS/cm)	6.78	6.70	6.81	7.12	
Turbidity (NTU)	311.0	150.0	99.6	>1000	
Dissolved Oxygen (DO)	2.24	1.14	0.59	2.19	
ORP	-53	-49	-47	-133	
Nitrate (mg/L)		-	0.0	0.0	
Ferrous Iron (mg/L)		-	0.4	0.3	
Sulfate (mg/L)	-		80	42	
Comments: Sudan IV te		∕e. Water w	as light brov	vn in color. Sa	mple was

Site Name	Ekonol Facili	ity			Well _	MW-5S
Samplers	Dan Lipp				Date Tim <b>e</b>	9/25/2002 1515
Campicio	Бин Дрр				•	
	Water Level (	TOC)	14.52 10.02 2.0			
Well Diamet	er (inches)		2.0			
Purging D	<u>ata</u>					
Method	Peristaltic pu	ımp at 500mL	per minute			
Water Volur	me = (Total De	pth of Well - I 14.52		ater) x Cas 10.02	ing Volüme p	er Foot 0.16
	=	0.7	gallons	10.02		
						<del></del> -
Casing Volu	mes (gal/ft.): 0.041	1.5-inch	0.092	_	2-inch	0.16
3-incl			0.64		6-inch	1.4
8-incl					10 inch	4
Volume of	Purge Water R	Removed		3	gallons	
Sampling Method		ımp at 500mL	. per minute	· · · · · · · ·		
Parameters	CE;	Bottle 2-40ml vials		Pres. HCI	Method 8260	
1,1-DCA; 1,	1,1-TCA	<del></del>				
phenol & ar	iline	2-1L amber	bottles		8270	
Zn & Pb		1- 4 oz. Plas	tic	HNO 3	6010B	
		bottle			<del></del>	
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	
pH	ATTOCOLO.	6.85	6.84	6.98	6.62	
Temp. (C)		14.43	14.03	13.88	15.48	
Spec. Cond	. (uS/cm)	5.69	4.43	3.79	3.59	
Turbidity (N	•	>1000	>1000	>1000	451.0	
	)xygen (DO)	2.56	0.60	0.29	2.58	
ORP	, 9 ,	-11	-31	-43	-19	
Nitrate (mg/	'L)	-	-	0.0	0.0	
Ferrous Iron	•	-	-	0.0	1.2	
Sulfate (mg		-	-	0.0	80	
Comments:	Sudan IV tes	st was negativ	ve. Water w	as brown in	color, turbid.	Sample was

Site Name Ekonol Faci	lity			Well _	MW-6S
				Date	9/27/2002
Samplers Dan Lipp				Time	
Andy Janik				_	
Total Well Depth (TOC)		14.00			
Initial Static Water Level	(ТОС)	10.25	teet		
Well Diameter (inches)		2.0			
Purging Data					
Method Peristaltic p	ump at 500mL	per minute			
Water Volume = (Total D	epth of Well - I	Depth To W	ater) x Cas	ing Volume pe	er Foot
=	14.00		10.25	x	0.16
=	0.6	gallons			
( 100.)	_ <del></del>			<del> </del>	
Casing Volumes (gal/ft.): 1-inch 0.04	1.5-inch	0.092		2-inch	0.16
3-inch 0.04	-			6-inch	1.4
8-inch 2.			_	10 inch	4
Volume of Purge Water  Sampling Data  Method Peristaltic p	Removed oump at 500mL	per minute		gallons	
Parameters	Bottle		Pres.	Method	
TCE; 1,2-DCE;	2-40ml vials		HCI	8260	
1,1-DCA; 1,1,1-TCA					
phenol & aniline	2-1L amber	bottles	-	8270	
7. 0.Db	1- 4 oz. Plas	tic	НО 3	6010B	····
Zn & Pb	bottle		11100	00.00	
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
pH	6.11	6.07	6.20	6.22	
Temp. (C)	17.81	17.00	16.75	17.01	
Spec. Cond. (uS/cm)	6.33	6.39	6.44	6.46	
Turbidity (NTU)	23.1	23.7	34.6	16.7	
Dissolved Oxygen (DO)	7.34	4.98	5.03	4.90	
ORP	146	136	117	122	
Nitrate (mg/L)	-	-	0.0	0.0	
Ferrous Iron (mg/L)	-	-	0.0	0.0	
Sulfate (mg/L)	-	-	80	80	
Comments: Sudan IV to taken at 0940 on 9/27/0	est was negativ	ve. Water w		vn in color. Sε	mple was

Site Name _E	konol Facilit	у			Well	MW-7S
					Date	9/27/2002
Samplers D	an Lipp				_	1000
	ndy Janik				-	
_						
Total Well Dep			12.50			
Initial Static W		OC)	9.46 2.0	reet		
Well Diameter	(inches)		2.0			
Purging Dat	<u>a</u>					
Method <u>F</u>	Peristaltic pui	mp at 500mL	per minute			
Water Volume	= (Total De	oth of Well - [	Depth To W	ater) x Cas	sing Volume p	er Foot
. 10.0. 10.0.110	= (	12.50	-	9.46	х	0.16
		0.5	gallons			
	( - 10° )					
Casing Volume	es (gai/π.): 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 Pu	rge Water R	emoved		3	gallons	
	•					
Sampling Da	<u>ata</u>	_				
Method <u>F</u>	Peristaltic pu	mp at 500mL	per minute		-	
Parameters		Bottle		Pres.	Method	
TCE; 1,2-DCE	:	2-40ml vials		HCI	8260	
1,1-DCA; 1,1,						
			- 111		8270	
phenol & anilir	1 <del>0</del>	2-1L amber l	ootties		6270	
Zn & Pb	<del></del>	1- 4 oz. Plas	tic	HNO 3	6010B	
211 0.1.0		bottle				
						1
Field Param	<u>reters</u>	1 Volume	2 Volume	3 Volume	Sample	
pΗ		6.18	6.45	6.33	6.74	
Temp. (C)		16.91	17.13	16.40	16.56	
Spec. Cond. (	uS/cm)	5.32	5.28	5.30	5.26	
Turbidity (NTU	J)	450.0	317.0	>1000	>1000	
Dissolved Oxy	/gen (DO)	3.93	5.46	2.16	4.92	,
ORP		123	123	55	30	
Nitrate (mg/L)		-		NT	NT	
Ferrous Iron (ı	mg/L)		-	NT	NT	
Sulfate (mg/L)	1			NT	NT	
Comments: 3	Dudan 11/4	d was namet	o Wotorus	ae hmum in	color turbid	Sample was
Comments: 3		ı was negativ	e. vvalei w	as biowii ii	coloi, turbiu.	Campio Huo
NT = Field par		taken due to	turbidity of v	vater.		

Site Name	Ekonol Facilit	у			Well	MW-8S
					Date	9/27/2002
Samplers	Dan Lipp					1135
	Andy Janik				•	
	Water Level (T	OC)	13.55 11.65			
Well Diamete	er (inches)	•	2.0			
Purging Da	<u>ata</u>					
Method	Peristaltic pui	mp at 500mL	per minute	<u> </u>		
Water Volum	ne = (Total De) =	oth of Well - [] 13.55		ater) x Cas 11.65	ing Volume p	er Foot 0.16
	=		gallons			
Casing Volum		1.5-inch	0.092		2-inch	0.16
1-inch 3-inch		4-inch	0.092		6-inch	1.4
8-inch		7-111011	0,01		10 inch	4
Volume of P Sampling I Method	urge Water R <u>Data</u> <i>Peristaltic pu</i>		per minute		gallons	
Parameters		Bottle		Pres.	Method	
TCE; 1,2-DC	E:	2-40ml vials		HCI	8260	
1,1-DCA; 1,1						
phenol & ani	line	2-1L amber l	oottles		8270	
Zn & Pb	<del> </del>	1- 4 oz. Plas	tic	HNO3	6010B	
2110.10		bottle				
					· ·	1
Field Para	me <u>ters</u>	1 Volume	2 Volume		Sample	
pН		6.42	6.53	6.57	6.51	
Temp. (C)		16.57	16.66	16.51	16.98	
Spec. Cond.	(uS/cm)	7.62	7.67	7.69	7.12	
Turbidity (N7	ΓU)	>1000	326.0	>1000	530.0	
Dissolved O	xygen (DO)	5.72	2.36	3.00	2.59	
ORP		29	25	5	-17	
Nitrate (mg/l	_)	_	-	0.0	0.0	
Ferrous Iron	-	-		0.4	1.2	]
Sulfate (mg/		-		80	80	
Comments:	Sudan IV tes 50 on 9/27/02.	t was negativ	ve. Water w	as brown in	color, turbid.	Sample was

Site Name Ekonol Facili	ity			Well	MW-9S
				Dote	9/27/2002
Samplers Dan Lipp					1315
Andy Janik				• • • • • • • • • • • • • • • • • • • •	
Total Well Depth (TOC)		14.02			
Initial Static Water Level (	TOC)	9.98	teet		
Well Diameter (inches)		2.0	<del></del>		
Purging Data					
Method Peristaltic pu	ımp at 500mL	per minute			
Water Volume = (Total De	pth of Well - I	Depth To W	ater) x Cas	ing Volume p	er Foot
=	14.02	-	9.98	Х	0.16
=	0.6	gallons			
Casing Volumes (gal/ft.):	·				
1-inch 0.041	1.5-inch	0.092		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	Removed		2	gallons	
Sampling Data					
Method Peristaltic pu	ımp at 500mL	per minute			
Davamatam	Bottle		Pres.	Method	
Parameters TCE; 1,2-DCE;	2-40ml vials		HCI	8260	
1,1-DCA; 1,1,1-TCA	2 10113 11010				
					<del></del>
phenol & aniline	2-1L amber	bottles	-	8270	<del></del>
Zn & Pb	1- 4 oz. Plas	tic	НМОз	6010B	
ZIIOLFU	bottle		11100		
<del></del>					
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
pH	6.31	6.34	6.27	6.28	
Temp. (C)	17.52	17.98	17.29	18.31	
Spec. Cond. (uS/cm)	6.54	5.68	7.26	7.01	
Turbidity (NTU)	>1000	819.0	>1000	>1000	
Dissolved Oxygen (DO)	6.41	6.20	5.76	3.77	
ORP	76	99	102	57	
Nitrate (mg/L)	_	-	0.0	0.2	
Ferrous Iron (mg/L)		_	0.0	0.0	
Sulfate (mg/L)	-	-	80	80	
Comments: Sudan IV tes	st was negativ	re. Water w	as brown in	color, turbid.	Sample was

Site Name	Ekonol Facili	ity			Well _	MW-1D
					Date	9/30/2002
Samplers	Andy Janik				-	0850
Campione	Jaime David	son			_	
			04.76	for all		
Total Well D			31.76 9.15			
Well Diame	Water Level (	100)	2.0	1001		
AACII DIGITIC	ter (mories)	•				
Purging D	ata					
Method	Peristaltic pu	ımp at 500mL	per minute			
Water Volum	ne = (Total De	enth of Well - D	epth To W	ater) x Cas	ing Volume p	er Foot
114401 10141	=	31.76	-		х	0.16
	=	3.6	gallons			
<u> </u>	7 1/0 5			<del></del>		
Casing Volu	ımes (gal/ft.): 0.041	1.5-inch	0.092		2-inch	0.16
3-incl			0.64		6-inch	1.4
8-incl					10 inch	4
Volume of Sampling	Purge Water F <u>Data</u>			12	galions	
Method	Peristaltic pu	ump at 500mL	per minute		•	
D	_	Bottle		Pres.	Method	
Parameters TCE; 1,2-D		2-40ml vials		HCI	8260	
1,1-DCA; 1,						
				<del></del>	0070	<del></del>
phenol & ar	niline	2-1L amber l	ootties		8270	-
Zn & Pb	<del></del> -	1- 4 oz. Plas	tic	НМОз	6010B	
ZII WID		bottle				
Field Para	ameters	1 Volume	2 Volume	3 Volume	Sample	
рH		7.68	7.78	7.79	7.67	
Temp. (C)		19.14	14.55	16.75	15.20	
Spec. Cond	l. (uS/cm)	0.00	2.75	2.85	2.87	
Turbidity (N	ITU)	257.0	31.2	52.3	67.5	
Dissolved C	Oxygen (DO)	11.87	2.11	1.50	1.44	
ORP		-175	-240	-252	-242	
Nitrate (mg	/L)			4.0	2.0	
Ferrous Iro	n (mg/L)	_		0.6	0.7	
Sulfate (mg	;/L)			80	80	
				la O-	mento ucas	
Comments	Sudan IV te	st was negativ	re. Water w	as clear. Sa kon from ti	ımpie was iis well	
taken at 10	15 on 9/30/02	. Duplicate sai	inhie was to	KOH HUHI U	no mon.	

Site Name Ekonol Facil	ity			Well _	MW-2D
				Dat <b>e</b>	10/2/2002
Samplers Andy Janik				Time_	1230
Jaime David	son			-	-
Total Well Depth (TOC)		30.06			
Initial Static Water Level (	TOC)	9.75	feet		
Well Diameter (inches)		2.0			
Purging Data					
Method Peristaltic pe	ump at 500mL	per minute			
Water Volume = (Total De	epth of Well - !	Depth To W	ater) x Cas	ing Volume p	er Foot
=	30.06		9.75		0.16
=	3.2	gallons			
Cooling Volumes (golff):					
Casing Volumes (gal/ft.): 1-inch 0.041	1.5-inch	0.092		2-inch	0.16
3-inch 0.36				6-inch	1.4
8-inch 2.5				10 inch	4
Sampling Data  Method Peristaltic p	ump at 500mL	per minute	11	gallons	
Parameters	Bottle		Pres.	Method	
TCE; 1,2-DCE;	2-40ml vials	<del></del>	HCI	8260	
1,1-DCA; 1,1,1-TCA					
phenol & aniline	2-1L amber	bottles	-	8270	
				20405	
Zn & Pb	1- 4 oz. Plas	tic	HNO 3	6010B	
	bottle		<u></u>	-	
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
рН	6.75	7.10	7.25	7.38	
Temp. (C)	23.53	15.88	15.39	15.23	
Spec. Cond. (uS/cm)	0.000	0.000	0.000	0.000	
Turbidity (NTU)	217.0	283.0	290.0	289.0	
Dissolved Oxygen (DO)	8.36	9.24	8.83	8.52	
ORP	-87	-130	-161	-169	
Nitrate (mg/L)		-750	5.0	5.0	
· = ·		<del>  </del>	0.0	0.0	
Ferrous Iron (mg/L)		_	80	80	
Sulfate (mg/L)			1 00		
Comments: Sudan IV te	st was negativ /2/02.	∕e. Water w	as clear wit	h sheen and o	dor. Sample

Site Name Ekonol Facil	ity			Well	MW-3D
				Date	9/30/2002
Samplers Andy Janik					1120
Jaime David	son			-	
<del></del>	<u> </u>				
Total Well Depth (TOC)	TOC)	26.43 9.21			
Initial Static Water Level ( Well Diameter (inches)	100)	2.0	1661		
AAGII DIGUIGIGE (IIICUGS)					
Purging Data					
Method Peristaltic pe	ımp at 500ml	per minute			
Water Volume = (Total De					er Foot
=	<u>26.43</u> 2.8	gallons	9.21	<u>x</u>	0.16
_=	2.0	ganons			
Casing Volumes (gal/ft.):			-		
1-inch 0.041		0.092		2-inch	0.16
3-inch 0.36	4-inch	0.64		6-inch	1.4
8-inch 2.5	<u> </u>			10 inch	4
Volume of Purge Water I	Removed		10	gallons	
O D-4-					
Sampling Data  Method Peristaltic p	ump at 500mL	ner minute			
Method <u>Ferisland P</u>	unip at Goonie	per minute			
Parameters	Bottle		Pres.	Method	
TCE; 1,2-DCE;	2-40ml vials		HCI	8260	
1,1-DCA; 1,1,1-TCA		<u></u>			
phenol & aniline	2-1L amber	bottles		8270	
Zn & Pb	1- 4 oz. Plas	etic	HNO3	6010B	
ZII & PU	bottle		11100		
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
pH	7.55	7.46	7.19	7.30	
Temp. (C)	21.06	16.88	17.35	16.62	
Spec. Cond. (uS/cm)	2.92	2.97	2.96	2.99	
Turbidity (NTU)	74.3	56.9	47.6	47.9	
Dissolved Oxygen (DO)	2.38	1.70	1.53	1.40	
ORP	-221	-230	-193	-209	
Nitrate (mg/L)	-	-	0.0	0.0	
Ferrous Iron (mg/L)	_	-	0.8	0.4	
Sulfate (mg/L)	_	-	80	80	
	L	<u>.</u>		·	
Comments: Sudan IV to was taken at 1330 on 9/3	st was negativ 10/02.	ve. Water w	as clear wit	h sheen and d	odor. Sample

Site Name Ekonol Facili	ty	·		Well	MW-4D
				Date	9/30/2002
Samplers Andy Janik				Time	
Jaime Davids	son			•	
	-				
Total Well Depth (TOC)		28.94			
Initial Static Water Level (	roc)	9.27	teet		
Well Diameter (inches)		2.0			
Purging Data					
Method Peristaltic pu	mp at 500mL	per minute			
Water Volume = (Total De	pth of Well - I	Depth To W	ater) x Cas	ing Volume p	er Foot
=	28.94	-	9.27	x	0.16
=	3.1	gallons			
( 10)					
Casing Volumes (gal/ft.): 1-inch 0.041	1.5-inch	0.092	<u> </u>	2-inch	0.16
3-inch 0.36	4-inch			6-inch	1.4
8-inch 2.5	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			10 inch	4
Volume of Purge Water R Sampling Data		nor minuto		gallons	
Method Peristaltic pu	ımp at 500mL	. per minute			
Parameters	Bottle		Pres.	Method	
TCE; 1,2-DCE;	2-40ml vials		<u>HCI</u>	8260	
1,1-DCA; 1,1,1-TCA		<u> </u>			
phenol & aniline	2-1L amber	bottles		8270	
Zn & Pb	1- 4 oz. Plas	tic	НИОз	6010B	
	bottle				
		T-1/1	01/ 1	0	
Field Parameters	1 Volume	2 Volume		Sample	
pН	7.13	7.27	7.26	7.25	
Temp. (C)	19.36	17.37	17.80	16.30	
Spec. Cond. (uS/cm)	3.26	3.76	3.79	3.65	
Turbidity (NTU)	29.8	28.7	30.0	31.1	
Dissolved Oxygen (DO)	2.14	1.23	1.12	0.90	
ORP	-176	-218	-217	-219	
Nitrate (mg/L)		<u> </u>	1.0	0.2	
Ferrous Iron (mg/L)	-	-	0.0	0.0	
Sulfate (mg/L)	-	<u> </u>	80	80	J
Comments: Sudan IV tes		ve. Water w	as clear wit	h sheen and o	odor. Sample

Site Name	Ekonol Facili	ty			Well	MW-10D
					Data	10/1/2002
0	Andre Innile					1120
Samplers	Andy Janik Jaime Davids	eon				
	Janne Barrae					
Total Well D	epth (TOC)		30.93			
	Water Level (1	TOC)	9.47	feet		
Well Diamet	er (inches)		2.0			
Purging D	ata					
Method	Peristaltic pu	mp at 500mL	per minute			
Water Volun	ne = (Total De	pth of Well - [	Depth To W	ater) x Cas	ing Volume p	er Foot
		30.93		9.47	X	0.16
	=	3.4	gallons			
<u> </u>	(160.)			<del></del> -		
Casing Volu	mes (gal/ft.): 0.041	1.5-inch	0.092	<u> </u>	2-inch	0.16
3-inch		4-inch	0.64		6-inch	1.4
8-inch					10 inch	4
Volume of F	Purge Water R	emoved	<del> </del>	11	gallons	
Sampling Method	<u>Data</u> Peristaltic pu	mp at 500mL	per minute			
Parameters	i	Bottle		Pres.	Method	
TCE; 1,2-DC	CE;	2-40ml vials		HCI	8260	
1,1-DCA; 1,	1,1-TCA					
	***	2-1L amber l	hattlan		8270	
phenol & an	illine	Z-TL amber t	Mucs		0270	
Zn & Pb		1- 4 oz. Plas	tic	НNО з	6010B	
		bottle				
	<u></u>					1
Field Para	<u>meters</u>	1 Volume	2 Volume		Sample	
рH		8.78	8.48	8.31	8.25	
Temp. (C)		20.12	17.87	18.06	17.75	
Spec. Cond	. (uS/cm)	0.000	0.000	0.004	0.002	
Turbidity (N	TU)	235.0	235.0	0.0	0.0	
Dissolved C	xygen (DO)	10.87	11.05	10.68	10.47	
ORP		-191	-167	-147	-142	
Nitrate (mg/	L)			0.0	0.0	
Ferrous Iron	n (mg/L)	-	<u> </u>	1.0	0.9	
Sulfate (mg/	/L)	-	<u> </u>	80	80	
Comments: was taken a	Sudan IV tes at 1345 on 10/	st was negativ 1/02.	ve. Water w	as clear wit	h slight sheen	. Sample

Site Name	Ekono	ol Facilit	by			Well	MW-11D
						Data	10/1/2002
Samplers	Andy	Janik				Time	
Gampiera		Davids	on			•	
Total Well D Initial Static Well Diamet	Water	Level (1	roc)	30.91 12.31 2.0			
Purging D							
Method		altic pu	mp a <u>t 5</u> 00mL	per minute			
					otor) v Cor	ing Volume n	er Eoot
Water Volun	ne = (T _	otal De	otn of VVeII - L 30.91		ater) x Cas 12.31	sing Volume p	0.16
	=			gallons		<u> </u>	<del></del>
Casing Volu			1.5-inch	0.092		2-inch	0.16
1-inch 3-inch		0.041	4-inch	0.092		6-inch	1.4
8-inch		2.5	<del>1</del> -111011	0.01		10 inch	4
Sampling Method Parameters	Perist	taltic pu	mp at 500mL Bottle 2-40ml vials	per minute	Pres.	Method <i>8260</i>	
TCE; 1,2-DO		A	Z-40IIII VIAIS		1101	5250	
1,1-000, 1,	1,1-10	<u>~.</u>					
phenol & an	iline		2-1L amber l	oottles		8270	
Zn & Pb			1- 4 oz. Plas bottle	tic	НМОз	6010B	·
						· · · · · · · · · · · · · · · · · · ·	
Field Para	<u>ametei</u>	<u>rs</u>	1 Volume	2 Volume	3 Volume	Sample	
pН			6.14	5.87	6.92	6.94	
Temp. (C)		70	16.55	13.75	13.22	13.17	
Spec. Cond		m)	3.830	3.630	3.690	3.690	
Turbidity (N	All the second	C. Continue of C.	30.2	24.8	28.7	28.0	
Dissolved C	xygen	(DO)	2.69	2.29	2.32	2.60	
ORP			2	-9	-132	-146	
Nitrate (mg/				<u>-</u>	3.0	4.0	
Ferrous Iron		.)		-	0.0	0.2	
Sulfate (mg	/L)			<u> </u>	80	80	
Comments: at 0930 on			t was negativ	e. Water w	as clear. Sa	ample was tak	en

ndy Janik aime Davidso	on				
ime Davidso	on				10/1/2002
·	on			Time	1400
h (TOC)					
		32.22	feet		
ater Level (To	oc)	9.85	feet		
(inches)		2.0	<del></del>		
<u>ā</u>					
eristaltic pun	np at 500mL	per minute			
= (Total Dep		Depth To W	ater) x Casi	ing Volume pe	r Foot
		- anllone	9.85	<u>x</u>	0.16
	3.0	yanuns			
s (gal/ft.):					
0.041	1.5-inch	0.092			0.16
0.36	4-inch	0.64			1.4
2.5				10 inch	
ata		ner minute		gallons	
enstaluc puli	<del></del>	per rimitate		Method	
			HCI	8260	
-TCA					
e 2	2-1L amber b	oottles		8270	
	1- 4 oz. Plast		- HNO з	8270 6010B	
	1- 4 oz. Plast				
	1- 4 oz. Plast bottle	tic	НМОз	6010B	
	1- 4 oz. Plast bottle 1 Volume 8.53	tic 2 Volume	HNO 3	6010B Sample	
eters	1- 4 oz. Plast bottle 1 Volume	2 Volume 8.09	HNO 3  3 Volume  8.68	6010B Sample 8.83	
eters (	1-4 oz. Plast bottle 1 Volume 8.53 26.88	2 Volume 8.09 20.82	3 Volume 8.68 20.23	6010B Sample 8.83 19.99	
eters	1- 4 oz. Plast bottle 1 Volume 8.53 26.88 0.001	2 Volume 8.09 20.82 0.000	3 Volume 8.68 20.23 0.000	Sample 8.83 19.99 0.000	
eters IS/cm)	1- 4 oz. Plast bottle 1 Volume 8.53 26.88 0.001 230.0	2 Volume 8.09 20.82 0.000 261.0	3 Volume 8.68 20.23 0.000 89.4	Sample 8.83 19.99 0.000 177.0	
eters IS/cm)	1-4 oz. Plast bottle 1 Volume 8.53 26.88 0.001 230.0 8.74	2 Volume 8.09 20.82 0.000 261.0 8.25	HNO 3  3 Volume  8.68  20.23  0.000  89.4  7.82	Sample 8.83 19.99 0.000 177.0 7.02	
eters IS/cm)	1-4 oz. Plast bottle 1 Volume 8.53 26.88 0.001 230.0 8.74	2 Volume 8.09 20.82 0.000 261.0 8.25	3 Volume 8.68 20.23 0.000 89.4 7.82 -277	Sample 8.83 19.99 0.000 177.0 7.02 -298	
	eristaltic pun  = (Total Dep  s (gal/ft.): 0.041 0.36 2.5  ge Water Re	eristaltic pump at 500mL  = (Total Depth of Well - I 32.22 3.6  = (gal/ft.): 0.041	eristaltic pump at 500mL per minute  = (Total Depth of Well - Depth To W 32.22 - 3.6 gallons  = (gal/ft.): 0.041 1.5-inch 0.092 0.36 4-inch 0.64 2.5  ge Water Removed  ata eristaltic pump at 500mL per minute  Bottle 2-40ml vials	eristaltic pump at 500mL per minute  = (Total Depth of Well - Depth To Water ) x Casi	eristaltic pump at 500mL per minute  = (Total Depth of Well - Depth To Water ) x Casing Volume per 32.22 - 9.85 x  3.6 gallons  = (gal/ft.):  0.041    1.5-inch    0.092

Site Name	Ekonol Facil	lity			Well	MW-13D
					Date	10/1/2002
Samplers	Andy Janik				Time	
	Jaime David	Ison				
Total Well De	enth (TOC)		31.64	feet		
Initial Static		TOC)	12.62			
Well Diamete	er (inches)	7.	2.0	- <del></del>		
Purging Da	<u>ata</u>					
Method	Peristaltic p	ump at 500mL	per minute		·	
Motor Volum	ıe = (Total De	epth of Well - [	Denth To W	ater) x Cas	sina Volume p	er Foot
water words	= (10tal D	31.64	-	12.62	X	0.16
	=	3.0	gallons			·
<u> </u>	(1/6)		<del></del> ,			
Casing Volum		1.5-inch	0.092		2-inch	0.16
3-inch			0.64		6-inch	1.4
8-inch					10 inch	4
Volume of P	urge Water I	Removed		10	gallons	
Sampling I						
Method	Peristaltic p	ump at 500mL	per minute			
Parameters		Bottle		Pres.	Method	
TCE; 1,2-DC		2-40ml vials		HCI	8260	
1,1-DCA; 1,1	,1-TCA			<del></del>		
phenol & ani	line	2-1L amber l	bottles	-	8270	
priorior & um		<u> </u>				
Zn & Pb		1- 4 oz. Plas	tic	HNОз	6010B	
		bottle				
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	
pH		4.98	5.02	5.27	5.09	
Temp. (C)		17.83	15.25	15.11	14.94	
Spec. Cond.	(uS/cm)	0.000	0.000	0.000	0.000	
Turbidity (N7		241.0	249.0	249.0	249.0	
Dissolved O	11.5%	11.49	10.80	10.54	10.34	
ORP		118	110	51	66	
Nitrate (mg/L	_)			0.0	0.0	
Ferrous Iron	(mg/L)	-	_	0.6	0.6	
Sulfate (mg/	L)	-		80	80	
Comments: at 1115 on 1		st was negativ	re. Water w	as clear. Sa	mple was tak	en

#### Phase II

November 2002

Site Name Ekonol I	acility		Well ID	<u>MW-1S</u>	
Samplers Andy Ja					
Dan Lip	<u> </u>				
Total Well Depth (TO Initial Static Water Le		14.75 7.15	feet		
Well Diameter		2.0	inches		
Purging Data					
Method Perist	altic Pump @ 500	) mL/min.	Date/Time _	11/5/0	2 - 1245
Water Volume = (Tota	al Depth of Well -	Depth To W	/ater) x Casi	ing Volume	per Foot
=	14.75			х	0.16
= 1.2	gallons			-	
	Casing	Volumes (g	al/ft.):		
1-inch 0	.041 1.5-inch			2-inch	0.16
	0.36 4-inch	0.64		6-inch	
8-inch	2.5			10 incl	1 4
Sampling Data		4	gallons	441510	. 4220
Volume of Purge Wa Sampling Data  Method Perist	ter Removed altic Pump @ 500		gallons Date/Time	11/5/0	2 - 1320
Sampling Data		) mL/min.	•		2 - 1320 ethod
Sampling Data  Method Perist	altic Pump @ 500	0 mL/min.	Date/Time	Me	520
Sampling Data  Method Perist  Parameters  TCE; 1,2-DCE;  1,1-DCA; 1,1,1-TC	altic Pump @ 500 Bo 2-40m A	<i>) mL/min.</i> ttle I vials	Date/Time_ Pres. <i>HCI</i>	Me	ethod 260
Sampling Data  Method Perist  Parameters  TCE; 1,2-DCE;  1,1-DCA; 1,1,1-TC  phenol & aniline	altic Pump @ 500 Bo 2-40m A 2-1L amb	0 mL/min. Ittle I vials er bottles	Date/Time Pres. <i>HCI</i>	Me 8.	ethod 260 270
Sampling Data  Method Perist  Parameters  TCE; 1,2-DCE;  1,1-DCA; 1,1,1-TC	altic Pump @ 500 Bo 2-40m A	0 mL/min. Ittle I vials er bottles	Date/Time_ Pres. <i>HCI</i>	Me 8.	ethod 260
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb	altic Pump @ 500 Bo 2-40m A 2-1L amb	0 mL/min. Ittle I vials er bottles	Date/Time Pres. <i>HCI</i>	Me 8.	ethod 260 270
Sampling Data  Method Perist  Parameters  TCE; 1,2-DCE;  1,1-DCA; 1,1,1-TC  phenol & aniline	altic Pump @ 500 Bo 2-40m A 2-1L amb 1- 4 oz. Pla	o mL/min.  Ittle I vials er bottles astic bottle	Pres. HCl HNO3	8. 8. 60 Sample 7.11	ethod 260 270
Sampling Data  Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters	Bo 2-40m A 2-1L amb 1-4 oz. Pla 1 Volume	o mL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4	Pres. HCl - HNO 3 3 Volume 7.10 60.3	8 8 60 Sample 7.11 59.5	ethod 260 270
Sampling Data  Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH	Bo: 2-40m A 2-1L amb 1- 4 oz. Pla 1 Volume 7.39 58.3 4.83	o mL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02	Pres. HCl  HNO 3  3 Volume  7.10  60.3  4.00	8 8 60 Sample 7.11 59.5 4.00	ethod 260 270
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH Temp. (F) Spec. Cond. (uS/cm) Turbidity (NTU)	Bo 2-40m A 2-1L amb 1- 4 oz. Pla 1 Volume 7.39 58.3 4.83 >1,000	o mL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6	Pres. HCl	8 8 60 Sample 7.11 59.5 4.00	ethod 260 270
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH Temp. (F) Spec. Cond. (uS/cm) Turbidity (NTU) Dissolved Oxygen (D	Bo 2-40m A 2-1L amb 1- 4 oz. Pla 1 Volume 7.39 58.3 4.83 >1,000 0) 2.32	o mL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6 0.39	Pres. HCl  HNO 3  3 Volume  7.10  60.3  4.00  0  0.33	8 8 60 Sample 7.11 59.5 4.00 0 0.29	ethod 260 270
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH Temp. (F) Spec. Cond. (uS/cm) Turbidity (NTU) Dissolved Oxygen (D ORP	A 2-1L amb 1- 4 oz. Pla  1 Volume 7.39 58.3 4.83 >1,000 0) 2.32 -146	2 Volume 7.11 60.4 4.02 48.6 0.39	Pres. HCI  - HNO 3  3 Volume  7.10  60.3  4.00  0  0.33  -97	88 60 Sample 7.11 59.5 4.00 0 0.29 -97	ethod 260 270
Method Perist  Parameters  TCE; 1,2-DCE;  1,1-DCA; 1,1,1-TC  phenol & aniline  Zn & Pb  Field Parameters  pH  Temp. (F)  Spec. Cond. (uS/cm)  Turbidity (NTU)  Dissolved Oxygen (D  ORP  Nitrate (mg/L)	A 2-1L amb 1- 4 oz. Pla  1 Volume 7.39 58.3 4.83 >1,000 0) 2.32 -146 -	o mL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6 0.39 -117	Pres. HCI  - HNO 3  3 Volume  7.10  60.3  4.00  0  0.33  -97  0.0	88 60 Sample 7.11 59.5 4.00 0 0.29 -97 0.0	ethod 260 270
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH Temp. (F) Spec. Cond. (uS/cm) Turbidity (NTU) Dissolved Oxygen (D ORP Nitrate (mg/L) Ferrous Iron (mg/L)	A 2-1L amb 1- 4 oz. Pla  1 Volume 7.39 58.3 4.83 >1,000 0) 2.32 -146 -	ormL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6 0.39 -117 -	Pres. HCI  - HNO 3  3 Volume  7.10  60.3  4.00  0  0.33  -97  0.0  0.6	88 60 Sample 7.11 59.5 4.00 0 0.29 -97 0.0 0.6	ethod 260 270
Method Perist  Parameters  TCE; 1,2-DCE;  1,1-DCA; 1,1,1-TC  phenol & aniline  Zn & Pb  Field Parameters  pH  Temp. (F)  Spec. Cond. (uS/cm)  Turbidity (NTU)  Dissolved Oxygen (D  ORP  Nitrate (mg/L)	A 2-1L amb 1- 4 oz. Pla  1 Volume 7.39 58.3 4.83 >1,000 0) 2.32 -146 -	o mL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6 0.39 -117	Pres. HCI  - HNO 3  3 Volume  7.10  60.3  4.00  0  0.33  -97  0.0	88 60 Sample 7.11 59.5 4.00 0 0.29 -97 0.0	ethod 260 270
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH Temp. (F) Spec. Cond. (uS/cm) Turbidity (NTU) Dissolved Oxygen (D ORP Nitrate (mg/L) Ferrous Iron (mg/L)	1 Volume 7.39 58.3 4.83 >1,000  C) 2-46	ornL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6 0.39 -117 -	Pres. HCl  - HNO 3  3 Volume 7.10 60.3 4.00 0 0.33 -97 0.0 0.6 80	88 60 Sample 7.11 59.5 4.00 0 0.29 -97 0.0 0.6	ethod 260 270
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH Temp. (F) Spec. Cond. (uS/cm) Turbidity (NTU) Dissolved Oxygen (D ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	1 Volume 7.39 58.3 4.83 >1,000  C) 2-46	ornL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6 0.39 -117 -	Pres. HCl  - HNO 3  3 Volume 7.10 60.3 4.00 0 0.33 -97 0.0 0.6 80	88 60 Sample 7.11 59.5 4.00 0 0.29 -97 0.0 0.6	ethod 260 270
Method Perist  Parameters TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TC phenol & aniline Zn & Pb  Field Parameters pH Temp. (F) Spec. Cond. (uS/cm) Turbidity (NTU) Dissolved Oxygen (D ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	1 Volume 7.39 58.3 4.83 >1,000  C) 2-46	ornL/min.  Ittle I vials  er bottles astic bottle  2 Volume 7.11 60.4 4.02 48.6 0.39 -117 -	Pres. HCl  - HNO 3  3 Volume 7.10 60.3 4.00 0 0.33 -97 0.0 0.6 80	88 60 Sample 7.11 59.5 4.00 0 0.29 -97 0.0 0.6	ethod 260 270

Site Name Ekonol Faci	lity	<u></u>	<u> </u>	Well ID	MW-2S
Samplers Andy Janik Dan Lipp					
Total Well Depth (TOC) Initial Static Water Level Well Diameter	(тос)	11.95 4.05 2.0	feet feet inches		
Purging Data					
Method Peristaltion	Pump @ 500	mL/min.	Date/Time	11/6/02	- 1520
Water Volume = (Total D	epth of Well - I 11.95 gallons	Depth To W	ater) x Cas 4.05	ing Volume p	oer Foot 0.16
	0	Valuman (a	al#4 \-		<del></del>
4 :		Volumes (g 0.092	ai/it.).	2-inch	0.16
1-inch 0.041 3-inch 0.36	• • • • • •	7 27 272		6-inch	
8-inch 2.5		0.01		10 inch	
Sampling Data  Method Peristaltic	: Pump @ 500	mL/min.	Date/Time	11/7/02	? - 0945
Parameters	Bot	tle	Pres.		hod
TCE; 1,2-DCE;	2-40ml	vials	HCI	82	60
1,1-DCA; 1,1,1-TCA		<del></del>			
phenol & aniline	2-1L ambe				70 10B
Zn & Pb	1- 4 oz. Pla	Stic Dottie_	HNO 3	60	IVB
Field Deremotore	1 Volume	2 Volume	3 Volume	Sample	1
Field Parameters	6.47	6.43	6.49	6.49	1
Temp. (F)	60.8	61.7	61.5	60.8	1
Spec. Cond. (uS/cm)	5.34	5.40	5.49	5.47	
Turbidity (NTU)	35.8	3.4	13.3	0	
Dissolved Oxygen (DO)	0.55	0.26	1.98	2.01	
Diddoirdd Ox, 30 (2 4)	2.55				
ORP	-48	-111	-81	-52	
ORP Nitrate (mg/L)			-81 0.0	0.0	
ORP Nitrate (mg/L) Ferrous Iron (mg/L)	-48	-111 - -	-81 0.0 3.3	0.0 3.4	
ORP Nitrate (mg/L)	-48 -	-111 -	-81 0.0	0.0	
ORP Nitrate (mg/L) Ferrous Iron (mg/L)	-48 - - -	-111 - - -	-81 0.0 3.3 80	0.0 3.4	

Site Name	Ekonol Facili	<u>ty</u>			Well ID	MW-3S
Samplers	Andy Janik					
•	Dan Lipp					
Total Well D	anth (TOC)		12.02	feet		
	Water Level (1	roc)	7.42	feet		
Well Diamet	•	.00)	2.0	inches		
Well Diamet		•				
Purging [	<u>Data</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time	11/5/02	- 0835
Water Volum	ne = (Total De	nth of Well - I	Depth To W	ater ) x Casi	ing Volume p	er Foot
Water Volum	=	12.02	-		x	
		gallons	<del></del>			
		-			<del></del>	
			Volumes (g	al/ft.):	2 iah	0.16
1-inch		1.5-inch			2-inch 6-inch	
3-inch		4-inch	0.64		10 inch	
8-inct	2.5				10 111011	
Volume of I	Purge Water R	emoved	3	gallons		
	D-4-					
Sampling	Data					
Method	Parietaltic	Pump @ 500	ml /min.	Date/Time	11/5/02	2 - 0915
Meniod	1 enstanc	r ump @ ooo	11103111111			
Para	meters	Bot	tle	Pres.	Met	thod
TCE; 1	,2-DCE;	2-40ml	vials	<u>HCI</u>	82	260
	1,1,1-TCA					
	& aniline	2-1L ambe				270
Zn	& Pb	1- 4 oz. Pla	stic bottle	HNO 3	60	10B
Ciald Dans	motors	1 Volume	2 Volume	3 Volume	Sample	1
Field Para	III letei 2	7.10	6.90	7.08	7.08	1
рп Temp. (F)		61.7	62.1	60.8	60.4	1
Spec. Cond	(uS/cm)	3.94	3.57	4.07	4.18	
Turbidity (N		61.2	8.5	0	9.1	
	xygen (DO)	0.39	0.21	0.17	0.18	1
ORP	xygen (Be)	-127	-112	-147	-140	1
Nitrate (mg/	1)	-	-	0.0	0.0	1
Ferrous Iron			-	3.0	3.3	1
Sulfate (mg		-	-	80	80	]
, ,	-					
Comments:	Water was c	lear, Sudan I\	V test was n	egative		
			•		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
	<del></del>					

Site Name Ekonol Facili	ty			Well ID	MW-4S
Samplers Andy Janik					
Dan Lipp					
Total Well Depth (TOC)		12.45	feet		
Initial Static Water Level (	10C)	9.52 2.0	feet inches		
Well Diameter		2.0	IIICHES		
Purging Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time	11/5/02	2 - 1510
Water Volume = (Total De	nth of Well - I	Denth To W	ater ) x Cas	ina Volume t	per Foot
Tyalei voiuille = (Total De	12.45	- -	9.52	X	0.16
= 0.5	gallons				
		Volumes (g	al/ft.):		
1-inch 0.041	1.5-inch			2-inch	
3-inch 0.36	4-inch	0.64		6-inch	
8-inch 2.5				10 inch	4
Volume of Purge Water R	lemoved	2	gallons		
Sampling Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time	11/5/02	2 - 1540
Parameters	Bot	tie	Pres.	Me	thod
TCE; 1,2-DCE;	2-40ml		HCI		260
1,1-DCA; 1,1,1-TCA					
phenol & aniline	2-1L ambe	er bottles	-		270
Zn & Pb	1- 4 oz. Pla	stic bottle	НNО з	60	10B
					1
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	1
рН	6.82	6.70	6.67	6.68	_
Temp. (F)	62.1	62.6	62.1	60.8	4
Spec. Cond. (uS/cm)	6.89	6.69	6.87	6.77	-
Turbidity (NTU)	>1,000	179	399	101	-}
Dissolved Oxygen (DO)	3.63	0.40	0.21	0.23	4
ORP	-160	-160	-211	-243	4
Nitrate (mg/L)		-	0.0	1.0	-
Ferrous Iron (mg/L)	<u> </u>	-	0.8 80	0.6 80	1
Sulfate (mg/L)	<u> </u>	L	- OU	00	
Comments: Water was c	lear, Sudan I	V test was n	egative		
***					
	,				

	ite Name Ekonol Facility					MW-5S
Samplers	Andy Janik Dan Lipp				9	
Total Well D Initial Static Well Diamet	Water Level (1	OC)	14.44 9.33 2.0	feet feet inches		
Purging C	<u>ata</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time	11/4/02	- 1225
Water Volun	ne = (Total De = = 0.8_	oth of Well - I 14.44 gallons	Depth To W	ater ) x Cas 9.33	ing Volume p	er Foot 0.16
		Casing	Volumes (g	al/ft )·	<u> </u>	
1-inch	0.041	1.5-inch	0.092	airic.j.	2-inch	0.16
3-inch	· -	4-inch	0.64		6-inch	1.4
8-inch		7 111011	0.07		10 inch	4
Sampling Method		Pump @ 500	mL/min.	Date/Time	11/4/02	- 1320
_						
Para		D - 4	u .	Droo	Mod	hod
TOE. 4	meters	Bott		Pres.	Met	
TCE; 1	,2-DCE;	Boti <i>2-40ml</i>		Pres. <i>HCl</i>	Met 820	
1,1-DCA;	,2-DCE; 1,1,1-TCA	2-40ml	vials		820	60
1,1-DCA; phenol	,2-DCE; 1,1,1-TCA & aniline	2-40ml 2-1L ambe	vials er bottles	HCI -	826 827	70
1,1-DCA; phenol	,2-DCE; 1,1,1-TCA	2-40ml	vials er bottles	HCI	820	70
1,1-DCA; phenol Zn	,2-DCE; 1,1,1-TCA & aniline & Pb	2-40ml 2-1L ambe 1- 4 oz. Pla	vials er bottles stic bottle	HCI - HNO3	820 821 601	70
1,1-DCA; phenol Zn Field Para	,2-DCE; 1,1,1-TCA & aniline & Pb	2-40ml 2-1L ambe 1- 4 oz. Pla 1 Volume	vials er bottles	HCI -	826 827	70
1,1-DCA; phenol Zn Field Para pH	,2-DCE; 1,1,1-TCA & aniline & Pb	2-40ml 2-1L ambe 1- 4 oz. Pla	vials er bottles stic bottle 2 Volume	HCI - HNO 3	820 601 Sample	70
1,1-DCA; phenol Zn Field Para pH Temp. (F)	,2-DCE; 1,1,1-TCA & aniline & Pb meters	2-40ml 2-1L ambe 1- 4 oz. Pla 1 Volume 7.12	vials er bottles stic bottle 2 Volume 6.97	HCI - HNO 3 3 Volume 6.97	820 601 Sample 6.97	70
1,1-DCA; phenol Zn Field Para pH	,2-DCE; 1,1,1-TCA & aniline & Pb meters (uS/cm)	2-40ml  2-1L ambe 1- 4 oz. Pla  1 Volume 7.12 56.1 4.28 488	vials er bottles stic bottle  2 Volume 6.97 56.5 3.76 235	HCI  HNO 3  3 Volume 6.97 55.9 2.78 35.2	820 601 Sample 6.97 55.9 2.73 42.3	70
1,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond	,2-DCE; 1,1,1-TCA & aniline & Pb meters (uS/cm)	2-40ml  2-1L ambe 1- 4 oz. Pla  1 Volume 7.12 56.1 4.28 488 4.52	vials er bottles stic bottle  2 Volume 6.97 56.5 3.76 235 0.40	HCI HNO 3  3 Volume 6.97 55.9 2.78 35.2 0.18	820 601 Sample 6.97 55.9 2.73 42.3 0.00	70
1,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond. Turbidity (N' Dissolved O ORP	,2-DCE; 1,1,1-TCA & aniline & Pb meters (uS/cm) (U) xygen (DO)	2-40ml  2-1L ambe 1- 4 oz. Pla  1 Volume 7.12 56.1 4.28 488	vials er bottles stic bottle  2 Volume 6.97 56.5 3.76 235	HCI HNO 3  3 Volume 6.97 55.9 2.78 35.2 0.18 -60	820 601 Sample 6.97 55.9 2.73 42.3 0.00 -57	70
7,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond. Turbidity (N' Dissolved O ORP Nitrate (mg/	,2-DCE; 1,1,1-TCA & aniline & Pb meters (uS/cm) (U) xygen (DO)	2-40ml  2-1L ambe 1- 4 oz. Pla  1 Volume 7.12 56.1 4.28 488 4.52	vials er bottles stic bottle  2 Volume 6.97 56.5 3.76 235 0.40	HCI HNO 3  3 Volume 6.97 55.9 2.78 35.2 0.18 -60 0.0	820 601 Sample 6.97 55.9 2.73 42.3 0.00 -57 0.9	70
Field Para pH Temp. (F) Spec. Cond. Turbidity (N' Dissolved O ORP Nitrate (mg/) Ferrous Iron	,2-DCE; 1,1,1-TCA & aniline & Pb meters (uS/cm) TU) xygen (DO)	2-40ml  2-1L ambe 1- 4 oz. Pla  1 Volume 7.12 56.1 4.28 488 4.52 -42 -	vials er bottles stic bottle  2 Volume 6.97 56.5 3.76 235 0.40 -45	HCI HNO 3  3 Volume 6.97 55.9 2.78 35.2 0.18 -60 0.0 0.8	820 601 Sample 6.97 55.9 2.73 42.3 0.00 -57 0.9	70
7,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond. Turbidity (N' Dissolved O ORP Nitrate (mg/	,2-DCE; 1,1,1-TCA & aniline & Pb meters (uS/cm) TU) xygen (DO)	2-40ml  2-1L ambe 1- 4 oz. Pla  1 Volume 7.12 56.1 4.28 488 4.52 -42	vials er bottles stic bottle  2 Volume 6.97 56.5 3.76 235 0.40 -45	HCI HNO 3  3 Volume 6.97 55.9 2.78 35.2 0.18 -60 0.0	820 601 Sample 6.97 55.9 2.73 42.3 0.00 -57 0.9	70
I,1-DCA; phenol Zn  Field Para pH Temp. (F) Spec. Cond. Turbidity (N' Dissolved O ORP Nitrate (mg/ Ferrous Iron Sulfate (mg/	,2-DCE; 1,1,1-TCA & aniline & Pb meters (uS/cm) TU) xygen (DO)	2-40ml  2-1L ambe 1- 4 oz. Pla  1 Volume 7.12 56.1 4.28 488 4.52 -42 -	vials er bottles stic bottle  2 Volume 6.97 56.5 3.76 235 0.40 -45 -	HCI HNO 3  3 Volume 6.97 55.9 2.78 35.2 0.18 -60 0.0 0.8 80	820 601 Sample 6.97 55.9 2.73 42.3 0.00 -57 0.9 0.8 80	70

Site Name	Ekonol Facili	ty			Well ID	MW-6S
Samplers	Andy Janik	<del> </del>		<del></del>		
	Dan Lipp					
Total Well D	epth (TOC)		14.03	feet		
	Water Level (	TOC)	8.39	feet		
Well Diame	ter		2.0	inches		
Purging [	<u>Data</u>					
Method	Peristeltic	Pump @ 500	mL/min.	Date/Time	11/5/0	2 - 0920
Method	7 CHOLUND	r ump @ ooo	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Water Volum	ne = (Total De	pth of Well - I	Depth To W	ater) x Cas	ing Volume	per Foot
	=	14.03	-	8.39	X	0.16
	= 0.9	gallons				
		0	Valumas (s	ol/A \		1
1 in al	0.041		Volumes (g 0.092		2-inch	0.16
1-inch 3-inch					6-inch	
8-inch	•		0.01		10 inch	
O MIGH						
Volume of	Purge Water R	temoved	3	gallons		
	_		<del></del>			
Sampling	Data					
				D 1 55	441510	0 4000
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time	11/5/0	2 - 1000
Doro		Bot	Ha	Pres.	Me	ethod
	meters 1,2-DCE;	2-40mi		HCI	-	260
	1,1,1-TCA	2.7017	110.0	7.00		
	& aniline	2-1L ambe	er bottles	-	8	270
	& Pb	1- 4 oz. Pla	stic bottle	НИОз	60	10B
						<b>-</b>
Field Para	<u>meters</u>	1 Volume	2 Volume	3 Volume	Sample	
pН		6.68	6.72	6.69	6.68	4
Temp. (F)		59.7	62.4	61.7	61.5	4
Spec. Cond		5.78	5.79	5.79	5.95	-{
Turbidity (N		716	17.6	10.3	6.2	4
	xygen (DO)	2.32	0.56	0.36	0.32	4
ORP		-14	74	59 0.0	50 0.0	-
Nitrate (mg/		<del></del>	-	0.8	0.7	1
Ferrous Iron Sulfate (mg				80	80	1
Sullate (Hy.	, L)	l				_
Comments:	Water was c	lear, Sudan I	V test was n	egative		
			<del></del>			·

Site Name Ek	onol Facili	ty			Well ID	MW-7S
, ,	dy Janik n Lipp					
Da	пърр					
Total Well Depti Initial Static Wat Well Diameter		гос)	12.50 7.89 2.0	feet feet inches		
Purging Data	3					
Method	Penstaltic	Pump @ 500	mL/min.	Date/Time	11/4/02	? - 1500
Water Volume =	(Total De	nth of Well - I	Denth To W	ater ) x Cas	ina Volume r	er Foot
TVALET VOIDING =	(Total Do	12.50	- -	7.89	X	0.16
=	0.7	gallons				
						<del></del>
			Volumes (g		O in ab	0.16
1-inch	0.041	1.5-inch			2-inch 6-inch	0.16 1. <del>4</del>
3-inch	0.36	4-inch	0.64		10 inch	4
8-inch	2.5				TO IIICI	
Volume of Purg	e Water R	emoved	2.5	gallons		
Sampling Da	<u>ita</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time	11/4/02	2 - 1540
Paramete	ers	Bot	tle	Pres.	Met	thod
TCE; 1,2-D		2-40ml	vials	HÇI	82	60
1,1-DCA; 1,1,						
phenol & ar		2-1L ambe	er bottles	-		70
Zn & Pl	b	1- 4 oz. Pla	stic bottle	HNO3	601	10B
Field Deserve	ا ۔۔۔	4 1/-1	O Valuma	21/a/uma	Comple	1
Field Parame	ters	1 Volume 6.75	2 Volume 6.66	3 Volume 6.70	Sample 6.71	
pH		61.2	62.4	61.2	60.8	
Temp. (F) Spec. Cond. (uS	(/cm)	4.89	4.86	4.90	4.93	
Turbidity (NTU)	,, (dili)	63.7	122	80.1	88.0	
Dissolved Oxyg	en (DO)	4.32	1.74	2.60	3.44	
ORP		70	89	86	87	
Nitrate (mg/L)		-	-	0.0	0.0	
Ferrous Iron (mg	a/L)		-	0.0	0.0	
Sulfate (mg/L)	, ,	-		80	80	
Comments: Wa	ater was cl	ear, Sudan /\	/ test was n	egative		
					<del></del>	<del></del>
<del></del>			<del> </del>		<del></del>	
	<del></del>					<del></del>

Site Name	Ekonol Facil	ity	Well ID	MW-8S		
Samplers	Andy Janik Dan Lipp					
Total Well E Initial Static Well Diame	Pepth (TOC) Water Level (	ТОС)	13.65 9.58 2.0	feet		
Purging I	<u>Data</u>					
Method	Peristaltic	Pump @ 500	Date/Time	11/4 <b>/0</b>	<b>2 -</b> 1220	
Water Volur	me = (Total De = = 0.7	epth of Well - 13.65 gallons	Depth To W -		ing Volume x	per Foot 0.16
		Caeing	Volumes (g	ıal/ft )·		
1-inch	0.041				2-inct	0.16
3-inch 8-inch	າ 0.36	4-inch			6-inch 10 inch	1.4
	Purge Water F		2.5	gallons		······································
Volume of 1	uige water i	CHOYCU		ganono		
Sampling	<u>Data</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time	11/4/0	2 - 1400
Para	meters	Bot	tle	Pres.	Ме	thod
	,2-DCE;	2-40ml vials		HCI	8260	
	1,1,1-TCA					
	& aniline	2-1L ambe	er bottles	-	82	270
	& Pb	1- 4 oz. Plastic bottle		НМОз	6010B	
	<del></del>					
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	1
pH	o.co.ro	_	-	6.67	6.70	1
Temp. (F)		59.6	58.5	60.6	61.3	1
Spec. Cond	. (uS/cm)	10.22	10.75	6.89	6.80	1
Turbidity (N		-	-	1.5	1.6	
Dissolved C	•	-	-	1.89	1.40	]
ORP	,,	-	-	53	65	
Nitrate (mg/	L)	-	-	0.0	0.0	
Ferrous Iron		-	-	0.5	0.5	
Sulfate (mg.		-	-	80	80	
Comments:	Water was li	ght br <u>own in</u> e	color, Sudai	ı IV test was	s negative	
			<del> </del>			
		<del></del>				

Site Name	Ekonol Facili	ity	Well ID			
Complere	Andy lanik					
Samplers	Andy Janik Dan Lipp					
	Dan Lipp					
Total Well D			14.00			
	Water Level (	TOC)	9.62			
Well Diame	ter		2.0	inches		
Purging [	<u>Data</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time	11/4/0	2 - 1420
Water Volur	ne = (Total De	pth of Well - I	Depth To W	ater) x Cas	ing Volume	per Foot
	_ <u>'</u>			9.62		0.16
	= 0.7	gallons				
	· · · · · · · · · · · · · · · · · · ·	0	Valuman (a	(a) (4) \		
1-incl	n 0.041		Volumes (g 0.092		2-incl	0.16
3-inch					6-inct	
8-inch					10 inch	
Volume of I	Purge Water R	temoved	3	gallons		
•	<del></del>	Dumm @ FOO	ml forin	Data/Time	11/4/0	12 - 1445
Method	<del></del>	Pump @ 500	) mL/min.	Date/Time	11/4/0	2 - 1445
Method	<del></del>	<i>Pump @ 500</i> Bot		Date/Time		2 - 1445 ethod
Method Para	Peristaltic		tle	_	Me	n mai 2015
Method Para TCE; 1 1,1-DCA;	Peristaltic meters 1,2-DCE; 1,1,1-TCA	Bot <i>2-40ml</i>	tle I vials	Pres.	M∈ .8.	ethod 260
Method Para TCE; 1 1,1-DCA; phenol	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline	Bot 2-40mi 2-1L ambe	tle I vials er bottles	Pres. <i>HCl</i>	Me 8.	ethod 260 270
Method Para TCE; 1 1,1-DCA; phenol	Peristaltic meters 1,2-DCE; 1,1,1-TCA	Bot <i>2-40ml</i>	tle I vials er bottles	Pres.	Me 8.	ethod 260
Method Para TCE; 1 1,1-DCA, phenol Zn	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb	2-40mi 2-1L ambe 1- 4 oz. Pla	tle I vials er bottles istic bottle	Pres. HCI - HNO3	Me 8. 8. 60	ethod 260 270
Method  Para TCE; 1 1,1-DCA; phenol Zn  Field Para	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb	Bot 2-40ml 2-1L ambe 1- 4 oz. Pla 1 Volume	ttle I vials er bottles estic bottle 2 Volume	Pres. HCI - HNO 3	8. 8. 60 Sample	ethod 260 270
Method  Para TCE; 1 1,1-DCA; phenol Zn  Field Para pH	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb	2-40mi 2-40mi 2-1L ambe 1- 4 oz. Pla 1 Volume 6.57	tle I vials er bottles istic bottle	Pres. HCI - HNO3	Me 8. 8. 60	ethod 260 270
Para TCE; 1 1,1-DCA, phenol Zn Field Para pH Temp. (F)	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb	Bot 2-40ml 2-1L ambe 1- 4 oz. Pla 1 Volume	ttle I vials er bottles estic bottle  2 Volume 6.58	Pres. HCI - HNO 3	8. 8. 60 Sample 6.68	ethod 260 270
Para TCE; 1 1,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters . (uS/cm)	2-40mi 2-40mi 2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8	ttle I vials er bottles estic bottle 2 Volume 6.58 63.7	Pres. HCl - HNO 3 3 Volume 6.58 63.0	8. 60 Sample 6.68 60.6	ethod 260 270
Para TCE; 1 1,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond Turbidity (N	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters . (uS/cm)	2-40mi 2-40mi 2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8 6.97	ttle I vials er bottles estic bottle  2 Volume 6.58 63.7 6.87	Pres. HCI  - HNO 3  3 Volume  6.58  63.0  6.82  518  6.07	8. 8. 60 Sample 6.68 60.6 6.36 286 0.29	ethod 260 270
Para TCE; 1 1,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond Turbidity (N	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters  . (uS/cm) TU)	2-40mi 2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8 6.97 399	ttle I vials  er bottles stic bottle  2 Volume 6.58 63.7 6.87 99.1	Pres. HCI  - HNO 3  3 Volume  6.58  63.0  6.82  518  6.07  -29	8. 8. 60 Sample 6.68 60.6 6.36 286 0.29 -28	ethod 260 270
Method  Para TCE; 1 1,1-DCA; phenol Zn  Field Para pH Temp. (F) Spec. Cond Turbidity (N Dissolved O ORP Nitrate (mg/	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters  (uS/cm) TU) bxygen (DO)	2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8 6.97 399 2.40	ttle I vials er bottles stic bottle  2 Volume 6.58 63.7 6.87 99.1 0.64	Pres. HCI  - HNO 3  3 Volume  6.58  63.0  6.82  518  6.07  -29  0.0	8. 8. 60 Sample 6.68 60.6 6.36 286 0.29 -28 0.0	ethod 260 270
Method  Para TCE; 1 1,1-DCA; phenol Zn  Field Para pH Temp. (F) Spec. Cond Turbidity (N' Dissolved O ORP Nitrate (mg/ Ferrous Iron	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters  (uS/cm) TU) bxygen (DO) L) a (mg/L)	2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8 6.97 399 2.40	ttle   vials   vials   er bottles   stic bottle   2 Volume   6.58   63.7   6.87   99.1   0.64   -3   -	Pres. HCI  - HNO 3  3 Volume  6.58  63.0  6.82  518  6.07  -29  0.0  0.6	Sample 6.68 60.6 6.36 286 0.29 -28 0.0 1.0	ethod 260 270
Method  Para TCE; 1 1,1-DCA; phenol Zn  Field Para pH Temp. (F) Spec. Cond Turbidity (N Dissolved O ORP Nitrate (mg/	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters  (uS/cm) TU) bxygen (DO) L) a (mg/L)	2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8 6.97 399 2.40	ttle I vials er bottles stic bottle  2 Volume 6.58 63.7 6.87 99.1 0.64	Pres. HCI  - HNO 3  3 Volume  6.58  63.0  6.82  518  6.07  -29  0.0	8. 8. 60 Sample 6.68 60.6 6.36 286 0.29 -28 0.0	ethod 260 270
Para TCE; 1 1,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond Turbidity (N' Dissolved O ORP Nitrate (mg/ Ferrous Iror Sulfate (mg/	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters  (uS/cm) TU) bxygen (DO) L) a (mg/L)	2-1L ambe 2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8 6.97 399 2.40 3	ttle   vials   vials   er bottles   stic bottle   2 Volume   6.58   63.7   6.87   99.1   0.64   -3   -   -	Pres. HCI  - HNO 3  3 Volume 6.58 63.0 6.82 518 6.07 -29 0.0 0.6 80	Sample 6.68 60.6 6.36 286 0.29 -28 0.0 1.0	ethod 260 270
Para TCE; 1 1,1-DCA; phenol Zn Field Para pH Temp. (F) Spec. Cond Turbidity (N' Dissolved O ORP Nitrate (mg/ Ferrous Iror Sulfate (mg/	Peristaltic meters 1,2-DCE; 1,1,1-TCA & aniline & Pb ameters  (uS/cm) TU) bxygen (DO) L) n (mg/L) //L)	2-1L ambe 2-1L ambe 1- 4 oz. Pla 1 Volume 6.57 60.8 6.97 399 2.40 3	ttle   vials   vials   er bottles   stic bottle   2 Volume   6.58   63.7   6.87   99.1   0.64   -3   -   -	Pres. HCI  - HNO 3  3 Volume 6.58 63.0 6.82 518 6.07 -29 0.0 0.6 80	Sample 6.68 60.6 6.36 286 0.29 -28 0.0 1.0	ethod 260 270

Site Name Ekonol Facil	lity			Well ID	MW-1D
Samplers Andy Janik Dan Lipp					
Total Well Depth (TOC) Initial Static Water Level ( Well Diameter	тос)	31.60 9.45 2.0			
Purging Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time	11/5/02	2 - 1325
Water Volume = (Total De = 3.5	epth of Well - I 31.60 gallons	Depth To W	/ater ) x Casi 9.45	ing Volume <sub>I</sub>	per Foot 0.16
	Casing	Volumes (g	al/ft.):		
1-inch 0.041 3-inch 0.36 8-inch 2.5	1,5-inch 4-inch	0.092		2-inch 6-inch 10 inch	1.4
Volume of Purge Water F	Removed	11	gallons		
Sampling Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time_	11/5/0	2 - 1445
Parameters TCE; 1,2-DCE;	Bot 2-40ml		Pres. HCl		thod 260
1,1-DCA; 1,1,1-TCA	2-1L ambe	r hottlan		91	270
phenol & aniline Zn & Pb	1- 4 oz. Pla		HNO3	8270 6010B	
Zn & Pb	1- 4 UZ. Fla	suc boule	111403		700
Field Parameters	1 Volume 6.82	2 Volume 6.88	3 Volume 6.89	Sample 6.90	
Temp. (F)	55.9	56.3	56.3	56.3	1
Spec. Cond. (uS/cm)	3.09	2.64	2.58	2.57	1
Turbidity (NTU)	48.5	11.4	0.3	0	1
		0.00	0.00	0.00	1
Dissolved Oxygen (DO)	1 3.24				-
Dissolved Oxygen (DO) ORP	5.24 -298	-312	-306	-306	
ORP				-306 4.0	}
	-298	-312	-306		<u>.</u>
ORP Nitrate (mg/L)	-298 -	-312 -	-306 4.0	4.0	
ORP Nitrate (mg/L) Ferrous Iron (mg/L)	-298 - - -	-312 - - -	-306 4.0 0.8 80	4.0 0.8	
ORP Nitrate (mg/L) Ferrous Iron (mg/L) Sulfate (mg/L)	-298 - - -	-312 - - -	-306 4.0 0.8 80	4.0 0.8	

Site Name Ekonol Facil	ity			Well ID	MW-2D
Samplers Andy Janik					
<u>Dan Lipp</u>					
Total Well Depth (TOC)		29.85	feet		
Initial Static Water Level (	TOC)	9.60			
Well Diameter	.00,	2.0			
,,,,,					
Purging Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time	11/7/02	2 - 1240
M ( M ) ( M-4-1D-	AL -518/all	Sandle To M.	lator \ v Can	ina Valuma i	ner Foot
Water Volume = (Total De	ا - eptn of vveil 29.85	Jeptn 10 vv	9.60	ing volume i X	0.16
= 3.2	gallons		3.00	^	<u> </u>
	ganorio				
	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	Removed	10	gallons		
Sampling Data					
Method Peristaltic	Ритр @ 500	mL/min.	Date/Time_	11/7/02	2 - 1400
Parameters	Bott	tle	Pres.	Me	thod
TCE; 1,2-DCE;	2-40ml	vials	HCI	82	260
1,1-DCA; 1,1,1-TCA					
phenol & aniline	2-1L ambe		-		270
Zn & Pb	1- 4 oz. Pla	stic bottle	HNO3	60	10B
Field Devemeters	4 1/0/11/1000	2 Volume	3 Volume	Sample	1
<u>Field Parameters</u> pH	1 Volume 6.77	6.80	6.83	6.86	1
рп Temp. (F)	58.6	58.5	58.6	58.6	1
Spec. Cond. (uS/cm)	3.06	3.36	3.18	2.88	1
Turbidity (NTU)	85.4	85.2	335	365	1
Dissolved Oxygen (DO)	5.16	0.13	0.00	0.02	1
ORP	-293	-344	-344	-336	1
Nitrate (mg/L)			6.5	7.0	1
Ferrous Iron (mg/L)	-	-	0.0	0.3	]
Sulfate (mg/L)			80	80	]
Comments: Water was c	lear, Sudan I\	/ test was n	egative 5' of separate	e phase liqui	id above
DNAPL layer, Positive Su	dan IV test on	product.		, and an and an	
21111 L 10/01, 1 001110 04		,			
		•			

Site Name Ekonol Faci	lity			Well ID	MW-3D
Samplers Andy Janik Dan Lipp					
Total Well Depth (TOC) Initial Static Water Level ( Well Diameter	тос)	26.50 9.38 2.0	feet		
Purging Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time	11/7/0	2 - 0955
Water Volume = (Total De = = 2.7	epth of Well - 26.50 gallons	Depth To W	/ater ) x Cas 9.38	ing Volume   x	per Foot 0.16
		Malaman /a	1/9 \-		
4 : 1 0 044		Volumes (g		2-inch	0.16
1-inch 0.041				2-inch 6-inch	
3-inch 0.36 8-inch 2.5		0.64		10 inch	I .
8-inch 2.5	'	·	-	10 11101	
Volume of Purge Water F	Removed	9	gallons		
Sampling Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time	11/7/0	2 - 1130
Parameters	Bot	tle	Pres.	Me	thod
TCE; 1,2-DCE;	2-40m		HCI	82	260
1,1-DCA; 1,1,1-TCA					
phenol & aniline	2-1L ambe	er bottles	_	82	270
Zn & Pb	1- 4 oz. Pla		НМОз	6010B	
	,				
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	1
pH	8.55	6.90	6.91	6.29	1
Temp. (F)	59.2	58.8	59.0	58.8	1
Spec. Cond. (uS/cm)	0.60	2.63	2.68	2.62	1
Turbidity (NTU)	54.2	16.2	2.0	0	1
Dissolved Oxygen (DO)	2.97	0.08	0.02	0.04	1
ORP	-228	-284	-285	-276	1
Nitrate (mg/L)		-	0.0	0.0	1
Ferrous Iron (mg/L)	-	-	0.6	0.7	1
Sulfate (mg/L)	-	-	80	80	1
Comments: Water was of Approximately one foot of					
		<del></del>			
<u>.</u>					

Site Name Ekonol Fac	ility			Well ID	MW-4D
Samplers Andy Janik					
Dan Lipp					
		00.00	£4		
Total Well Depth (TOC)	(TOC)	28.80 9.08			
Initial Static Water Level Well Diameter	(100)	2.0			
vveir Diametei			monos		
Purging Data					
Method Peristalti	c Pump @ 500	mL/min.	Date/Time_	11/6/02	2 - 1240
Water Volume = (Total D	enth of Well -	Denth To W	later ) y Casi	ina Volume i	er Foot
= (Total L	28.80	-	9.08	X	0.40
= 3.2	gallons			^	
		Volumes (	jal/ft.):		
1-inch 0.04				2-inch	I
3-inch 0.3		0.64		6-inch	1
8-inch 2.	5			10 inch	4]
Volume of Purge Water	Removed	10	gallons		
Sampling Data					
Method Peristalti	c Pump @ 500	) mL/min.	Date/Time_	11/6/02	2 - 1355
Daramatara	Bot	tlo.	Pres.	Me	thod
Parameters TCE; 1,2-DCE;		nl vials HCl		8260	
1,1-DCA; 1,1,1-TCA	2-10111	· viaio	7.01		
phenol & aniline	2-1L ambe	er bottles	-	82	270
Zn & Pb	1- 4 oz. Pla		НМОз	60	10B
	Sar.				
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	]
рН	7.05	6.78	6.82	6.83	
Temp. (F)	59.5	59.5	59.5	59.4	
Spec. Cond. (uS/cm)	3.02	4.01	3.45	3.32	
Turbidity (NTU)	109	11.9	0	0	]
Dissolved Oxygen (DO)	5.70	2.85	0.01	0.00	
ORP	-152	-273	-285	-283.00	
Nitrate (mg/L)			0.0	0.0	
Ferrous Iron (mg/L)	-		0.0	0.0	
Sulfate (mg/L)		-	80	80	l
		1/44	a ana thire		
Comments: Water was	clear, Sudan I	v test was n	egative		
Approximately one foot of	T DIACK, DISCOL	orea water i	ı weli sump		
		· · · · · · · · · · · · · · · · · · ·	<del></del>		
			<del></del>		

Site Name	Ekonol Facili	ty	Well ID	MW-10D		
Samplers	Andy Janik					
Cumpione	Dan Lipp					
			00.00	£a.a.k		
Total Well D		TOC)	30.80 9.05	feet feet		
Well Diamet	Water Level (` er	100)	2.0	inches		
Well Diamet	CI					
Purging [	<u>Data</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time_	11/6/02	2 - 1030
Water Volum	ne = (Total De	oth of Well - I	Depth To W	ater) x Casi	ing Volume p	per Foot
Traici Tolai	=	30.80	-	9.05	х	0.16
170	= 3.5	gallons				_
				100	···-	
			Volumes (g	al/ft.):	2-inch	0.16
1-inch		1.5-inch 4-inch			6-inch	l l
3-inch		4-Inch	0.04		10 inch	ľ
8-inch	2.0				10 1101	<u> </u>
Volume of I	Purge Water R	emoved	11	gallons		
Sampling	<u>Data</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time_	11/6/02	<u>2 - 1145</u>
Para	meters	Bot	tle	Pres.	Me	thod
	,2-DCE;	2-40ml	vials HCl		8260	
	1,1,1-TCA					
phenol	& aniline	2-1L ambe	er bottles			270
Zn	& Pb	1- 4 oz. Pla	stic bottle	HNO 3	60	10B
Ciald Dass	motors	1 Volume	2 Volume	3 Volume	Sample	1
Field Para	meters	6.86	6.89	6.88	6.87	1
pH Temp. (F)		59.7	60.3	60.4	60.1	1
Spec. Cond	(uS/cm)	2.78	2.49	2.47	2.47	1
Turbidity (N	•	208	13.5	0	0	1
Dissolved O		3.75	0.02	0.00	0.00	1
ORP	.,,90 (= = ,	-293	-289	-283	-280	]
Nitrate (mg/	L)	-	-	2.5	1.0	
Ferrous Iron		_	-	0.9	0.8	
Sulfate (mg/		-	-	80	80	]
				,.		
Comments:	Water was c	lear, Sudan I\	/ test was n	egative		<u> </u>
Approximate	ely one foot of	DIACK, DISCOID	orea water i	n wen sump	····	
						···

Site Name	Ekonol Facili	ity .		_	Well ID	<u>MW-11D</u>
Samplers	Andy Janik					
•	Dan Lipp					
Total Well D	anth (TOC)		30.75	feet		
	Water Level (	TOC)	12.45			
Well Diamet	_	.00,	2.0			
***************************************	-			-		
Purging D	<u>Data</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time_	11/5/0	2 - 1005
Motor Volum	ne = (Total De	nth of Well - I	Denth To W	later ) y Casi	na Volume	ner Foot
vvater votun	= (10tai De	30.75	- -	4	X	0.16
	= 2.9	gallons				
		· <del>-</del>				
			Volumes (g			0.16
1-inch		1.5-inch			2-incl 6-incl	
3-inch		4-inch	0.64		10 incl	·
8-inch	2.5				10 11101	1 -7
Volume of F	Purge Water R	emoved	9	gallons		
Sampling	Data					
Sampling	Data					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time_	11/5/0	2 - 1115
Para	meters	Bot	tle	Pres.	Me	ethod
	,2-DCE;	2-40ml		HCI	8260	
	1,1,1-TCA					
	& aniline	2-1L ambe	er bottles	-	8	270
Zn	& Pb	1- 4 oz. Pla	stic bottle	НИОз	60	)10B
E: 115					0/-	7
Field Para	mete <u>rs</u>	1 Volume	2 Volume	3 Volume	Sample	-
pH		6.96	6.83 53.9	6.82 53.9	6.83 53.8	┥
Temp. (F)	(::Clams)	53.8	3.29	3.29	3.26	1
Spec. Cond.		3.18 39.0	1.4	11.7	14.7	-
Turbidity (N		2.84	0.00	0.30	0.00	1
Dissolved O ORP	xygen (DO)	-220	-276	-287	-290	4
Nitrate (mg/l		-220	-270	5.0	5.0	1
Ferrous Iron				0.4	0.3	1
Sulfate (mg/				80	80	†
Cullate (mg/	_,	L	L			_
Comments:	Motorwas	lear. Sudan I\	/ test was n	egative		
	Water was c					
	VVater Was C					
	VVater Was Ci					
	vvater was c				· · ·	

Site Name Ekonol Facili	ity			Well ID	MW-12D
Samplers Andy Janik Dan Lipp					
Total Well Depth (TOC) Initial Static Water Level ( Well Diameter	гос)	32.10 9.89 2.0	feet feet inches		
Purging Data					
Method Peristaltic	Pump @ 500	mL/min.	Date/Time_	11/4/02	2 - 0930
Water Volume = (Total De	pth of Well - I 32.10 gallons	Depth To W		ng Volume p	0.16
		1/-1	-116.\.		<del></del>
	Casing 1.5-inch	Volumes (g 0.092	al/π.):	2-inch	0.16
1-inch 0.041 3-inch 0.36	•••			6-inch	
3-inch 0.36 8-inch 2.5		0.04		10 inch	L L
Sampling Data  Method Peristaltic	Pump @ 500	mL/min.	Date/Time_	11/4/02	2 - 1115
	D-4	41.	Droo	Mo	thod
Parameters	Bot <i>2-40ml</i>		Pres. <i>HCl</i>		260
TCE; 1,2-DCE; 1,1-DCA; 1,1,1-TCA	2-401111	Viais	1101		.00
phenol & aniline	2-1L ambe	er bottles	_	82	270
Zn & Pb	1- 4 oz. Pla		HNO 3	60	10B
					-
Field Parameters	1 Volume	2 Volume	3 Volume	Sample	
pH	6.81	6.76	6.79	6.80	l
Temp. (F)	65.3	65.5	65.5	63.9	
Spec. Cond. (uS/cm)	3.15	3.00	2.98	2.99	
Turbidity (NTU)	111	389	>1,000	505	
Dissolved Oxygen (DO)	0.76	0.19	0.15 -342	0.14 -338	
ORP	-292	-335	0.0	4.8	1
Nitrate (mg/L)		-	0.2	0.2	1
Ferrous Iron (mg/L) Sulfate (mg/L)		-	80	80	1
Comments: Water was c Duplicate sample taken fr	lear to light gi om this well	ray in color,	Sudan IV te	st was nega	tive
		<del></del>			

Site Name	Ekonol Facility				Well ID	MW-13D
Samplers	Andy Janik Dan Lipp					
Total Well D Initial Static Well Diamet	Water Level (	гос)	31.60 11.72 2.0	<del></del> _		
Purging E	<u>Data</u>					
Method	Peristaltic	Pump @ 500	mL/min.	Date/Time	11/6/02	2 - 0835
Water Volur	me = (Total De = = 3.2	pth of Well - I 31.60 gallons	Depth To W	ater ) x Cas 11.72		oer Foot 0.16
		Casing	Volumes (g	al/ft \·	<del></del>	
1-inch 3-inch		1.5-inch	0.092		2-inch 6-inch	1.4
8-inch	2.5				10 inch	4
Sampling  Method	<del></del>	emoved Pump @ 500	10 mL/min.	gallons  Date/Time	11/6/02	2 - 10 <u>10</u>
D		Bot	łlo.	Pres.	Ma	thod
	meters	2-40ml		HCI		260
	1,2-DCE; 1,1,1-TCA	2-401111	VIGIS	7101		
	& aniline	2-1L ambe	er bottles		82	270
	& Pb	1- 4 oz. Pla		HNO3		10B
2.7					<del></del>	
Field Para	meters	1 Volume	2 Volume	3 Volume	Sample	]
pН		7.32	6.97	6.99	7.00	1
Temp. (F)		55.0	55.6	55.4	54.7	]
Spec. Cond.	. (uS/cm)	2.56	2.58	2.58	2.60	]
Turbidity (N		75.7	0	0	0	1
Dissolved O	xygen (DO)	3.68	0.01	0.00	0.00	1
ORP		-112	-204	-222	-228	1
Nitrate (mg/			<u> </u>	0.0	0.0 0.5	4
Ferrous Iron		<del></del>	-	0.6 80	80	1
Sulfate (mg/	(L)			00		J
Comments:	Water was cl	ear, Sudan I\	/ test was n	egative		

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