



Wenck Associates, Inc.
1800 Pioneer Creek Ctr.
P.O. Box 249
Maple Plain, MN 55359-0249

(763) 479-4200
Fax (763) 479-4242
E-mail: wenckmp@wenck.com

June 19, 2006

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
Solid Waste Section
520 Lafayette Rd. North
St. Paul, MN 55155-4194

Re: Phase III and Phase IV Hydrogeologic Evaluation Work Plan - Proposed
Expansion Area (Attached)
Ulland Bros. Scanlon Demolition Landfill Facility (SW-399)
Wenck File #1393-03

Dear Mr. Hokenson:

As per your e-mail message to me dated June 12, 2006, a revised copy of the above-mentioned work plan is attached. Your comment regarding the EPA Method for TDS was incorporated into this revised version. The revised Work Plan you reviewed included changes that were based on your comments on a second draft we provided on June 5, 2006.

Wenck Associates, Inc. will contact the driller to have the piezometers reclassified as monitoring wells and MDH unique numbers assigned. I will have those numbers forwarded to you as soon as I receive them.

I will be looking for your written confirmation letter regarding this work plan. Thank you for your timely responses throughout this process.

Should you have any questions, please feel free to me at (763) 479-4215.

Sincerely,

WENCK ASSOCIATES, INC.

Geoffrey Nash
Geologist

cc: Tim Grahek, Ulland Bros.



Wenck Associates, Inc.
1800 Pioneer Creek Ctr.
P.O. Box 249
Maple Plain, MN 55359-0249

(763) 479-4200
Fax (763) 479-4242
E-mail: wenckmp@wenck.com

June 19, 2006

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
Solid Waste Section
520 Lafayette Rd. North
St. Paul, MN 55155-4194

Re: Phase III and Phase IV Hydrogeologic Evaluation Work Plan - Proposed
Expansion Area
Ulland Bros. Scanlon Demolition Landfill Facility (SW-399)
Wenck File #1393-03

Dear Mr. Hokenson:

On behalf of the Ulland Bros. Scanlon Demolition Landfill, Wenck Associates, Inc. is pleased to submit this Phase III and Phase IV, Hydrogeologic Evaluation Work Plan, as required under Minnesota Rules 7035.2815, Subsect. H. This work plan builds upon information presented in the Phase II Hydrogeologic Investigation Report dated August 2005 and your comments as well.

Ulland Bros. owns and operates the Ulland Bros. Demolition Debris Land Disposal Facility (Demo LDF), near Cloquet, Minnesota (see Figure 1). The Demo LDF is currently operating under Minnesota Pollution Control Agency (MPCA) Permit SW-399. As part of the permitting process, this Phase III and Phase IV Hydrogeologic Evaluation Work Plan for the proposed expansion area was developed.

Wenck Associates, Inc. (Wenck) has been retained by Ulland Bros. Inc. to submit the required Phase III and Phase IV Work Plan to the MPCA for approval.

A. PROPOSED ENVIRONMENTAL MONITORING SYSTEM

1. Monitoring Point Locations

The five (5) monitoring wells (P-1, P-2, P-3, P-4, and P-5) shown on Figure 2 make up the proposed Environmental Monitoring System (EMS) for the entire site (Figure 2). No EMS currently exists. Monitoring point P-1 represents upgradient groundwater conditions and the other four represent downgradient conditions.

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
June 19, 2006
Page 2

It should be noted that because monitoring well P-2 is hydraulically downgradient of the existing demolition landfill area, it is representative of the existing landfill groundwater conditions, not the expansion.

2. Design and Installation Procedures

The monitoring points were installed as piezometers by Engineering Partners Company (EPC) in July 2005 using hollow-stem auger drilling techniques. The piezometers' construction details are described in the attached monitoring point design schematics. The piezometers, which were constructed according to MDH monitoring well specifications, will be re-categorized as monitoring wells upon approval of this Phase III and Phase IV Hydrogeologic Evaluation Work Plan and then well permits will be submitted to the Minnesota Department of Health.

3. Monitoring Point Suitability

The five monitoring points were designed to accomplish the following: yield samples that are representative of water quality; distinguish groundwater conditions from background water quality, allow early detection of the release of pollutants from a facility; determine the composition, areal and vertical extent, concentration distribution, and highest concentrations of pollutants in the ground water; and to allow determination of whether the facility complies with the ground water performance standards.

Monitoring point P-1 is hydraulically upgradient of the proposed landfill expansion area and P3, P-4, and P-5 are located in such a way that they will intercept groundwater moving away from the landfill expansion area (see attached Figures 9 and 10). Monitoring point P-2 is downgradient of the existing landfill.

4. Compliance Boundary

The compliance boundary is shown on Figure 2 and corresponds to the property boundary.

5. Monitoring Protocol

Wenck Associates, Inc. will provide the field personnel to perform all field services associated with collection of groundwater samples from the EMS.

The order of sampling will be from the wells located upgradient (P-1) to those located downgradient, starting with the well furthest downgradient (P-3):

Sampling Order	Well ID
1	P-1
2	P-3
3	P-4
4	P-5
5	P-2

All sampling activities will be conducted by qualified sampling personnel, and will adhere to the following protocol, in order:

1. Prior to sampling, appropriate personal protective clothing should be donned. This should include, at a minimum, splash goggles, safety boots, and chemical resistant gloves.
2. Inspect well integrity and remove the well cap in order to vent the well.
3. Label all sample containers.
4. Recalibrate field instruments (pH and conductivity meters), if necessary.
5. Replace outer chemical-resistant gloves.
6. Rinse and dry the water level probe (or tape) and record water level measurements and total depths in the bound log book. Rinse and dry the probe after recording measurements.
7. Calculate the volume of water to be removed from the well.
8. Use low flow submersible pump sampling equipment. Lower the pump/tubing assembly to the bottom of the well. Care should be taken to prevent the tubing and/or pump from contacting any potentially contaminated surface.
9. Purge the well of the desired volume of water.
10. During purging of the well, use groundwater discharge from the pump tubing to rinse a clean, untreated jar with the sample water. After rinsing, fill the container with water purged from the well and collect temperature, pH, dissolved oxygen, turbidity, and specific conductance measurements from the sample. Record the measurements obtained in a field log book. If possible, temperature, pH,

dissolved oxygen, turbidity and specific conductance measurements will be repeated each time a well casing volume of water is purged from the well and prior to sample collection.

11. After purging the well, fill the appropriate sample containers with groundwater from the discharge from the pump tubing. When collecting samples for metal analyses, use an appropriate field filter (0.45 micron) to field filter the samples prior to filling the sample containers. Care should be taken to fill all sample jars as required and place them in a cooler packed with ice immediately following their collection.
12. Record time of sampling and quantity of water removed in the bound notebook. A chain of custody form should also be filled out at this time.
13. Close and lock the well. Decontaminate all sampling equipment and down-hole field instruments in accordance with the following subsection entitled, "Sample Equipment Decontamination." If dedicated sampling equipment has been used, kink the discharge tubing so that the tubing will fit inside the well, but remain accessible.
14. Move to the next well and repeat steps 1 through 13, making sure gloves are changed between wells.

6. Water Level Measurements

Depth to the static water table will be measured in each monitoring well prior to purging and sampling. The measurements will be made using an electronic water level indicator. These measurements will be made from the top of well casing used during the level survey and will be made to the nearest 0.01 foot. The wetted portion of the water level indicator will be triple-rinsed with distilled water and wiped dry with a clean paper towel prior to use in another well. The total depth of each well will be measured annually to determine if sediment is filling the well.

7. Well Purging

All monitoring wells will be purged prior to sampling to ensure the sample is representative of the groundwater and does not contain water that has been standing in the well. At least three static well volumes will be removed prior to sample collection. If, after three well volumes have been removed and the following stabilization criteria have not been satisfied, purging will continue until pH is within ± 0.1 , temperature is within 0.5°C , conductivity is within $\pm 5\%$, and dissolved oxygen and turbidity have also stabilized. Each monitoring well will be purged using a low flow submersible pump.

If a monitoring well does not yield sufficient water to allow the purging of three well volumes, the well will be pumped to the maximum extent possible and will then be sampled as soon as the well recovers. If the recovery time exceeds three hours, the well will not be sampled, as a sufficient volume of water is not available.

8. Analysis

Environmental Science Corp. (ESC), of Mt. Juliet, Tennessee will provide analytical services associated with groundwater samples from the EMS. ESC's analytical protocol was forwarded directly to the MPCA (Alex Hokenson). Please refer to that document for further details. The regular laboratory quality control (QC) results will also be checked for all events to ensure proper QC was maintained.

Laboratory methods are as follows:

Analyte	EPA Method
VOCs	8260
Metals	6010
Ammonia Nitrogen	350.1
Nitrate + Nitrite, as N	353.2
TSS	160.2
TDS	160.1
Chloride	9056
Sulfate	9056
Sodium, diss.	6010
Spec. Conductivity	9050
Turbidity	180.1
Cation-Anion Balance	-
Zinc, diss.	6010
Eh	-
Alkalinity, total, as calcium carbonate	310.2

9. Sampling Schedule

The background sampling events will take place in May and August of 2006. Regularly scheduled groundwater sampling will be conducted three times per year, in the May, July, and August.

10. Analytical Parameters

It is proposed that, in accordance with Minnesota rules (7035.2815, Subp. 14C) and communication with the MPCA, prior to regularly scheduled seasonal sampling events, the monitoring points will be sampled two times to establish background groundwater

quality values. The two background events will provide the observations and analyses as follows:

**MDH 465 List
 Analytes**

1,1,1,2-Tetrachloroethane	2,2-Dichloropropane	Dichloromethane (Methylene chloride)
1,1,1-Trichloroethane	2-Chlorotoluene (ortho-)	Ethyl benzene
1,1,1,2-Tetrachloroethane	4-Chlorotoluene (para-)	Ethyl ether
1,1,2-Trichloroethane	Acetone	Hexachlorobutadiene
1,1,2-Trichlorotrifluoroethane	Allyl chloride (3 chloropropene)	Methyl ethyl ketone (MEK)
1,1-Dichloroethane	Benzene	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,1-Dichloroethylene (Vinylidene chloride)	Bromobenzene	Methyl tertiary-butyl ether (MTBE)
1,1-Dichloropropene	Bromochloromethane (Chlorobromomethane)	Naphthalene
1,2-Dichloroethylene (trans)	Bromodichloromethane (Dichlorobromomethane)	n-Butyl benzene
1,2,3-Trichlorobenzene	Bromoform	n-Propyl benzene
1,2,3-Trichloropropane	Bromomethane (Methyl bromide)	p-Isopropyltoluene
1,2,4-Trichlorobenzene	Carbon tetrachloride	sec-Butyl benzene
1,2,4-Trimethylbenzene	Chlorobenzene (monochlorobenzene)	Styrene
1,2-Dibromoethane (Ethylene dibromide or EDB)	Chlorodibromomethane (Dibromochloromethane)	tert-Butyl benzene
1,2-Dichlorobenzene (ortho-)	Chloroethane	Tetrachloroethylene (Perchloroethylene)
1,2-Dichloroethane	Chloroform	Tetrahydrofuran
1,2-Dichloroethylene (cis-)	Chloromethane (Methyl chloride)	Toluene
1,2-Dichloropropane	Cumene (Isopropylbenzene)	Trichloroethylene (TCE)
1,3,5-Trimethylbenzene	Dibromochloropropane (DBCP)	Trichlorofluoromethane
1,3-Dichlorobenzene (meta-)	Dibromomethane (Methylene bromide)	Vinyl chloride (chloroethene)
1,3-Dichloropropane	Dichlorodifluoromethane	Xylenes (mixture of o, m, p)
1,3-Dichloropropene (cis + trans)	Dichlorofluoromethane	
1,4-Dichlorobenzene (para-)		

Inorganics

Alkalinity, total as calcium carbonate	Copper, dissolved	Appearance (b)
Ammonia Nitrogen	Iron, dissolved	Dissolved Oxygen, field
Arsenic, dissolved	Lead, dissolved	pH (a)
Barium, dissolved	Manganese, dissolved	Specific Conductance (a)
Boron, dissolved	Mercury, dissolved	Temperature (a)
Cadmium, dissolved	Nitrate + Nitrite, as N	Turbidity, field
Chloride	Sodium, dissolved	Water Elevation (c)
Chromium, total dissolved	Sulfate	
	Suspended Solids, total	

Footnotes:

(a) Two measurements: in field, immediately after obtaining sample, and in laboratory.

(b) Visual observation, in field and laboratory, noting conditions such as the following, if present: color, cloudiness, floating films, other liquid or gas phases, odor.

(c) As measured in field before pumping or bailing.

(d) Purge and trap method.

After the background sampling events, the regularly scheduled seasonal sampling events will consist of three events per year of organics analysis and field parameters, with inorganics added to the analytes once a year in the fall.

11. Sample Containers

All sample containers will be obtained from an independent commercial laboratory (i.e., ESC). Groundwater samples will be placed in containers specially prepared by the laboratory. Samples collected for metal analyses will be filtered in the field using appropriate filtering equipment (0.45 micron filters).

Sample containers will be labeled with a waterproof pen at the time of collection to prevent sample misidentification. The sample label will include the following information.

- Place of Collection
- Sample Identification Number
- Date and Time of Collection
- Initials of Collector
- Analytical Parameter(s)
- Preservative (if any)

The name of the collector, site location, date and the time of collection will be logged in the field book.

12. Sample Handling

Immediately following their collection, samples will be placed in a cooler with ice packs to prevent or retard the alteration of chemicals in the samples. The sample containers will be packed in the cooler in a manner that will minimize the possibility of breakage. Following collection the samples will be submitted to ESC with chain of custody documentation.

13. Sample Documentation

All sample collection activities will be documented in a bound log book and the groundwater sampling field data log sheets. These will contain, at a minimum, the following information.

- Place of Collection
- Sample Identification Number
- Date and Time of Collection
- Total Depth of Well
- Length of Water Column
- Volume of Water in Well
- Three Well Volumes
- Actual Volume of Water Removed
- Type of Sample Container(s)
- Field Observations (weather, odor, etc.)
- Name of Person Collecting Sample
- Preservation Method (if any)
- Requested Analyses to be Conducted

In addition, all samples will be accompanied by appropriate chain of custody documentation. Chain of custody record forms will be filled out by sampling personnel following sample collection.

14. Data Submittals to the MPCA

All water quality data collected will be submitted to the MPCA as both a hard copy and in an electronic format as outlined in the MPCA Solid Waste Program Electronic Laboratory Data Submittal Manual.

Upon approval of this Phase III and Phase IV Hydrogeologic Evaluation Work Plan and following authorization from Ulland Bros., Wenck Associates, Inc. will begin to collect groundwater quality data and submit the monitoring and quality assurance data, analysis of water quality trends, and identification of constituents that exceed groundwater performance standards of subpart 4 to the MPCA for review.

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
June 19, 2006
Page 9

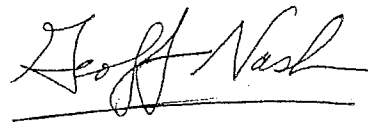
Should you have any questions regarding this plan, please feel free to contact Joe Palo at (218) 865-0120 or Geoffrey Nash at (763) 479-4215.

Sincerely,

WENCK ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Joe Palo". The signature is stylized with a large, looping initial "J" and "P".

Joseph Palo
Project Manager

A handwritten signature in black ink, appearing to read "Geoffrey Nash". The signature is written in a cursive style with a horizontal line underneath.

Geoffrey Nash
Geologist

cc: Tim Grahek, Ulland Bros.



Wenck Associates, Inc.
1800 Pioneer Creek Ctr.
P.O. Box 249
Maple Plain, MN 55359-0249

(763) 479-4200
Fax (763) 479-4242
E-mail: wenckmp@wenck.com

June 19, 2006

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
Solid Waste Section
520 Lafayette Rd. North
St. Paul, MN 55155-4194

Re: Phase III and Phase IV Hydrogeologic Evaluation Work Plan - Proposed
Expansion Area (Attached)
Ulland Bros. Scanlon Demolition Landfill Facility (SW-399)
Wenck File #1393-03

Dear Mr. Hokenson:

As per your e-mail message to me dated June 12, 2006, a revised copy of the above-mentioned work plan is attached. Your comment regarding the EPA Method for TDS was incorporated into this revised version. The revised Work Plan you reviewed included changes that were based on your comments on a second draft we provided on June 5, 2006.

Wenck Associates, Inc. will contact the driller to have the piezometers reclassified as monitoring wells and MDH unique numbers assigned. I will have those numbers forwarded to you as soon as I receive them.

I will be looking for your written confirmation letter regarding this work plan. Thank you for your timely responses throughout this process.

Should you have any questions, please feel free to me at (763) 479-4215.

Sincerely,

WENCK ASSOCIATES, INC.

Geoffrey Nash
Geologist

cc: Tim Grahek, Ulland Bros.



Wenck Associates, Inc.
1800 Pioneer Creek Ctr.
P.O. Box 249
Maple Plain, MN 55359-0249

(763) 479-4200
Fax (763) 479-4242
E-mail: wenckmp@wenck.com

June 19, 2006

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
Solid Waste Section
520 Lafayette Rd. North
St. Paul, MN 55155-4194

Re: Phase III and Phase IV Hydrogeologic Evaluation Work Plan - Proposed
Expansion Area
Ulland Bros. Scanlon Demolition Landfill Facility (SW-399)
Wenck File #1393-03

Dear Mr. Hokenson:

On behalf of the Ulland Bros. Scanlon Demolition Landfill, Wenck Associates, Inc. is pleased to submit this Phase III and Phase IV, Hydrogeologic Evaluation Work Plan, as required under Minnesota Rules 7035.2815, Subsect. H. This work plan builds upon information presented in the Phase II Hydrogeologic Investigation Report dated August 2005 and your comments as well.

Ulland Bros. owns and operates the Ulland Bros. Demolition Debris Land Disposal Facility (Demo LDF), near Cloquet, Minnesota (see Figure 1). The Demo LDF is currently operating under Minnesota Pollution Control Agency (MPCA) Permit SW-399. As part of the permitting process, this Phase III and Phase IV Hydrogeologic Evaluation Work Plan for the proposed expansion area was developed.

Wenck Associates, Inc. (Wenck) has been retained by Ulland Bros. Inc. to submit the required Phase III and Phase IV Work Plan to the MPCA for approval.

A. PROPOSED ENVIRONMENTAL MONITORING SYSTEM

1. Monitoring Point Locations

The five (5) monitoring wells (P-1, P-2, P-3, P-4, and P-5) shown on Figure 2 make up the proposed Environmental Monitoring System (EMS) for the entire site (Figure 2). No EMS currently exists. Monitoring point P-1 represents upgradient groundwater conditions and the other four represent downgradient conditions.

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
June 19, 2006
Page 2

It should be noted that because monitoring well P-2 is hydraulically downgradient of the existing demolition landfill area, it is representative of the existing landfill groundwater conditions, not the expansion.

2. Design and Installation Procedures

The monitoring points were installed as piezometers by Engineering Partners Company (EPC) in July 2005 using hollow-stem auger drilling techniques. The piezometers' construction details are described in the attached monitoring point design schematics. The piezometers, which were constructed according to MDH monitoring well specifications, will be re-categorized as monitoring wells upon approval of this Phase III and Phase IV Hydrogeologic Evaluation Work Plan and then well permits will be submitted to the Minnesota Department of Health.

3. Monitoring Point Suitability

The five monitoring points were designed to accomplish the following: yield samples that are representative of water quality; distinguish groundwater conditions from background water quality, allow early detection of the release of pollutants from a facility; determine the composition, areal and vertical extent, concentration distribution, and highest concentrations of pollutants in the ground water; and to allow determination of whether the facility complies with the ground water performance standards.

Monitoring point P-1 is hydraulically upgradient of the proposed landfill expansion area and P3, P-4, and P-5 are located in such a way that they will intercept groundwater moving away from the landfill expansion area (see attached Figures 9 and 10). Monitoring point P-2 is downgradient of the existing landfill.

4. Compliance Boundary

The compliance boundary is shown on Figure 2 and corresponds to the property boundary.

5. Monitoring Protocol

Wenck Associates, Inc. will provide the field personnel to perform all field services associated with collection of groundwater samples from the EMS.

The order of sampling will be from the wells located upgradient (P-1) to those located downgradient, starting with the well furthest downgradient (P-3):

Sampling Order	Well ID
1	P-1
2	P-3
3	P-4
4	P-5
5	P-2

All sampling activities will be conducted by qualified sampling personnel, and will adhere to the following protocol, in order:

1. Prior to sampling, appropriate personal protective clothing should be donned. This should include, at a minimum, splash goggles, safety boots, and chemical resistant gloves.
2. Inspect well integrity and remove the well cap in order to vent the well.
3. Label all sample containers.
4. Recalibrate field instruments (pH and conductivity meters), if necessary.
5. Replace outer chemical-resistant gloves.
6. Rinse and dry the water level probe (or tape) and record water level measurements and total depths in the bound log book. Rinse and dry the probe after recording measurements.
7. Calculate the volume of water to be removed from the well.
8. Use low flow submersible pump sampling equipment. Lower the pump/tubing assembly to the bottom of the well. Care should be taken to prevent the tubing and/or pump from contacting any potentially contaminated surface.
9. Purge the well of the desired volume of water.
10. During purging of the well, use groundwater discharge from the pump tubing to rinse a clean, untreated jar with the sample water. After rinsing, fill the container with water purged from the well and collect temperature, pH, dissolved oxygen, turbidity, and specific conductance measurements from the sample. Record the measurements obtained in a field log book. If possible, temperature, pH,

dissolved oxygen, turbidity and specific conductance measurements will be repeated each time a well casing volume of water is purged from the well and prior to sample collection.

11. After purging the well, fill the appropriate sample containers with groundwater from the discharge from the pump tubing. When collecting samples for metal analyses, use an appropriate field filter (0.45 micron) to field filter the samples prior to filling the sample containers. Care should be taken to fill all sample jars as required and place them in a cooler packed with ice immediately following their collection.
12. Record time of sampling and quantity of water removed in the bound notebook. A chain of custody form should also be filled out at this time.
13. Close and lock the well. Decontaminate all sampling equipment and down-hole field instruments in accordance with the following subsection entitled, "Sample Equipment Decontamination." If dedicated sampling equipment has been used, kink the discharge tubing so that the tubing will fit inside the well, but remain accessible.
14. Move to the next well and repeat steps 1 through 13, making sure gloves are changed between wells.

6. Water Level Measurements

Depth to the static water table will be measured in each monitoring well prior to purging and sampling. The measurements will be made using an electronic water level indicator. These measurements will be made from the top of well casing used during the level survey and will be made to the nearest 0.01 foot. The wetted portion of the water level indicator will be triple-rinsed with distilled water and wiped dry with a clean paper towel prior to use in another well. The total depth of each well will be measured annually to determine if sediment is filling the well.

7. Well Purging

All monitoring wells will be purged prior to sampling to ensure the sample is representative of the groundwater and does not contain water that has been standing in the well. At least three static well volumes will be removed prior to sample collection. If, after three well volumes have been removed and the following stabilization criteria have not been satisfied, purging will continue until pH is within ± 0.1 , temperature is within 0.5°C , conductivity is within $\pm 5\%$, and dissolved oxygen and turbidity have also stabilized. Each monitoring well will be purged using a low flow submersible pump.

If a monitoring well does not yield sufficient water to allow the purging of three well volumes, the well will be pumped to the maximum extent possible and will then be sampled as soon as the well recovers. If the recovery time exceeds three hours, the well will not be sampled, as a sufficient volume of water is not available.

8. Analysis

Environmental Science Corp. (ESC), of Mt. Juliet, Tennessee will provide analytical services associated with groundwater samples from the EMS. ESC's analytical protocol was forwarded directly to the MPCA (Alex Hokenson). Please refer to that document for further details. The regular laboratory quality control (QC) results will also be checked for all events to ensure proper QC was maintained.

Laboratory methods are as follows:

Analyte	EPA Method
VOCs	8260
Metals	6010
Ammonia Nitrogen	350.1
Nitrate + Nitrite, as N	353.2
TSS	160.2
TDS	160.1
Chloride	9056
Sulfate	9056
Sodium, diss.	6010
Spec. Conductivity	9050
Turbidity	180.1
Cation-Anion Balance	-
Zinc, diss.	6010
Eh	-
Alkalinity, total, as calcium carbonate	310.2

9. Sampling Schedule

The background sampling events will take place in May and August of 2006. Regularly scheduled groundwater sampling will be conducted three times per year, in the May, July, and August.

10. Analytical Parameters

It is proposed that, in accordance with Minnesota rules (7035.2815, Subp. 14C) and communication with the MPCA, prior to regularly scheduled seasonal sampling events, the monitoring points will be sampled two times to establish background groundwater

quality values. The two background events will provide the observations and analyses as follows:

**MDH 465 List
 Analytes**

1,1,1,2-Tetrachloroethane	2,2-Dichloropropane	Dichloromethane (Methylene chloride)
1,1,1-Trichloroethane	2-Chlorotoluene (ortho-)	Ethyl benzene
1,1,2,2-Tetrachloroethane	4-Chlorotoluene (para-)	Ethyl ether
1,1,2-Trichloroethane	Acetone	Hexachlorobutadiene
1,1,2-Trichlorotrifluoroethane	Allyl chloride (3 chloropropene)	Methyl ethyl ketone (MEK)
1,1-Dichloroethane	Benzene	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,1-Dichloroethylene (Vinylidene chloride)	Bromobenzene	Methyl tertiary-butyl ether (MTBE)
1,1-Dichloropropene	Bromochloromethane (Chlorobromomethane)	Naphthalene
1,2-Dichloroethylene (trans)	Bromodichloromethane (Dichlorobromomethane)	n-Butyl benzene
1,2,3-Trichlorobenzene	Bromoform	n-Propyl benzene
1,2,3-Trichloropropane	Bromomethane (Methyl bromide)	p-Isopropyltoluene
1,2,4-Trichlorobenzene	Carbon tetrachloride	sec-Butyl benzene
1,2,4-Trimethylbenzene	Chlorobenzene (monochlorobenzene)	Styrene
1,2-Dibromoethane (Ethylene dibromide or EDB)	Chlorodibromomethane (Dibromochloromethane)	tert-Butyl benzene
1,2-Dichlorobenzene (ortho-)	Chloroethane	Tetrachloroethylene (Perchloroethylene)
1,2-Dichloroethane	Chloroform	Tetrahydrofuran
1,2-Dichloroethylene (cis-)	Chloromethane (Methyl chloride)	Toluene
1,2-Dichloropropane	Cumene (Isopropylbenzene)	Trichloroethylene (TCE)
1,3,5-Trimethylbenzene	Dibromochloropropane (DBCP)	Trichlorofluoromethane
1,3-Dichlorobenzene (meta-)	Dibromomethane (Methylene bromide)	Vinyl chloride (chloroethene)
1,3-Dichloropropane	Dichlorodifluoromethane	Xylenes (mixture of o, m, p)
1,3-Dichloropropene (cis + trans)	Dichlorofluoromethane	
1,4-Dichlorobenzene (para-)		

Inorganics

Alkalinity, total as calcium carbonate	Copper, dissolved	Appearance (b)
Ammonia Nitrogen	Iron, dissolved	Dissolved Oxygen, field
Arsenic, dissolved	Lead, dissolved	pH (a)
Barium, dissolved	Manganese, dissolved	Specific Conductance (a)
Boron, dissolved	Mercury, dissolved	Temperature (a)
Cadmium, dissolved	Nitrate + Nitrite, as N	Turbidity, field
Chloride	Sodium, dissolved	Water Elevation (c)
Chromium, total dissolved	Sulfate	
	Suspended Solids, total	

Footnotes:

(a) Two measurements: in field, immediately after obtaining sample, and in laboratory.

(b) Visual observation, in field and laboratory, noting conditions such as the following, if present: color, cloudiness, floating films, other liquid or gas phases, odor.

(c) As measured in field before pumping or bailing.

(d) Purge and trap method.

After the background sampling events, the regularly scheduled seasonal sampling events will consist of three events per year of organics analysis and field parameters, with inorganics added to the analytes once a year in the fall.

11. Sample Containers

All sample containers will be obtained from an independent commercial laboratory (i.e., ESC). Groundwater samples will be placed in containers specially prepared by the laboratory. Samples collected for metal analyses will be filtered in the field using appropriate filtering equipment (0.45 micron filters).

Sample containers will be labeled with a waterproof pen at the time of collection to prevent sample misidentification. The sample label will include the following information.

- Place of Collection
- Sample Identification Number
- Date and Time of Collection
- Initials of Collector
- Analytical Parameter(s)
- Preservative (if any)

The name of the collector, site location, date and the time of collection will be logged in the field book.

12. Sample Handling

Immediately following their collection, samples will be placed in a cooler with ice packs to prevent or retard the alteration of chemicals in the samples. The sample containers will be packed in the cooler in a manner that will minimize the possibility of breakage. Following collection the samples will be submitted to ESC with chain of custody documentation.

13. Sample Documentation

All sample collection activities will be documented in a bound log book and the groundwater sampling field data log sheets. These will contain, at a minimum, the following information.

- Place of Collection
- Sample Identification Number
- Date and Time of Collection
- Total Depth of Well
- Length of Water Column
- Volume of Water in Well
- Three Well Volumes
- Actual Volume of Water Removed
- Type of Sample Container(s)
- Field Observations (weather, odor, etc.)
- Name of Person Collecting Sample
- Preservation Method (if any)
- Requested Analyses to be Conducted

In addition, all samples will be accompanied by appropriate chain of custody documentation. Chain of custody record forms will be filled out by sampling personnel following sample collection.

14. Data Submittals to the MPCA

All water quality data collected will be submitted to the MPCA as a both a hard copy and in an electronic format as outlined in the MPCA Solid Waste Program Electronic Laboratory Data Submittal Manual.

Upon approval of this Phase III and Phase IV Hydrogeologic Evaluation Work Plan and following authorization from Ulland Bros., Wenck Associates, Inc. will begin to collect groundwater quality data and submit the monitoring and quality assurance data, analysis of water quality trends, and identification of constituents that exceed groundwater performance standards of subpart 4 to the MPCA for review.

Mr. Alex R. Hokenson
Minnesota Pollution Control Agency
June 19, 2006
Page 9

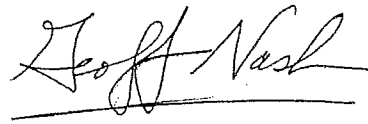
Should you have any questions regarding this plan, please feel free to contact Joe Palo at (218) 865-0120 or Geoffrey Nash at (763) 479-4215.

Sincerely,

WENCK ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Joe Palo". The signature is stylized with a large, looping initial "J" and "P".

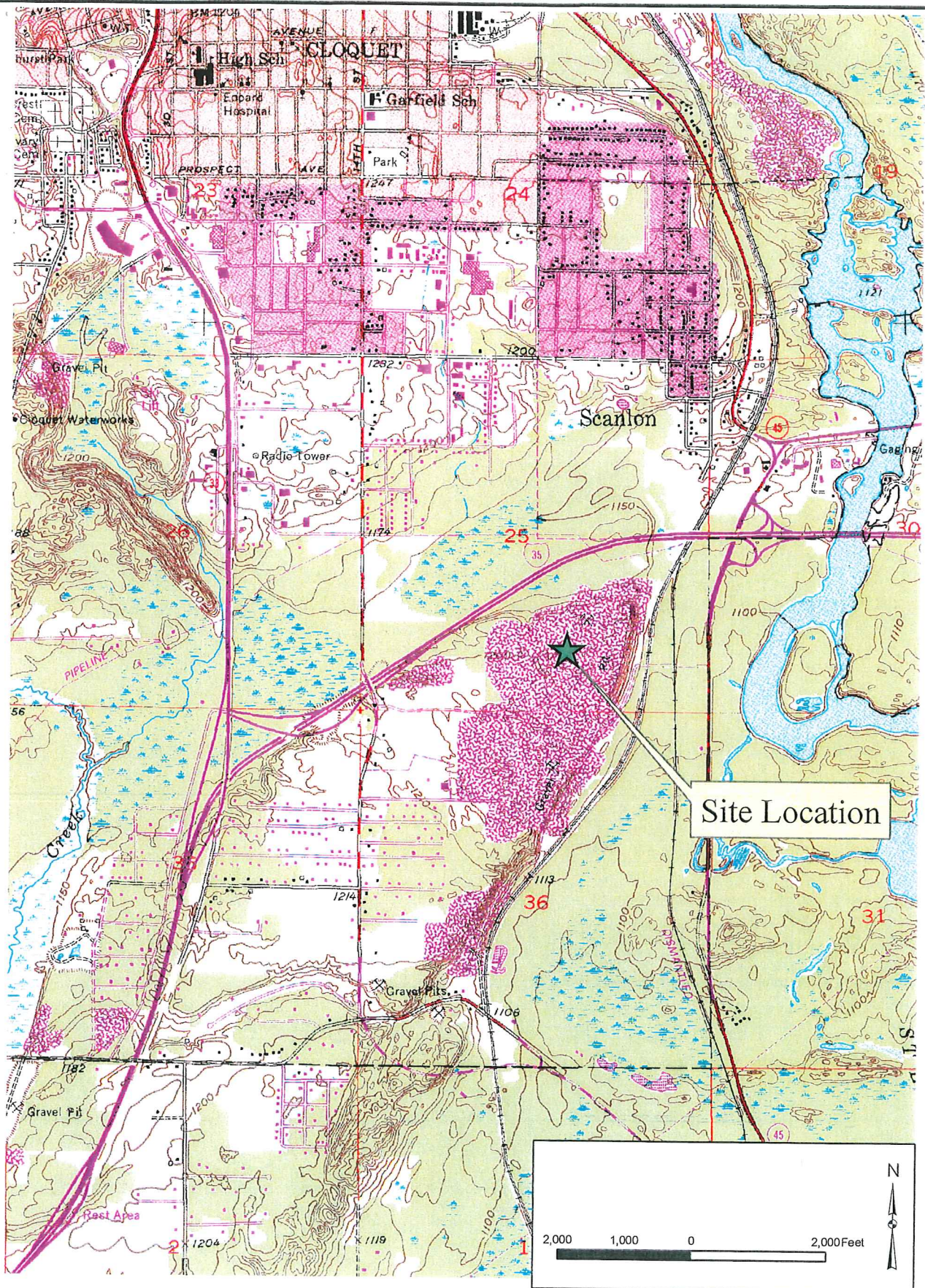
Joseph Palo
Project Manager

A handwritten signature in black ink, appearing to read "Geoffrey Nash". The signature is written in a cursive style with a horizontal line underneath.

Geoffrey Nash
Geologist

cc: Tim Grahek, Ulland Bros.

Figures



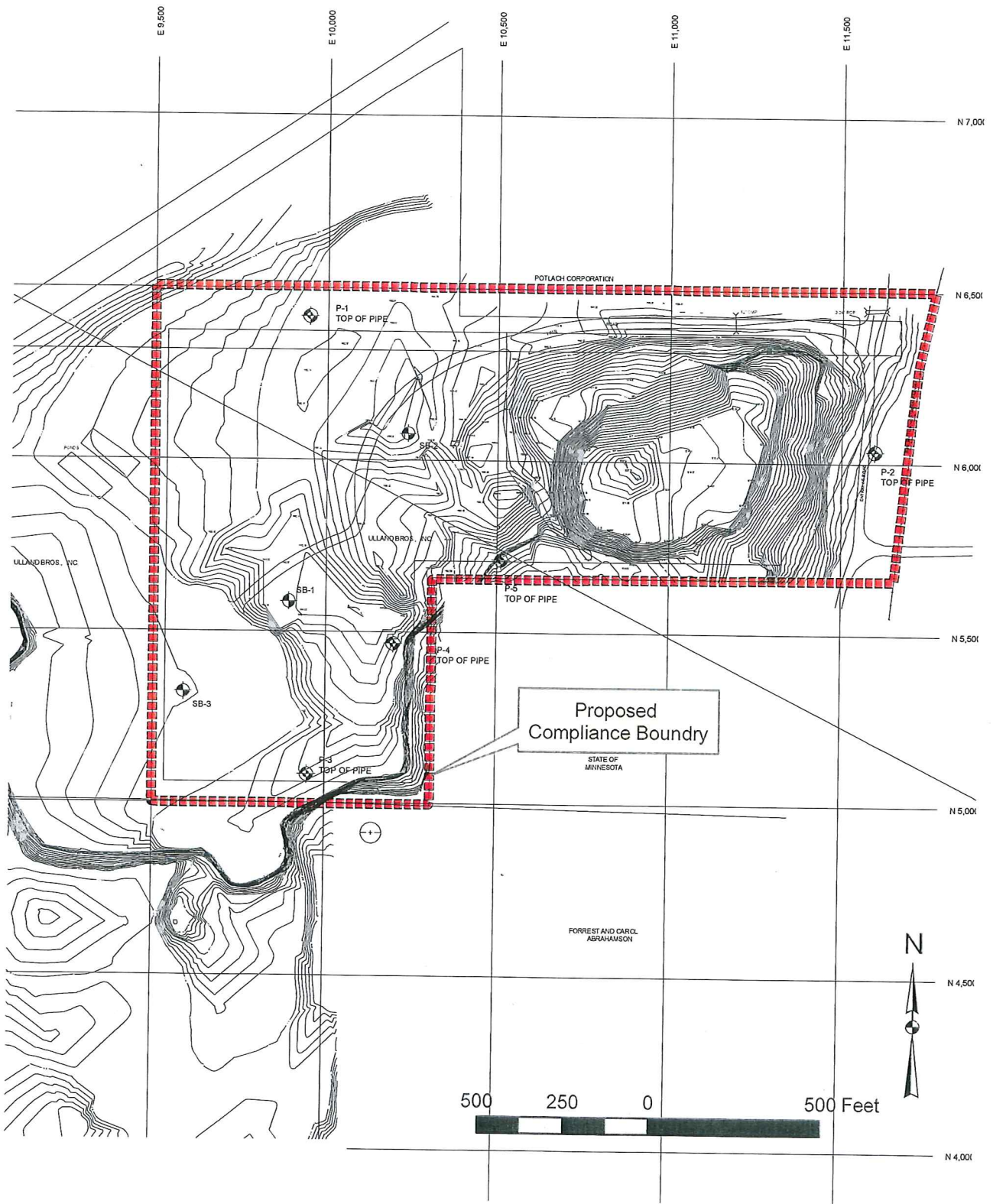
Ulland Bros. Demo LDF - Scanlon, MN

Site Location Map


Wenck
 Wenck Associates, Inc. 1800 Pioneer Creek Center
 Environmental Engineers Maple Plain, MN 55359-0429

Aug. 2005

Figure 1



Ulland Bros. Demo LDF - Scanlon, MN

Proposed Compliance Boundary

COPYRIGHT

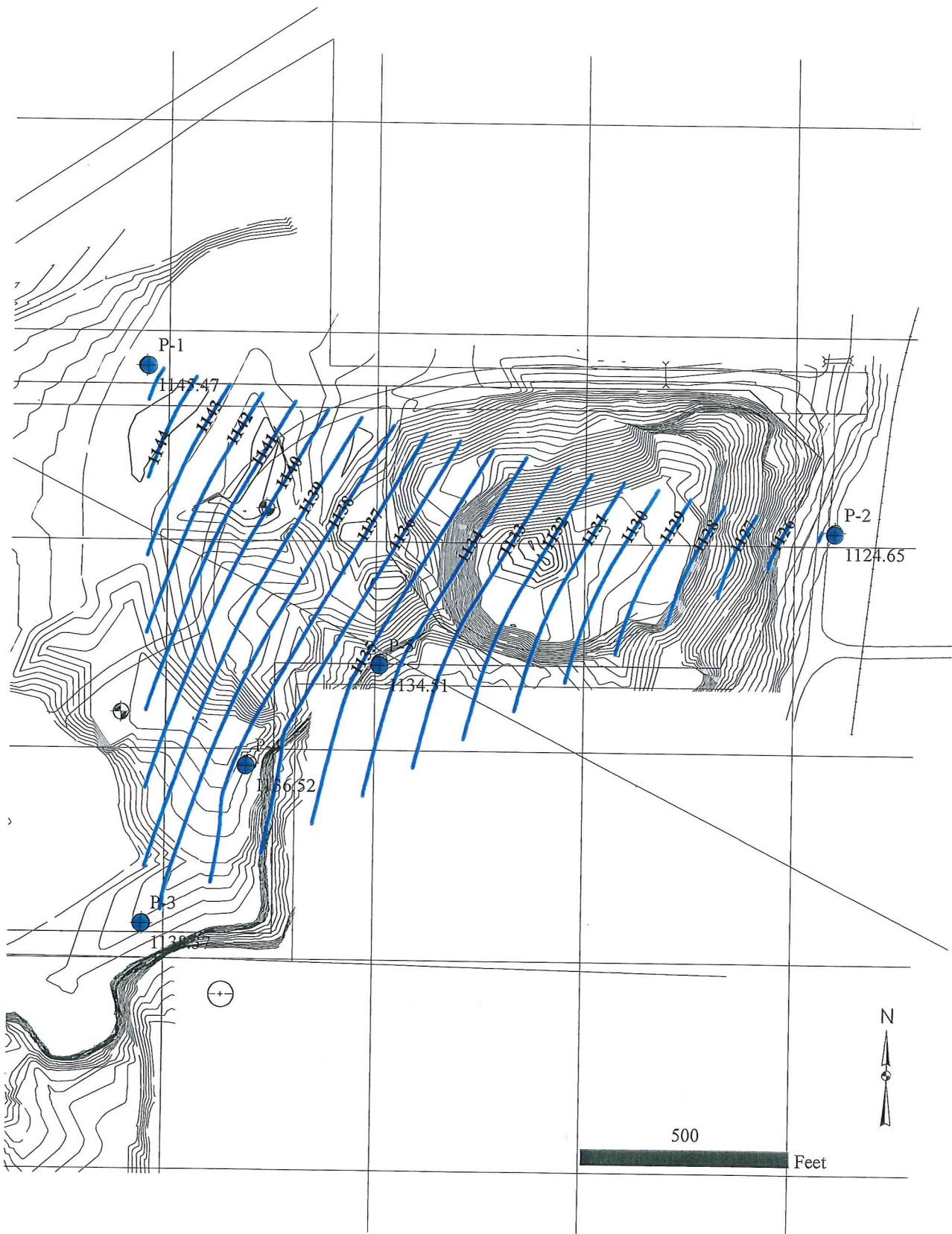


Wenck

Wenck Associates, Inc. 1800 Pioneer Creek Center
Environmental Engineers Maple Plain, MN 55359-0429

May 06

Figure 2



Ulland Bros. Demo LDF - Scanlon, MN

Ground Water Contour 7-14-05

copyright

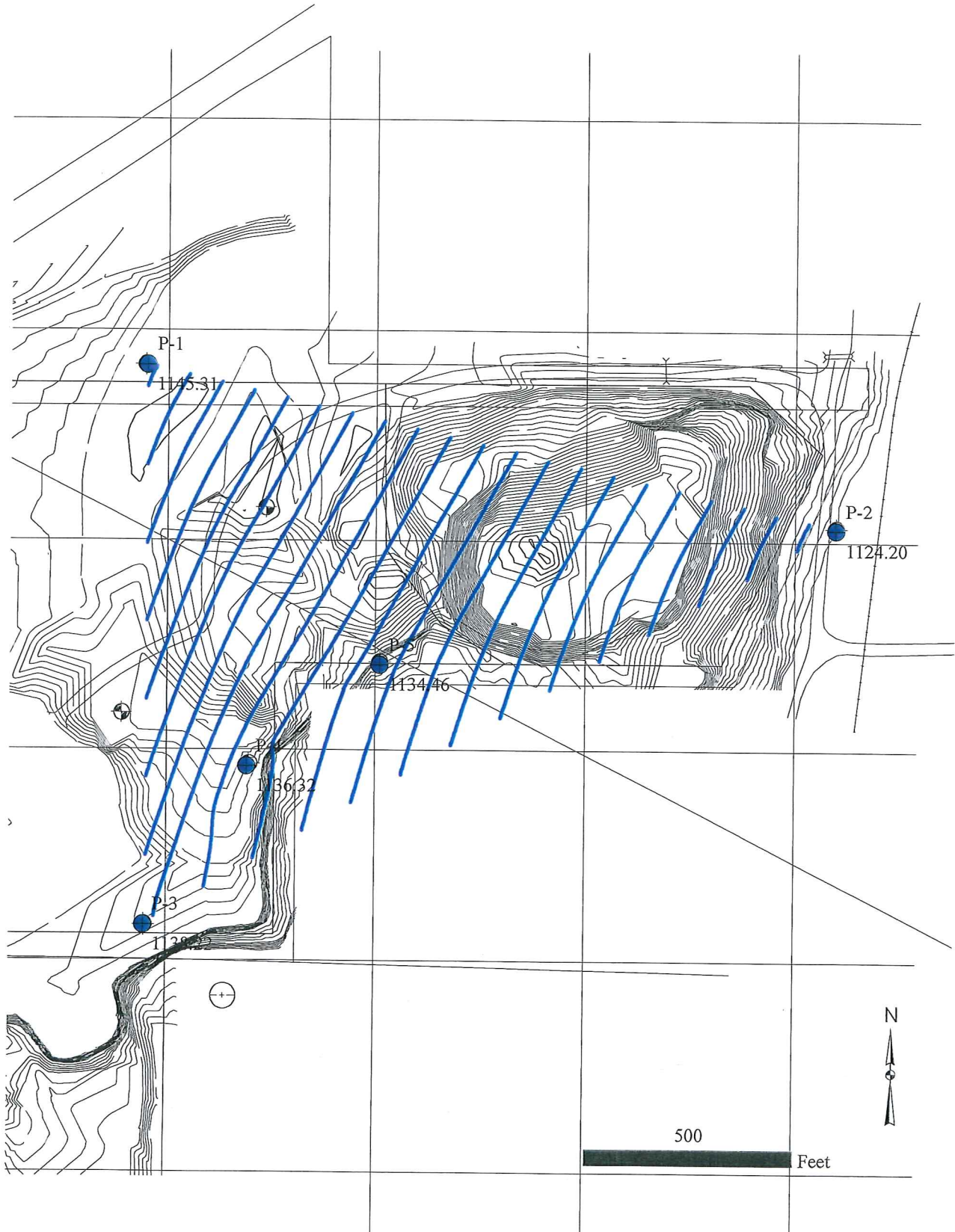


Wenck

Wenck Associates, Inc. 1800 Pioneer Creek Center
Environmental Engineers Maple Plain, MN 55359-0429

Aug. 2005

Figure 9



Ulland Bros. Demo LDF - Scanlon, MN

Ground Water Contour 7-21-05

COPYRIGHT



Wenck

Wenck Associates, Inc. 1800 Pioneer Creek Center
Environmental Engineers Maple Plain, MN 55359-0429

Aug. 2005

Figure 10



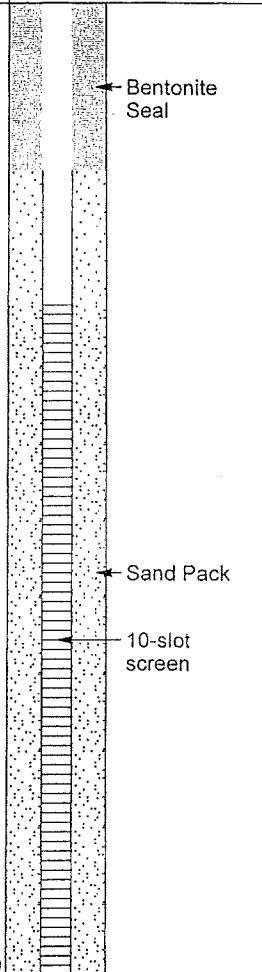
Wenck Associates, Inc.
 1800 Pioneer Creek Center
 Maple Plain, MN 55359
 Telephone: 763-479-4200
 Fax: 763-479-4242

WELL NUMBER P-1

PAGE 1 OF 1

CLIENT Ulland Brothers PROJECT NAME Phase II Report
 PROJECT NUMBER 1393-03 PROJECT LOCATION Scanlon, MN
 DATE STARTED 7/6/05 COMPLETED 7/6/05 GROUND ELEVATION 1152.37 ft HOLE SIZE 4.25
 DRILLING CONTRACTOR EPC GROUND WATER LEVELS:
 DRILLING METHOD Hollow-stem auger ▽ AT TIME OF DRILLING 4.0 ft / Elev 1148.4 ft
 LOGGED BY Brian Hayden, PG CHECKED BY _____ ▽ AT END OF DRILLING 4.0 ft / Elev 1148.4 ft
 NOTES NW crn of cell. Well has 2.5-ft protective casing with locking top. ▽ AFTER DRILLING 4.0 ft / Elev 1148.4 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0							
	SS	25	2-12-7-7 (19)				
5	SS	58	3-4-3-3 (7)				
				SP			
10	SS	83	6-12-15-18 (27)				
	SS	0	50			Bedrock slate	
						Bottom of hole at 14.5 feet.	



GENERAL BH / TP / 1393-03.GPJ WENCK.GDT 3/2/06



Wenck Associates, Inc.
 1800 Pioneer Creek Center
 Maple Plain, MN 55359
 Telephone: 763-479-4200
 Fax: 763-479-4242

WELL NUMBER P-2

PAGE 1 OF 1

CLIENT <u>Ulland Brothers</u>	PROJECT NAME <u>Phase II Report</u>
PROJECT NUMBER <u>1393-03</u>	PROJECT LOCATION <u>Scanlon, MN</u>
DATE STARTED <u>7/5/05</u> COMPLETED <u>7/5/05</u>	GROUND ELEVATION <u>1131.19 ft</u> HOLE SIZE <u>4.25</u>
DRILLING CONTRACTOR <u>EPC</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>Hollow-stem auger</u>	▽ AT TIME OF DRILLING <u>2.0 ft / Elev 1129.2 ft</u>
LOGGED BY <u>Brian Hayden, PG</u> CHECKED BY _____	▽ AT END OF DRILLING <u>2.0 ft / Elev 1129.2 ft</u>
NOTES <u>East side LF. Well has 2.5-ft protective casing with locking top.</u>	▽ AFTER DRILLING <u>2.0 ft / Elev 1129.2 ft</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0							
2.5	SS	25	5-3-10-18 (13)				
5.0	SS	67	4-6-12-15 (18)	SP			
7.0						slate	
9.0	SS	0	50				
						Bottom of hole at 7.0 feet.	

93-03.GPJ WENCK.GDT 3/2/05

CLIENT Ulland Brothers PROJECT NAME Phase II Report
 PROJECT NUMBER 1393-03 PROJECT LOCATION Scanlon, MN
 DATE STARTED 7/5/05 COMPLETED 7/5/05 GROUND ELEVATION 1142.91 ft HOLE SIZE 4.25
 DRILLING CONTRACTOR EPC GROUND WATER LEVELS:
 DRILLING METHOD Hollow-stem auger ▽ AT TIME OF DRILLING 4.0 ft / Elev 1138.9 ft
 LOGGED BY Brian Hayden, PG CHECKED BY _____ ▽ AT END OF DRILLING 4.0 ft / Elev 1138.9 ft
 NOTES SW crn of cell. Well has 2.5-ft protective casing with locking top. ▽ AFTER DRILLING 4.0 ft / Elev 1138.9 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0							
0.0 - 2.5	SS	8	2-4-6-8 (10)		[Stippled pattern]		Bentonite Seal
2.5 - 5.0						▼	
5.0 - 7.5	SS	50	10-14-16-10 (30)	SP	[Stippled pattern]		Sand Pack
7.5 - 10.0							10-slot screen
10.0 - 12.0	SS	0	50		[Diagonal hatching]		

393-03.GPJ WENCK.GDT 3/2/06
 GENERAL BH / TP /

CLIENT Ulland Brothers PROJECT NAME Phase II Report
 PROJECT NUMBER 1393-03 PROJECT LOCATION Scanlon, MN
 DATE STARTED 7/5/05 COMPLETED 7/5/05 GROUND ELEVATION 1138.91 ft HOLE SIZE 4.25
 DRILLING CONTRACTOR EPC GROUND WATER LEVELS:
 DRILLING METHOD Hollow-stem auger ▽ AT TIME OF DRILLING 4.0 ft / Elev 1134.9 ft
 LOGGED BY Brian Hayden, PG CHECKED BY _____ ▽ AT END OF DRILLING 4.0 ft / Elev 1134.9 ft
 NOTES South side of cell. Well has 2.5-ft protective casing with locking top. ▽ AFTER DRILLING 4.0 ft / Elev 1134.9 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0.0							
2.5	SS	67	4-3-2-7 (5)				Bentonite Seal
5.0	SS	75	3-2-4-8 (6)	SP			Sand Pack
7.5							10-slot screen
10.0							
10.5							
12.5	SS	0	50				

.093-03.GPJ WENCK.GDT 3/2/06

GENERAL BH / TP / V

CLIENT Ulland Brothers PROJECT NAME Phase II Report
 PROJECT NUMBER 1393-03 PROJECT LOCATION Scanlon, MN
 DATE STARTED 7/6/05 COMPLETED 7/6/05 GROUND ELEVATION 1162.95 ft HOLE SIZE 4.25
 DRILLING CONTRACTOR EPC GROUND WATER LEVELS:
 DRILLING METHOD Hollow-stem auger ▽ AT TIME OF DRILLING 28.0 ft / Elev 1135.0 ft
 LOGGED BY Brian Hayden, PG CHECKED BY _____ ▽ AT END OF DRILLING 28.0 ft / Elev 1135.0 ft
 NOTES South side of cell. Well has 2.5-ft protective casing with locking top. ▽ AFTER DRILLING 28.0 ft / Elev 1135.0 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0							
4.6	SS	75	4-6-6-5 (12)				
5.2	SS	58	1-2-1-1 (3)				
6.5	SS	58	6-5-9-10 (14)				
14.5	SS	71	5-10-14-15 (24)	SP			
19.5	SS	79	4-5-15-21 (20)				
24.5	SS	63	9-10-15-20 (25)				
29.5	SS	0					
34.0	SS	0	50			slate	
36.0							

Bottom of hole at 34.0 feet.

Labels in Well Diagram: Bentonite Seal, Sand Pack, 10-slot screen

93-03.GPJ WENCK.GDT 3/2/06 GENERAL BH / TP / V

COMPLETION REPORT OF WELL No. P-1

Sheet 1 of 1

PROJECT: **Phase II Report**
 PROJECT NO: **1393-03**
 PROJECT LOCATION: **Scanlon, MN**

WATER LEVEL: ▽ _____ ▽ _____ ▽ _____
 DATE: _____
 TIME: _____

GROUND SURFACE ELEVATION: **1152.4**

DRILLING CONTRACTOR: **EPI**
 DRILLING METHOD: **HSA**
 DATE COMPLETED: **July 6, 2005**

DATUM:
 LOGGED BY: **Brian Hayden, PG**
 CHECKED BY:

STRATA		WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.) SYMBOL				
	0		-3.00	TPC	1155.37
			-2.50	TRC	1154.87
			0.0	GS	1152.37
			4.5		1147.87
Bedrock slate			14.5		1137.87

PROTECTIVE CASING
 Diameter: **6"**
 Type: **steel**
 Interval: **-3 to 2**

RISER CASING
 Diameter: **2"**
 Type: **PVC**
 Interval: **-2.5 to 4.5'**

GROUT
 Type: **neat cement**
 Interval: **0 to 2.5'**

SEAL
 Type: **neat cement**
 Interval: **0 to 2.5'**

SANDPACK
 Type: **red flint sand**
 Interval: **2.5' to 14.5'**

SCREEN
 Diameter: **2"**
 Type: **#10 slot PVC**
 Interval: **4.5' to 14.5'**

TPC TOP OF PROTECTIVE CASING
 TRC TOP OF RISER CASING
 GS GROUND SURFACE
 BS BENTONITE SEAL
 FP FILTER PACK
 TSC TOP OF SCREEN
 BSC BOTTOM OF SCREEN
 TD TOTAL DEPTH

WELL CONSTRUCTION 0705 1393-03 WELLS.GPJ LOG A EWNLO2.GDT 5/2/06

Wenck Associates
 31 West Superior St.
 Duluth, MN 55802
 Telephone: (218) 727-2021 Fax: (218) 727-4901

COMPLETION REPORT OF WELL No. P-1

Sheet 1 of 1

COMPLETION REPORT OF WELL No. P-2

Sheet 1 of 1

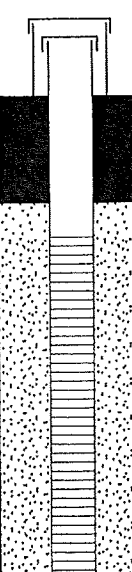
PROJECT: **Phase II Report**
 PROJECT NO: **1393-03**
 PROJECT LOCATION: **Scanlon, MN**

WATER LEVEL: ▽ _____ ▽ _____ ▽ _____
 DATE: _____
 TIME: _____

GROUND SURFACE ELEVATION: **1131.2**

DRILLING CONTRACTOR: **EPI**
 DRILLING METHOD: **HSA**
 DATE COMPLETED: **July 5, 2005**

DATUM:
 LOGGED BY: **Brian Hayden, PG**
 CHECKED BY:

STRATA		WELL DETAILS	DEPTH (ft.)		ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)					
			-3.00	TPC	1134.19	PROTECTIVE CASING Diameter: <u>6"</u> Type: <u>steel</u> Interval: <u>-3 to 2</u>
			-2.50	TRC	1133.69	
	0		0.0	GS	1131.19	RISER CASING Diameter: <u>2"</u> Type: <u>PVC</u> Interval: <u>-2.5 to 2'</u>
			1.5		1129.69	
						GROUT Type: <u>neat cement</u> Interval: <u>0 to 1.5'</u>
						SEAL Type: <u>neat cement</u> Interval: <u>0 to 1.5'</u>
						SANDPACK Type: <u>red flint sand</u> Interval: <u>1' to 7'</u>
						SCREEN Diameter: <u>2"</u> Type: <u>#10 slot PVC</u> Interval: <u>2' to 7'</u>
slate			7.0		1124.19	

TPC TOP OF PROTECTIVE CASING
 TRC TOP OF RISER CASING
 GS GROUND SURFACE
 BS BENTONITE SEAL
 FP FILTER PACK
 TSC TOP OF SCREEN
 BSC BOTTOM OF SCREEN
 TD TOTAL DEPTH

WELL CONSTRUCTION 0705 1393-03 WELLS.GPJ LOG A EWNLOZ.GDT 5/2/06

Wenck Associates
 31 West Superior St.
 Duluth, MN 55802
 Telephone: (218) 727-2021 Fax: (218) 727-4901

**COMPLETION REPORT OF
 WELL No. P-2**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. P-3

Sheet 1 of 1

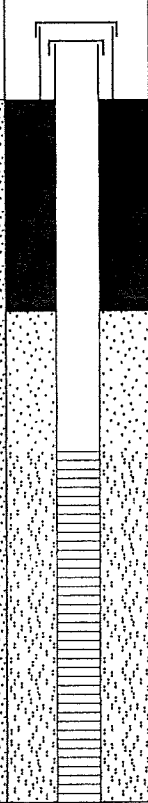
PROJECT: **Phase II Report**
 PROJECT NO: **1393-03**
 PROJECT LOCATION: **Scanlon, MN**

WATER LEVEL: ▽ _____ ▽ _____ ▽ _____
 DATE: _____
 TIME: _____

GROUND SURFACE ELEVATION: **1142.9**

DRILLING CONTRACTOR: **EPI**
 DRILLING METHOD: **HSA**
 DATE COMPLETED: **July 5, 2005**

DATUM:
 LOGGED BY: **Brian Hayden, PG**
 CHECKED BY:

STRATA		WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)				
			-3.00 TPC -2.50 TRC	1145.91 1145.41	PROTECTIVE CASING Diameter: 6" Type: steel Interval: -3 to 2
0			0.0 GS	1142.91	
			3.0	1139.91	
					GROUT Type: neat cement Interval: 0 to 3'
					SEAL Type: neat cement Interval: 0 to 3'
					SANDPACK Type: red flint sand Interval: 3 to 10'
					SCREEN Diameter: 2" Type: #10 slot PVC Interval: 5 to 10'
10			10.0	1132.91	

TPC TOP OF PROTECTIVE CASING
 TRC TOP OF RISER CASING
 GS GROUND SURFACE
 BS BENTONITE SEAL
 FP FILTER PACK
 TSC TOP OF SCREEN
 BSC BOTTOM OF SCREEN
 TD TOTAL DEPTH

WELL CONSTRUCTION 0705 1393-03 WELLS.GPJ LOG A EWNLO2.GDT 5/2/06

 **Wenck Associates**
 31 West Superior St.
 Duluth, MN 55802
 Telephone: (218) 727-2021 Fax: (218) 727-4901

**COMPLETION REPORT OF
 WELL No. P-3**

Sheet 1 of 1

COMPLETION REPORT OF WELL No. P-4

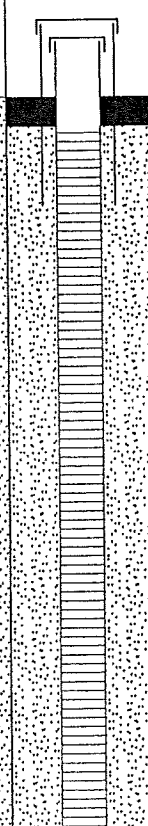
PROJECT: **Phase II Report**
 PROJECT NO: **1393-03**
 PROJECT LOCATION: **Scanlon, MN**

WATER LEVEL: ▽ _____ ▽ _____ ▽ _____
 DATE: _____
 TIME: _____

GROUND SURFACE ELEVATION: **1138.9**

DRILLING CONTRACTOR: **EPI**
 DRILLING METHOD: **HSA**
 DATE COMPLETED: **July 5, 2005**

DATUM:
 LOGGED BY: **Brian Hayden, PG**
 CHECKED BY:

STRATA		WELL DETAILS	DEPTH (ft.)		ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.)					
			-3.00	TPC	1141.91	PROTECTIVE CASING Diameter: 6" Type: steel Interval: -3 to 2
			-2.50	TRC	1141.41	
0			0.0	GS	1138.91	
			0.4		1138.51	
						RISER CASING Diameter: 2" Type: PVC Interval: -2.5 to 0.5'
						GROUT Type: neat cement Interval: 0 to 0.5'
						SEAL Type: neat cement Interval: 0 to 0.5'
						SANDPACK Type: red flint sand Interval: 0.5' 10.5'
						SCREEN Diameter: 2" Type: #10 slot PVC Interval: 0.5' to 10'
			10.5		1128.41	

TPC TOP OF PROTECTIVE CASING
 TRC TOP OF RISER CASING
 GS GROUND SURFACE
 BS BENTONITE SEAL
 FP FILTER PACK
 TSC TOP OF SCREEN
 BSC BOTTOM OF SCREEN
 TD TOTAL DEPTH

WELL CONSTRUCTION 0705 1393-03 WELLS.GPJ LOG A EWN\02.GDT 5/2/06

Wenck Associates
 31 West Superior St.
 Duluth, MN 55802
 Telephone: (218) 727-2021 Fax: (218) 727-4901

COMPLETION REPORT OF WELL No. P-4

COMPLETION REPORT OF WELL No. P-5

Sheet 1 of 1


PROJECT: **Phase II Report**
 PROJECT NO: **1393-03**
 PROJECT LOCATION: **Scanlon, MN**

WATER LEVEL: ▽ _____ ▽ _____ ▽ _____
 DATE: _____
 TIME: _____

GROUND SURFACE ELEVATION: **1163.0**

DRILLING CONTRACTOR: **EPI**
 DRILLING METHOD: **HSA**
 DATE COMPLETED: **July 6, 2005**

DATUM:
 LOGGED BY: **Brian Hayden, PG**
 CHECKED BY:

STRATA		WELL DETAILS	DEPTH (ft.)	ELEVATION (ft.)	WELL CONSTRUCTION DETAILS
DESCRIPTION	DEPTH (ft.) SYMBOL				
	0		-3.00 TPC -2.50 TRC	1165.95 1165.45	PROTECTIVE CASING Diameter: 6" Type: steel Interval: -3 to 2
	5		0.0 GS	1162.95	RISER CASING Diameter: 2" Type: PVC Interval: -2.5 to 24'
	10				GROUT Type: neat cement Interval: 0 to 22'
	15				SEAL Type: neat cement Interval: 0 to 22'
	20				SANDPACK Type: red flint sand Interval: 22' to 34'
	25				SCREEN Diameter: 2" Type: #10 slot PVC Interval: 24' to 34'
	30		22.0	1140.95	
	34.0		34.0	1128.95	
slate					

TPC TOP OF PROTECTIVE CASING
 TRC TOP OF RISER CASING
 GS GROUND SURFACE
 BS BENTONITE SEAL
 FP FILTER PACK
 TSC TOP OF SCREEN
 BSC BOTTOM OF SCREEN
 TD TOTAL DEPTH

WELL CONSTRUCTION 0705 1393-03 WELLS.GPJ LOG A.EVNL02.GDT 5/2/06


Wenck Associates
 31 West Superior St.
 Duluth, MN 55802
 Telephone: (218) 727-2021 Fax: (218) 727-4901

COMPLETION REPORT OF WELL No. P-5

Sheet 1 of 1

