GIS REGISTRY
Cover Sheet

March, 2010
(RR 5367)

Source Property Information

CLOSURE DATE: Aug 18, 2010

BRRTS #: 02-48-554019

FID #: 648022870

ACTIVITY NAME: Koch Pipeline Waverly Pump Station

DATCP #:

PROPERTY ADDRESS: N4361 270th Street

COMM #:

MUNICIPALITY: Maiden Rock, WI

PARCEL ID #: 008010950900

***WTM COORDINATES:**

X: **340357** Y: **471587**

** Coordinates are in WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

○ Approximate Center Of Contaminant Source

◉ Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

Contaminated Media:

☐ Groundwater Contamination > ES *(236)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

(***note:*** *for list of off-source properties see "Impacted Off-Source Property" form)*

☒ Soil Contamination > *RCL or **SSRCL *(232)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

(***note:*** *for list of off-source properties see "Impacted Off-Source Property" form)*

Land Use Controls:

☐ N/A (*Not Applicable*)

☐ Soil: maintain industrial zoning *(220)*

(***note:*** *soil contamination concentrations between non-industrial and industrial levels)*

☒ Structural Impediment *(224)*

☒ Site Specific Condition *(228)*

☒ Cover or Barrier *(222)*

(***note:*** *maintenance plan for groundwater or direct contact)*

☐ Vapor Mitigation *(226)*

☐ Maintain Liability Exemption *(230)*

(***note:*** *local government unit or economic development corporation was directed to take a response action)*

Monitoring Wells:

Are all monitoring wells properly abandoned per NR 141? *(234)*

○ Yes ○ No ◉ N/A

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

GIS Registry Checklist

This Adobe Fillable form is intended to provide a list of information that is required for evaluation for case closure. It is to be used in conjunction with Form 4400-202, Case Closure Request. The closure of a case means that the Department has determined that no further response is required at that time based on the information that has been submitted to the Department.

NOTICE: Completion of this form is mandatory for applications for case closure pursuant to ch. 292, Wis. Stats. and ch. NR 726, Wis. Adm. Code, including cases closed under ch. NR 746 and ch. NR 726. The Department will not consider, or act upon your application, unless all applicable sections are completed on this form and the closure fee and any other applicable fees, required under ch. NR 749, Wis. Adm. Code, Table 1 are included. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than reviewing closure requests and determining the need for additional response action. The Department may provide this information to requesters as required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

BRRTS #: 02-48-554019 PARCEL ID #: 008010950900

ACTIVITY NAME: Waverly Pump Station Closure Request WTM COORDINATES: X: 340357 Y: 471587

CLOSURE DOCUMENTS (the Department adds these items to the final GIS packet for posting on the Registry)

- [X] **Closure Letter**
- [X] **Maintenance Plan** *(if activity is closed with a land use limitation or condition (land use control) under s. 292.12, Wis. Stats.)*
- [ ] **Continuing Obligation Cover Letter** (for property owners affected by residual contamination and/or continuing obligations)
- [ ] **Conditional Closure Letter**
- [ ] **Certificate of Completion (COC)** (for VPLE sites)

SOURCE LEGAL DOCUMENTS

- [X] **Deed:** The most recent deed as well as legal descriptions, for the **Source Property** (where the contamination originated). Deeds for other, off-source (off-site) properties are located in the **Notification** section.
  Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- [ ] **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map *for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map.* (lots on subdivided or platted property (e.g. lot 2 of xyz subdivision)).

  Figure #: NA **Title: NA**
- [ ] **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description accurately describes the correct contaminated property.

MAPS (meeting the visual aid requirements of s. NR 716.15(2)(h))

Maps must be no larger than 11 x 17 inches unless the map is submitted electronically.

- [X] **Location Map:** A map outlining all properties within the contaminated site boundaries on a U.S.G.S. topographic map or plat map in sufficient detail to permit easy location of all parcels. If groundwater standards are exceeded, include the location of all potable wells within 1200 feet of the site.
  Note: *Due to security reasons municipal wells are not identified on GIS Packet maps. However, the locations of these municipal wells must be identified on Case Closure Request maps.*

  Figure #: 1 **Title: Location Map**
- [X] **Detailed Site Map:** A map that shows all relevant features (buildings, roads, individual property boundaries, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding a ch. NR 140 Enforcement Standard (ES), and/or in relation to the boundaries of soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Levels (SSRCL) as determined under s. NR 720.09, 720.11 and 720.19.

  Figure #: 2 **Title: Detailed Site Map**
- [X] **Soil Contamination Contour Map:** For sites closing with residual soil contamination, this map is to show the location of all contaminated soil and a single contour showing the horizontal extent of each area of contiguous residual soil contamination that exceeds a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL)as determined under s. NR 720.09, 720.11 and 720.19.

  Figure #: 3 **Title: Soil Contamination Contour Map**

BRRTS #: 02-48-554019 ACTIVITY NAME: Waverly Pump Station Closure Request

MAPS (continued)

☒ **Geologic Cross-Section Map:** A map showing the source location and vertical extent of residual soil contamination exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL). If groundwater contamination exceeds a ch. NR 140 Enforcement Standard (ES) when closure is requested, show the source location and vertical extent, water table and piezometric elevations, and locations and elevations of geologic units, bedrock and confining units, if any.

Figure #: 4 **Title: Geologic Cross-Section A-A'**

Figure #: 5 **Title: Geologic Cross-Section B-B'**

☐ **Groundwater Isoconcentration Map:** For sites closing with residual groundwater contamination, this map shows the horizontal extent of all groundwater contamination exceeding a ch. NR140 Preventive Action Limit (PAL) and an Enforcement Standard (ES). Indicate the direction and date of groundwater flow, based on the most recent sampling data.
Note: *This is intended to show the total area of contaminated groundwater.*

Figure #: NA **Title: NA**

☒ **Groundwater Flow Direction Map:** A map that represents groundwater movement at the site. If the flow direction varies by more then 20° over the history of the site, submit 2 groundwater flow maps showing the maximum variation in flow direction.

Figure #: 6 **Title: Area Well Location Map**

Figure #: NA **Title: NA**

TABLES (meeting the requirements of s. NR 716.15(2)(h)(3))

Tables must be no larger than 11 x 17 inches unless the table is submitted electronically. Tables must not contain shading and/or cross-hatching. The use of **BOLD** or *ITALICS* is acceptable.

☒ **Soil Analytical Table:** A table showing remaining soil contamination with analytical results and collection dates.
Note: This is one table of results for the contaminants of concern. Contaminants of concern are those that were found during the site investigation, that remain after remediation. It may be necessary to create a new table to meet this requirement.

Table #: 1 **Title: Soil Analytical Table**

☐ **Groundwater Analytical Table:** Table(s) that show the most recent analytical results and collection dates, for all monitoring wells and any potable wells for which samples have been collected.

Table #: NA **Title: NA**

☐ **Water Level Elevations:** Table(s) that show the previous four (at minimum) water level elevation measurements/dates from all monitoring wells. If present, free product is to be noted on the table.

Table #: NA **Title: NA**

IMPROPERLY ABANDONED MONITORING WELLS

For each monitoring well not properly abandoned according to requirements of s. NR 141.25 include the following documents.
Note: *If the site is being listed on the GIS Registry for only an improperly abandoned monitoring well you will only need to submit the documents in this section for the GIS Registry Packet.*

☒ **Not Applicable**

☐ **Site Location Map:** A map showing all surveyed monitoring wells with specific identification of the monitoring wells which have not been properly abandoned.
Note: *If the applicable monitoring wells are distinctly identified on the Detailed Site Map this Site Location Map is not needed.*

Figure #: **Title:**

☐ **Well Construction Report:** Form 4440-113A for the applicable monitoring wells.

☐ **Deed:** The most recent deed as well as legal descriptions for each property where a monitoring well was not properly abandoned.

☐ **Notification Letter:** Copy of the notification letter to the affected property owner(s).

BRRTS #: 02-48-554019 ACTIVITY NAME: Waverly Pump Station Closure Request

NOTIFICATIONS

Source Property

☒ **Not Applicable**

☐ **Letter To Current Source Property Owner:** If the source property is owned by someone other than the person who is applying for case closure, include a copy of the letter notifying the current owner of the source property that case closure has been requested.

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying current source property owner.

Off-Source Property

Group the following information per individual property and label each group according to alphabetic listing on the "Impacted Off-Source Property" attachment.

☒ **Not Applicable**

☐ **Letter To "Off-Source" Property Owners:** Copies of all letters sent by the Responsible Party (RP) to owners of properties with groundwater exceeding an Enforcement Standard (ES), and to owners of properties that will be affected by a land use control under s. 292.12, Wis. Stats.
Note: *Letters sent to off-source properties regarding residual contamination must contain standard provisions in Appendix A of ch. NR 726.*

Number of "Off-Source" Letters:

☐ **Return Receipt/Signature Confirmation:** Written proof of date on which confirmation was received for notifying any off-source property owner.

☐ **Deed of "Off-Source" Property:** The most recent deed(s) as well as legal descriptions, for all affected deeded **off-source property(ies).** This does not apply to right-of-ways.
Note: *If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*

☐ **Letter To "Governmental Unit/Right-Of-Way" Owners:** Copies of all letters sent by the Responsible Party (RP) to a city, village, municipality, state agency or any other entity responsible for maintenance of a public street, highway, or railroad right-of-way, within or partially within the contaminated area, for contamination exceeding a groundwater Enforcement Standard (ES) and/or soil exceeding a Residual Contaminant Level (RCL) or a Site Specific Residual Contaminant Level (SSRCL).

Number of "Governmental Unit/Right-Of-Way Owner" Letters:

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Scott Humrickhouse, Regional Director

Baldwin Service Center
890 Spruce Street
Baldwin, Wisconsin 54002
Telephone 715-684-2914
FAX 715-684-5940
TTY Access via relay - 711

August 23, 2010

Mr. Doug Losee
Koch Pipeline Co. LP
PO Box 64596
St. Paul, MN 55164-0596

Subject: Final Case Closure with Continuing Obligations
Koch Pipeline, Waverly Pump Station
N4361 270th St, Maiden Rock, WI
WDNR BRRTS Activity # 02-48-554019
FID #648022870

Dear Mr. Losee:

On August 18, 2010, the West Central Region Closure Committee reviewed the above referenced case for closure. This committee reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases.

The Department reviewed the case closure request regarding the petroleum contamination in soil and bedrock at this site. Based on the correspondence and data provided, it appears that your case meets the closure requirements in ch. NR 726, Wisconsin Administrative Code. The Department considers this case closed and no further investigation or remediation is required at this time. However, you and future property owners must comply with certain continuing obligations as explained in this letter.

GIS Registry

This site will be listed on the Remediation and Redevelopment Program's GIS Registry. The specific reasons are summarized below:

- Residual soil contamination exists that must be properly managed should it be excavated or removed
- If a structural impediment that obstructed a complete site investigation or cleanup is removed or modified, additional environmental work must be completed
- The engineered cover and soil barrier must be maintained over contaminated soil and the state must approve any changes to this barrier
- Site fencing must be maintained to prevent unauthorized access to the site.

This letter and information that was submitted with your closure request application will be included on the GIS Registry. To review the sites on the GIS Registry web page, visit the RR Sites Map page at http://dnr.wi.gov/org/aw/rr/gis/index.htm. If the property is listed on the GIS Registry because of remaining contamination and you intend to construct or reconstruct a well, you will need prior Department approval in accordance with s. NR 812.09(4)(w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line http://dnr.wi.gov/org/water/dwg/3300254.pdf or at the web address listed above for the GIS Registry.

Closure Conditions

Please be aware that pursuant to s. 292.12 Wisconsin Statutes, compliance with the requirements of this letter is a responsibility to which you, the current property owner and any subsequent property owners must adhere. You must pass on the information about these continuing obligations to the next property owner or owners. If these requirements are not followed or if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, welfare, or the environment, the Department may take enforcement action under s. 292.11 Wisconsin Statutes to ensure compliance with the specified requirements, limitations or other conditions related to the property or this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter including compliance with referenced maintenance plans are met.

Residual Soil Contamination

Residual soil contamination remains at this site as indicated on Figure 3, *Soil Contamination Contour Map* and in the information submitted to the Department of Natural Resources. If soil in the locations described above is excavated in the future, then pursuant to ch. NR 718 or, if applicable, ch. 289, Stats., and chs. 500 to 536, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Structural Impediments

Structural impediments existing at the time of cleanup made complete remediation of the soil contamination on this property impracticable. Pursuant to s. 292.12(2)(b), Wis. Stats., if the structural impediments on this property that are to be removed, the property owner shall notify the Department of Natural Resources before removal and conduct an investigation of the degree and extent of petroleum contamination. If contamination is found at that time, the contamination shall be properly remediated in accordance with applicable statutes and rules. If soil in the specific locations described above is excavated, the property owner at the time of excavation must sample and analyze the excavated soil to

determine if residual contamination remains. If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

Cover or Barrier

Pursuant to s. 292.12(2)(a), Wis. Stats., the geosynthetic clay liner (GCL) that currently exists over the entire bermed portion of the site on Figure 2, *Detailed Site Map,* shall be maintained in compliance with the attached maintenance plan in order to minimize the infiltration of water and prevent groundwater contamination that would violate the groundwater quality standards in ch. NR 140, Wis. Adm. Code, and to prevent direct contact with residual soil contamination that might otherwise pose a threat to human health. If soil in the specific locations described above is excavated in the future, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

The attached maintenance plan and inspection log are to be kept up-to-date and on-site. Please submit the inspection log to the Department only upon request..

Prohibited Activities

The following activities are prohibited on any portion of the property where soil cover and engineered cap is required as shown on the attached map, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; 6) construction or placement of a building or other structure.

Post-Closure Notification Requirements

In accordance with ss, 292.12 and 292.13, Wis. Stats., you must notify the Department before making changes that affect or relate to the conditions of closure in this letter. For this case, examples of changed conditions requiring prior notification include, but are not limited to:

- Any activity or construction that results in the removal or modification of a structural impediment that obstructed a complete site investigation or cleanup
- Disturbance, construction on, change or removal in whole or part of pavement, an engineered cover or a soil barrier that must be maintained over contaminated soil

Please send written notifications in accordance with the above requirements to Wisconsin Dept. of Natural Resources, 890 Spruce Street, Baldwin, WI 54002 to the attention of Patrick Collins.

The following DNR fact sheet, RR-819, "Continuing Obligations for Environmental Protection" has been included with this letter, to help explain a property owner's responsibility for continuing obligations on their property. If the fact sheet is lost, you may obtain a copy at http://dnr.wi.gov/org/aw/rr/archives/pubs/RR819.pdf.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Patrick Collins at 715-684-2914 ext. 117.

Sincerely

William Evans

William Evans
Team Supervisor
West Central Remediation & Redevelopment Program

Attachments: Figure 2, Detailed Site Map
Figure 3, Soil Contamination Contour Map
Maintenance Plan/Inspection Log
RR 819, Continuing Obligation Fact Sheet

cc: Brian Angerman – Barr Engineering Co, 4700 W 77th St, Minneapolis, MN 55435-4803
File

Waverly Station GCL Maintenance Plan
Prepared August 16th, 2010
Eben Spencer, P.E.
Barr Engineering Company

Koch Pipeline Company, L.P. (KPL)
Waverly Pump Station
N4361 270th Street
Maiden Rock, WI

WDNR BRRTS Case #02-48-554019

Legal Description: Township 26N, Range 16W, Section 36

Introduction

This document is a Maintenance Plan for a secondary containment system that services the KPL Waverly pump station. This Maintenance Plan is meant to meet the requirements of s. NR 724.12(2) Wisconsin Administrative Code. The secondary containment system currently in-place at the Waverly station consists of a geosynthetic clay liner (GCL) encompassed by select granular fill. The maintenance activities described in this document are intended to preserve the integrity of the GCL as part of remedial actions associated with residual petroleum impacts at the Site. More site-specific information about residual petroleum contamination at the Waverly Site can be found in the Case Closure Request (Case # 02-48-554019) that KPL has submitted to the Wisconsin Department of Natural Resources (WDNR).

Description of Contamination at the Waverly Site

Soil contaminated by refined petroleum product is located at a depth range of approximately 4 feet to 20 feet below current ground surface. Remedial actions and investigation work has indicated that residual contamination is limited to the direct vicinity of the pump station and is limited the underlying soil media. Extent of residual soil contamination at the site is shown on Figure 3 of the Case Closure Request (# 02-48-554019).

Description of In-Placed GCL

The GCL currently in-place at the Waverly Site consists of a layer of sodium bentonite between two reinforced layers of geotextiles. The geotextile layers are needle punched together and laminated to a thin flexible membrane layer. The GCL manufacturer's specification label is Bentomat CL produced by CETCO Lining Technologies. Engineering properties of the Bentomat CL GCL are attached to this Maintenance Plan (Exhibit A).

The Bentomat CL and select granular fill serve as a barrier to prevent direct human contact with the residual contaminated soil. Additionally, the GCL serves as a low-permeability layer to aid in preventing future stormwater infiltration and potential vertical contaminant migration. Based on current and future use of the site the GCL should function as required.

Annual Inspection

The GCL will be inspected on an annual basis to ensure its integrity. The ground surface overlying the GCL will be visually inspected to ensure that general work conducted at the site has not damaged the GCL. Evidence of damage to the GCL would include excessive rutting from small vehicle traffic, disturbed soil from excavating, cracked ground surface, washout of cover soil, soil settlement, etc. In addition, a small section of the liner will be exposed by hand shoveling of the granular fill. This section will be inspected to evaluate damage due to settling,

exposure to weather, wear from traffic, increasing age and other factors. If it is determined that the GCL may have been damaged the GCL will be further exposed for additional inspection. Any damaged sections will be repaired with new GCL according to manufacturer's specifications.

Records of the inspections will be documented with the attached Inspection Log. Documentation will include any potential damaged to the liner and any necessary corrective actions that are performed. Inspections will be performed by KPL employees or KPL's designated subcontractors. Inspections will be performed in the spring after snow melt although additional inspections may be required if ground intrusive work is conducted at the site. Copies of the inspection logs will be maintained at KPL's Pine Bend Office. KPL will provide copies of inspection logs to the WDNR upon request.

Maintenance Activities

Repair of damaged GCL will be implemented as soon as practically feasible. Repair will generally consist of the following:

- Removal of the damaged sections of GCL
- Replacing the damaged sections with new GCL
- New GCL will be of equal or greater specification to the existing Bentomat CL
- A one foot overlap will be provided between new and existing sections of GCL
- All seams will receive supplemental powder bentonite
- All GCL pipe penetrations will receive powder bentonite and duct tape
- Soil backfill will consist of granular soil with 80% finer than the 0.25 mm
- The repair work will be fully documented.

A two foot thick subgrade layer of select granular fill exists below the GCL; therefore, contact between GCL repair workers and the residual contaminated soil is not expected.
Should repair activities require full penetration of the subgrade layer, additional PPE may be required. Any impacted soil that is excavated from the site will be sampled for waste characterization and disposed of in accordance with applicable local, state, and federal regulations.

Preventative and Prohibited Activities

- Prohibited: Heavy vehicle traffic over the GCL
- Prohibited: Unnecessary excavating
- Prohibited: Reducing cover over the GCL other than on a temporary basis.
- Preventative: Maintaining at least 1 foot of fill over the GCL when low ground pressure vehicles (e.g. mini-excavator) are operated over the GCL

A copy of this maintenance plan will remain at the Waverly Site for viewing by all interested parties. In addition, the guidelines and requirements of this Maintenance Plan will be integrated into the training criteria for KPL employees and subcontractors who perform work at the Waverly Site.

CETCO LINING TECHNOLOGIES

Certified Properties

BENTOMAT® CL CERTIFIED PROPERTIES

MATERIAL PROPERTY	TEST METHOD	TEST FREQUENCY $ft^2 (m^2)$	REQUIRED VALUES
Bentonite Swell Index[1]	ASTM D 5890	1 per 50 tonnes	24 mL/2g min.
Bentonite Fluid Loss[1]	ASTM D 5891	1 per 50 tonnes	18 mL max.
Bentonite Mass/Area[2]	ASTM D 5993	40,000 ft^2 (4,000 m^2)	0.75 lb/ft^2 (3.6 kg/m^2) min
GCL Grab Strength[3]	ASTM D 4632 ASTM D 6768	200,000 ft^2 (20,000 m^2)	120 lbs (530 N) MARV 30 lbs/in (53 N/cm) MARV
GCL Peel Strength[3]	ASTM D 4632 ASTM D 6496	40,000 ft^2 (4,000 m^2)	15 lbs (65 N) min 2.5 lbs/in (4.4 N/cm) min
GCL Index Flux[4]	ASTM D 5887	Periodic	1 x 10^{-9} m^3/m^2/sec max
GCL Hydraulic Conductivity[4]	ASTM D 5887	Periodic	5 x 10^{-10} cm/sec max
GCL Hydrated Internal Shear Strength[5]	ASTM D 5321 ASTM D 6243	Periodic	500 psf (24 kPa) typical

Bentomat CL is a reinforced GCL consisting of a layer of sodium bentonite between two geotextiles, which are needlepunched together and laminated to a thin flexible membrane liner.

Notes

[1] Bentonite property tests performed at a bentonite processing facility before shipment to CETCO's GCL production facilities.

[2] Bentonite mass/area reported at 0 percent moisture content.

[3] All tensile strength and peel strength testing is performed in the machine direction using 4 inch grips per modified ASTM D 4632. Results are reported as minimum average roll values unless otherwise indicated. Upon request, tensile strength can be reported per ASTM D 6768 and peel strength can be reported per ASTM D 6496.

[4] ASTM D5887 Index flux and hydraulic conductivity testing with deaired distilled/deionized water at 80 psi (551 kPa) cell pressure, 77 psi (531 kPa) headwater pressure and 75 psi (517 kPa) tailwater pressure. Reported value is equivalent to 92 gal/acre/day. This flux value is equivalent to a permeability of 5x10^{-10} cm/sec for typical GCL thickness. ASTM D 5887 testing is performed only on a periodic basis because the membrane is essentially impermeable.

[5] Peak value measured at 200 psf (10 kPa) normal stress for a specimen hydrated for 48 hours. Site-specific materials, GCL products, and test conditions must be used to verify internal and interface strength of the proposed design.

CETCO® LINING TECHNOLOGIES

1500 W. Shure Drive Arlington Heights, IL 60004 USA 800.527.9948 Fax 847.577.5571
For the most up-to-date information please visit our website, www.cetco.com
A wholly owned subsidiary of AMCOL International

Revised 09/04
TR 401-BMCL

Exhibit B
Liner Inspection and Maintenance Log

Inspection Date	Inspector	Condition of Liner	Recommendations	Recommendations Completion Date and Comments

Waverly Station

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GENERAL WARRANTY DEED

DONALD W. BRUNNER and WILMA M. BRUNNER, hereafter called Grantors, of Pierce County, Wisconsin, hereby convey and warrant to Koch Refining Company, Grantee, a corporation with offices at 4111 East 37th Street North (P.O. Box 2256), Wichita, Kansas 67220, for the sum of Ten Dollars ($10.00), and other good and valuable consideration, the receipt of which is hereby acknowledged, the following tract of land in Pierce County, Wisconsin, to wit:

A parcel of land in the SE 1/4 of the NW 1/4 of Section 36, T 26 N, R 16 W, Town of El Paso, Pierce County, Wisconsin, described as follows:

Commencing at the N 1/4 corner of said Section 36; thence South along the North-South 1/4 line 1686.60 feet to the point of beginning; thence 255.00 feet west on a line perpendicular to the North-South 1/4 line; thence 255.00 feet South on a line parallel to the North-South 1/4 Line; thence 255.00 feet East on a line perpendicular to the North-South 1/4 line; thence North along the North-South 1/4 Line, 255.00 feet to the point of beginning.

IN WITNESS WHEREOF, said Grantors have hereunto set their hands this 12 day of May, 1978.

Donald W. Brunner
DONALD W. BRUNNER

TRANSFER
$ 1.10
FEE

Wilma M. Brunner
WILMA M. BRUNNER

STATE OF [illegible])
) ss.
COUNTY OF [illegible])

The foregoing instrument was acknowledged before me, this 12 day of May, 1978, by Donald Brunner and [illegible].

[illegible]
Notary Public

265276

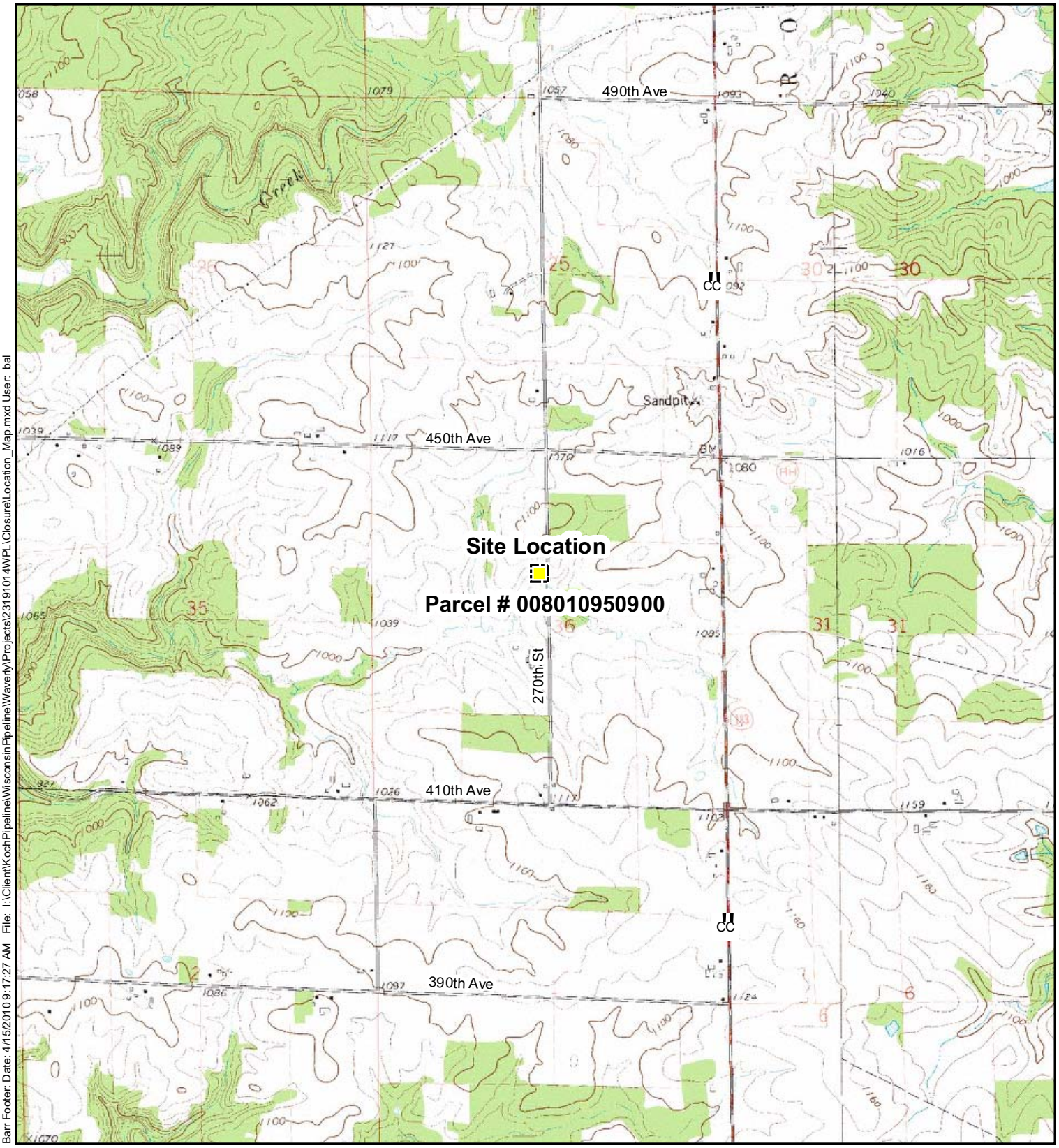
REGISTER'S OFFICE
Pierce Co., Wis. } ss.

RECORDED AT 11:30 A.M.
ON June 15, 1978 IN
Vol. 109 Deeds Page 37

REGISTER OF DEEDS

Drafted by

Philip D. Wright, Esq.
Box 2256
Wichita, KS 67201



Barr Footer: Date: 4/15/2010 9:17:27 AM File: I:\Client\KochPipeline\WisconsinPipeline\Waverly\Projects\23191014WPL\Closure\Location_Map.mxd User: bal

Waverly and Plum City USGS 7.5' Quadrangles

N

Feet

1,000 0 1,000 2,000 3,000 4,000

Meters

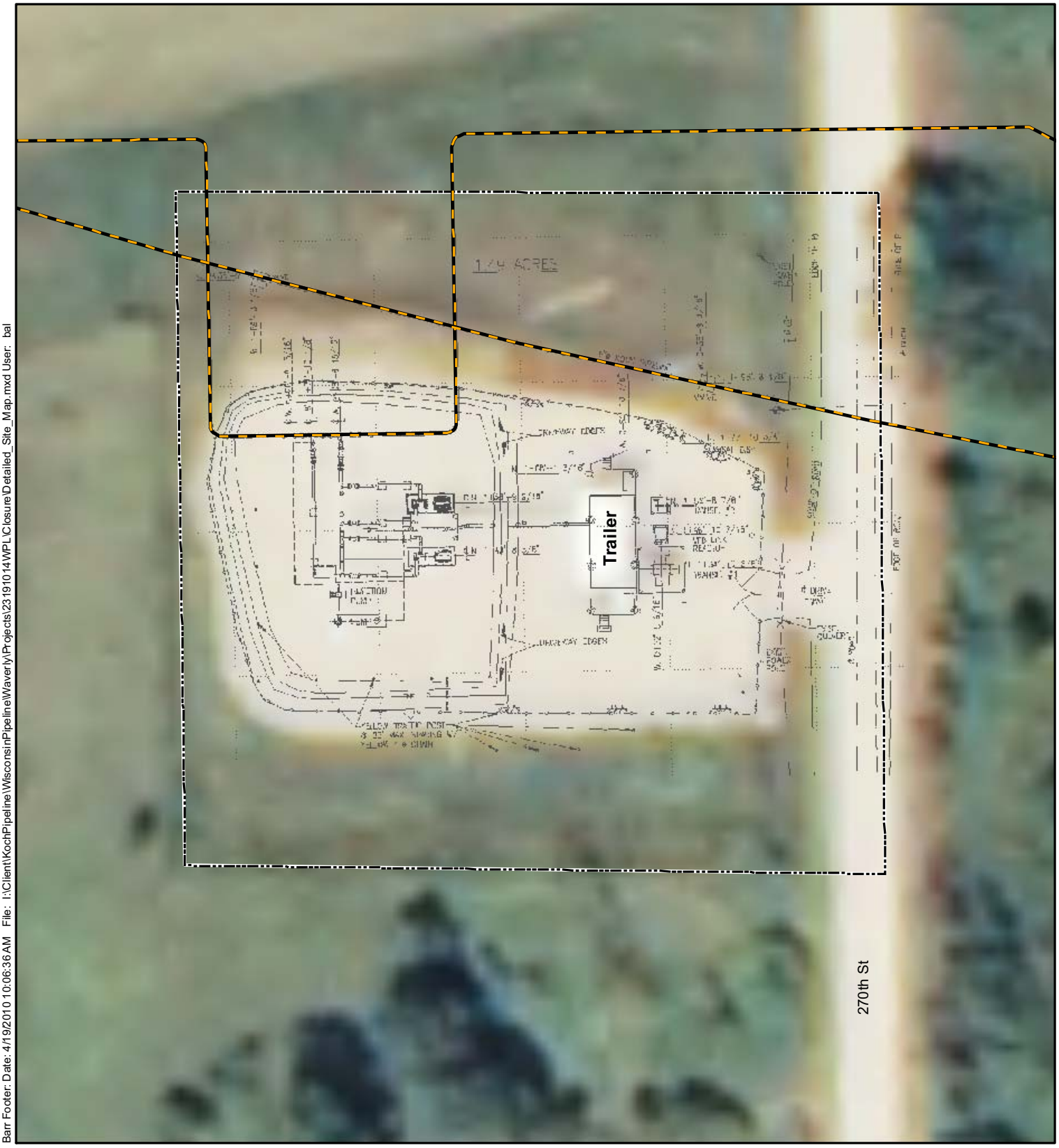
500 0 500 1,000

Koch Pipeline Company Property

BARR

Figure 1

LOCATION MAP
Waverly Pump Station
WDNR BRRTS Activity #02-48-554019
Koch Pipeline Company, LP
Waverly, Wisconsin



Barr Footer: Date: 4/19/2010 10:06:36 AM File: I:\Client\KochPipeline\WisconsinPipeline\Waverly\Projects\23191014WPL\Closure\Detailed_Site_Map.mxd User: bal

Approximate Pipeline Alignment

Approximate Property Boundary

N

Feet

25 0 25 50 75 100

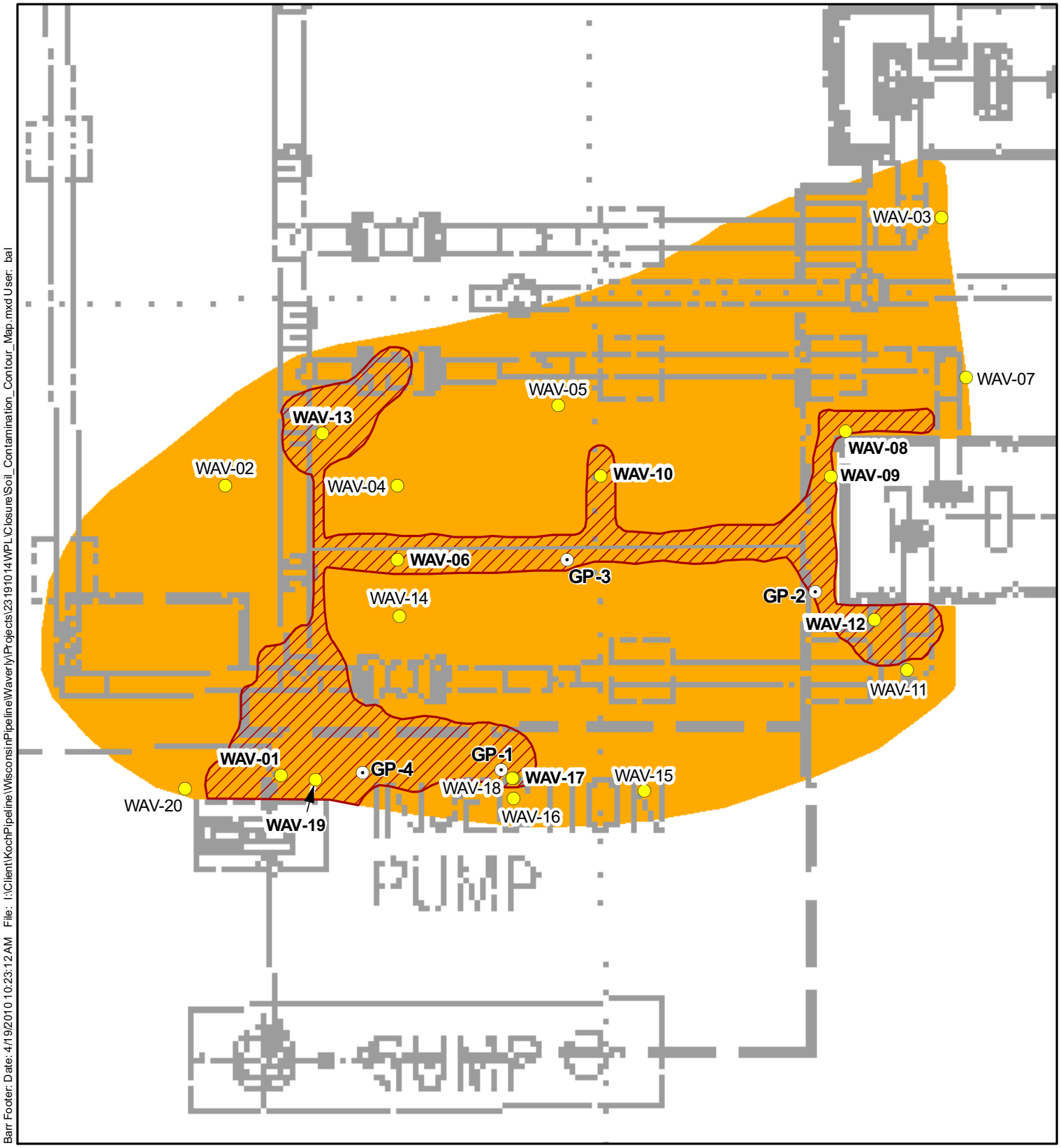
Meters

10 0 10 20 30

BARR

Figure 2

DETAILED SITE MAP
Waverley Pump Station
WDNR BRRTS Activity #02-48-554019
Koch Pipeline Company, LP
Waverly, Wisconsin



Barr Footer: Date: 4/19/2010 10:23:12 AM File: I:\Client\KochPipeline\WisconsinPipeline\Waverly\Projects\23191014WPL\Closure\Soil_Contamination_Contour_Map.mxd User: bal

Boring Location

Field Screening Location From Base of Excavation (or below) With Laboratory Sampling

Approximate Area of Residual Impacts

Approximate Extent of Excavation

Bold indicates samples with analytical results exceeding WI NR 720 RCLs (Table 1)

N

Feet

3 0 3 6 9 12

Meters

1 0 1 2 3

BARR

Figure 3

SOIL CONTAMINATION CONTOUR MAP
Waverley Pump Station
WDNR BRRTS Activity #02-48-554019
Koch Pipeline Company, LP
Waverly, Wisconsin

P:\Mpls\23 MN\19\23191014\WorkFiles\Waverly Release\Cross Section A-A'.CDR RLG 04-26-10

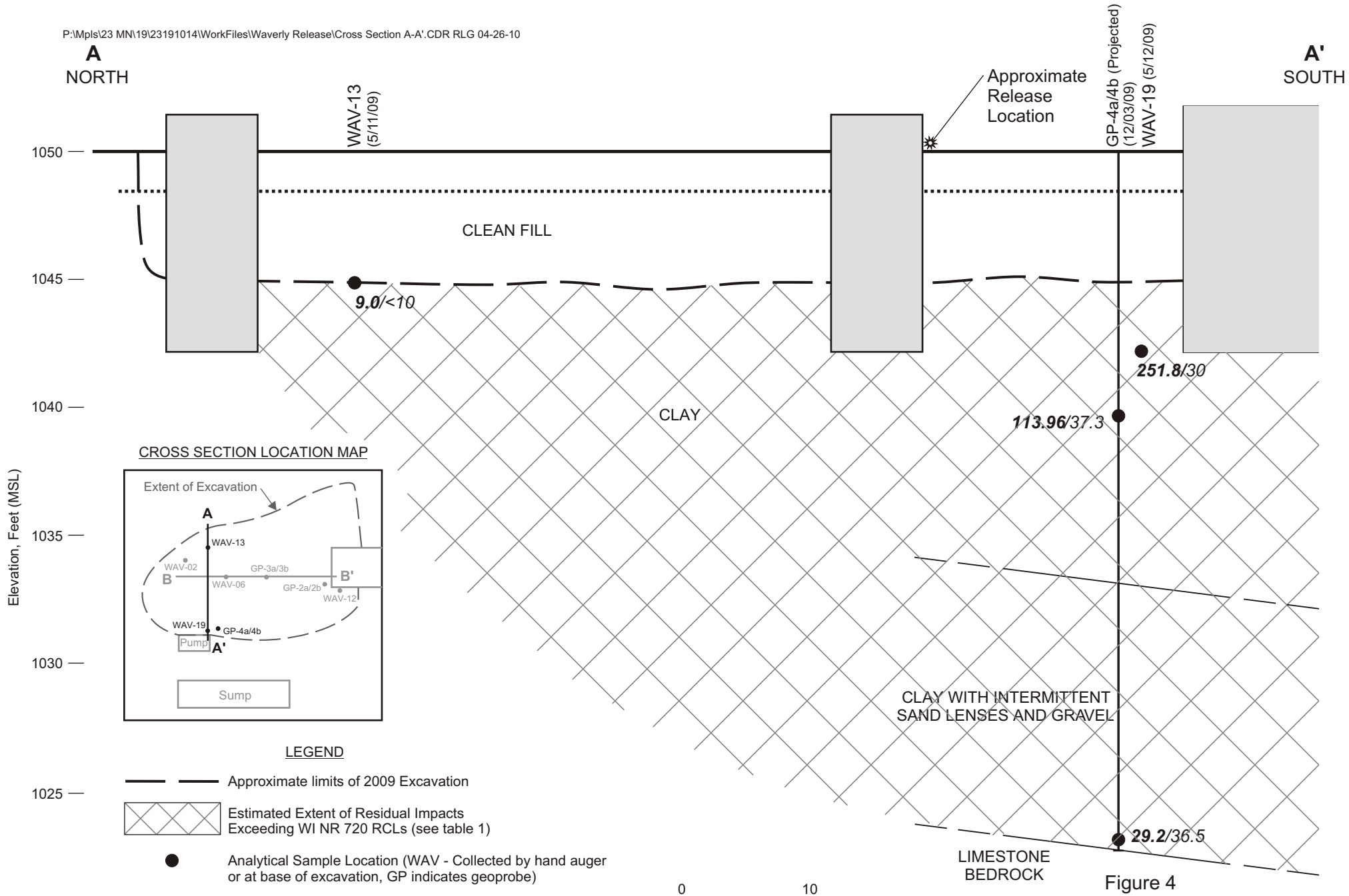
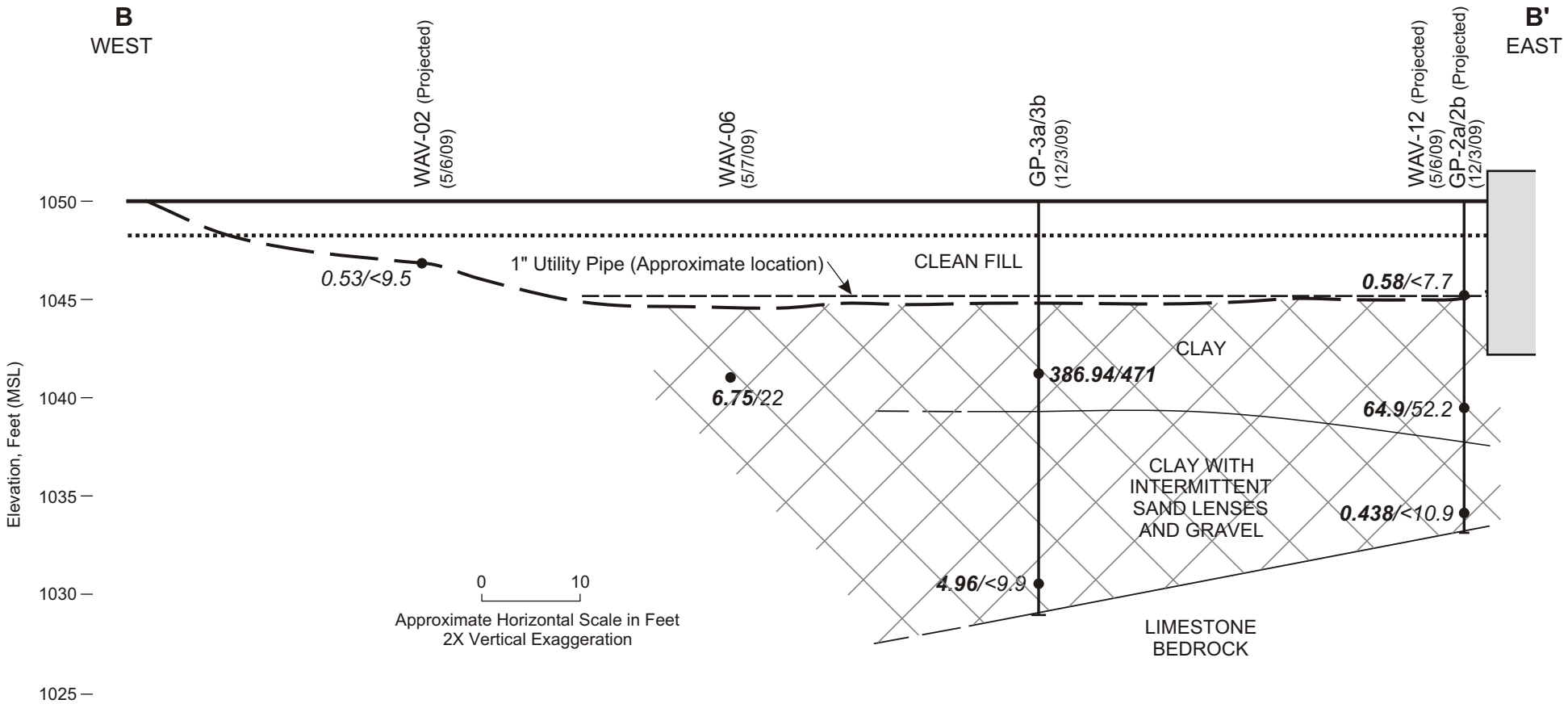


Figure 4

GEOLOGIC CROSS SECTION A-A'
Waverly Pump Station
WDNR BRRTS Activity #02-48-554019
Koch Pipeline Compnay, LP
Waverly, Wisconsin

P:\Mpls\23 MN\19\23191014\WorkFiles\Waverly Release\Geologic Cross Section B-B'.CDR RLG 04-26-10



LEGEND

- Approximate limits of 2009 Excavation
- Estimated Extent of Residual Impacts Exceeding WI NR 720 RCLs (see table 1)
- Analytical Sample Location (WAV - Collected by hand auger or at base of excavation, GP indicates geoprobe)
- GCL Liner
- Approximate Location of Pipe Support Pump Foundation (Depth approximate)
- ***251.8***/30 Total BTEX/DRO (Bold Indicates Exceedence of WI NR 720.09 Soil Criteria)

CROSS SECTION LOCATION MAP

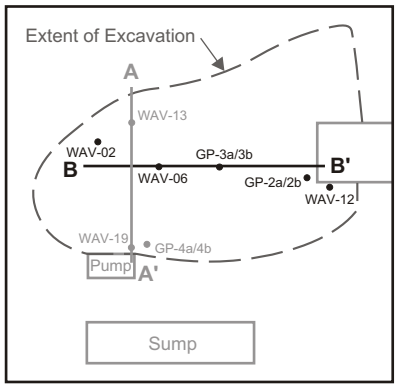


Figure 5

GEOLOGIC CROSS SECTION B-B'
Waverly Pump Station
WDNR BRRTS Activity #02-48-554019
Koch Pipeline Compnay, LP
Waverly, Wisconsin

Table 1a
Soil Analytical and Field Screening Table - Remaining Soil Contamination
Waverly Pump Station
Koch Pipeline Company, LP
WDNR BRRTS Activity #02-48-554019

			Sys Loc Code	WAV-01 10'	WAV-02 3'	WAV-03-3'	WAV-04-5.5'	WAV-05-4'	WAV-06-9'	WAV-07-6.5'	WAV-08-6.5'
			Sample Date	5/6/2009	5/6/2009	5/7/2009	5/7/2009	5/7/2009	5/7/2009	5/7/2009	5/7/2009
			Depth Interval	10	3	3	5.5	4	9	6.5	6.5
			Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft
			Sample Type Code	N	N	N	N	N	N	N	N
Chemical Name	WI NR 746.06 Soil Screening Levels Table 1	Indicators of Residual Petroleum Product in Soil Pores NR 720.09									
Effective Date	09/01/2007	09/01/2007									
Exceedance Key	**Bold**	Underline									
General Parameters											
Moisture			--	--	--	--	--	--	--	--	--
Solids, percent			77%	80%	83%	76%	81%	81%	78%	75%	
Total Petroleum Hydrocarbons											
1,2,4-Trimethylbenzene	**83 mg/kg**		50 mg/kg	< 0.034 mg/kg	< 0.030 mg/kg	< 0.033 mg/kg	< 0.031 mg/kg	1.6 mg/kg	< 0.032 mg/kg	< 0.033 mg/kg	
1,3,5-Trimethylbenzene	**11 mg/kg**		**18 mg/kg**	0.10 mg/kg	< 0.030 mg/kg	< 0.033 mg/kg	< 0.031 mg/kg	0.56 mg/kg	< 0.032 mg/kg	< 0.033 mg/kg	
Benzene	**8.5 mg/kg**	0.0055 mg/kg	**9.6 mg/kg**	< 0.034 mg/kg	< 0.030 mg/kg	< 0.033 mg/kg	< 0.031 mg/kg	0.40 mg/kg	< 0.032 mg/kg	0.040 mg/kg	
Diesel Range Organics		100 /250(1) mg/kg	140 mg/kg	< 9.5 mg/kg	< 5.4 mg/kg	< 8.9 mg/kg	< 8.1 mg/kg	22 mg/kg	< 10 mg/kg	< 11 mg/kg	
Ethyl benzene	**4.6 mg/kg**	2.9 mg/kg	**22 mg/kg**	< 0.034 mg/kg	< 0.030 mg/kg	< 0.033 mg/kg	< 0.031 mg/kg	0.65 mg/kg	< 0.032 mg/kg	< 0.033 mg/kg	
Gasoline Range Organics		100 /250(1) mg/kg	1200 mg/kg	< 6.8 mg/kg	< 6.0 mg/kg	< 6.6 mg/kg	< 6.2 mg/kg	35 mg/kg	< 6.4 mg/kg	< 6.7 mg/kg	
Methyl tertiary butyl ether (MTBE)			1.9 mg/kg	< 0.034 mg/kg	< 0.030 mg/kg	< 0.033 mg/kg	< 0.031 mg/kg	0.058 mg/kg	< 0.032 mg/kg	< 0.033 mg/kg	
Naphthalene	**2.7 mg/kg**	0.4 mg/kg	**9.7 mg/kg**	< 0.68 mg/kg	< 0.60 mg/kg	< 0.66 mg/kg	< 0.62 mg/kg	< 0.62 mg/kg	< 0.64 mg/kg	< 0.67 mg/kg	
Toluene	**38 mg/kg**	1.5 mg/kg	**77 mg/kg**	< 0.034 mg/kg	< 0.030 mg/kg	< 0.033 mg/kg	< 0.031 mg/kg	2.1 mg/kg	< 0.032 mg/kg	< 0.033 mg/kg	
Xylenes, total	**42 mg/kg**	4.1 mg/kg	**120 mg/kg**	0.53 mg/kg	< 0.090 mg/kg	< 0.099 mg/kg	< 0.093 mg/kg	3.6 mg/kg	< 0.096 mg/kg	0.13 mg/kg	
Field Screening Parameters											
Moisture			Moist	Moist	Moist	Moist	Moist	Moist	Moist	Slightly Moist	
Odor			Moderate to Strong	None	None	None	None	Moderate	None	None	
Discoloration			None	None	None	None	None	None	None	None	
Sheen			None	None	None	None	None	None	None	None	
Organic Headspace			3500 ppm	7.8 ppm	0.3 ppm	3.7 ppm	1.2 ppm	1665 ppm	0.7 ppm	18 ppm	
Soil description			clay with gravel	clay with gravel	clay with gravel	clay with gravel	clay with gravel	clay with gravel	clay with gravel	clay with gravel	

(1) Applies within 4 feet of ground surface.
(2) Field screening depth is 10-12.5 ft.
(3) Field screening depth is 16-20 ft.
(4) Field screening depth is 10-12.5 ft.

Table 1a
Soil Analytical and Field Screening Table - Remaining Soil Contamination
Waverly Pump Station
Koch Pipeline Company, LP
WDNR BRRTS Activity #02-48-554019

			Sys Loc Code	WAV-09-4'	WAV-10-4'	WAV-11-2'	WAV-12-5'	WAV-13-5'	WAV-14-4'	WAV-15-3.5'	WAV-16-4'	WAV-17-4'
			Sample Date	5/8/2009	5/8/2009	5/11/2009	5/11/2009	5/11/2009	5/11/2009	5/12/2009	5/12/2009	5/12/2009
			Depth Interval	4	4	2	5	5	4	3.5	4	4
			Depth Unit	ft	ft	ft	ft	ft	ft	ft	ft	ft
			Sample Type Code	N	N	N	N	N	N	N	N	N
Chemical Name	WI NR 746.06 Soil Screening Levels Table 1	Indicators of Residual Petroleum Product in Soil Pores NR 720.09										
Effective Date	09/01/2007	09/01/2007										
Exceedance Key	**Bold**	Underline										
General Parameters												
Moisture			--	--	--	--	--	--	--	--	--	--
Solids, percent			84%	80%	82%	80%	78%	83%	83%	74%	83%
Total Petroleum Hydrocarbons												
1,2,4-Trimethylbenzene	**83 mg/kg**		8.0 mg/kg	0.036 mg/kg	< 0.030 mg/kg	< 0.031 mg/kg	1.8 mg/kg	0.038 mg/kg	< 0.030 mg/kg	< 0.047 mg/kg	3.7 mg/kg
1,3,5-Trimethylbenzene	**11 mg/kg**		2.9 mg/kg	< 0.031 mg/kg	< 0.030 mg/kg	< 0.031 mg/kg	0.65 mg/kg	< 0.027 mg/kg	< 0.030 mg/kg	< 0.047 mg/kg	1.3 mg/kg
Benzene	**8.5 mg/kg**	0.0055 mg/kg	0.56 mg/kg	0.066 mg/kg	< 0.030 mg/kg	0.082 mg/kg	1.1 mg/kg	< 0.027 mg/kg	< 0.030 mg/kg	< 0.047 mg/kg	0.44 mg/kg
Diesel Range Organics		100 /250(1) mg/kg	19 mg/kg	27 mg/kg	< 8.3 mg/kg	< 7.7 mg/kg	< 10 mg/kg	< 7.9 mg/kg	< 9.6 mg/kg	< 11 mg/kg	< 9.0 mg/kg
Ethyl benzene	**4.6 mg/kg**	2.9 mg/kg	2.8 mg/kg	0.060 mg/kg	< 0.030 mg/kg	0.049 mg/kg	0.43 mg/kg	< 0.027 mg/kg	< 0.030 mg/kg	< 0.047 mg/kg	0.96 mg/kg
Gasoline Range Organics		100 /250(1) mg/kg	150 mg/kg	< 6.2 mg/kg	< 6.1 mg/kg	< 6.2 mg/kg	40 mg/kg	< 5.5 mg/kg	< 6.0 mg/kg	< 9.4 mg/kg	71 mg/kg
Methyl tertiary butyl ether (MTBE)			0.052 mg/kg	< 0.031 mg/kg	< 0.030 mg/kg	< 0.031 mg/kg	0.078 mg/kg	< 0.027 mg/kg	< 0.030 mg/kg	< 0.047 mg/kg	0.040 mg/kg
Naphthalene	**2.7 mg/kg**	0.4 mg/kg	2.0 mg/kg	< 0.62 mg/kg	< 0.61 mg/kg	< 0.62 mg/kg	< 0.59 mg/kg	< 0.55 mg/kg	< 0.60 mg/kg	< 0.94 mg/kg	1.1 mg/kg
Toluene	**38 mg/kg**	1.5 mg/kg	4.1 mg/kg	0.36 mg/kg	< 0.030 mg/kg	0.18 mg/kg	2.7 mg/kg	< 0.027 mg/kg	< 0.030 mg/kg	< 0.047 mg/kg	2.0 mg/kg
Xylenes, total	**42 mg/kg**	4.1 mg/kg	15 mg/kg	0.18 mg/kg	< 0.091 mg/kg	0.27 mg/kg	4.8 mg/kg	< 0.082 mg/kg	< 0.090 mg/kg	< 0.14 mg/kg	5.6 mg/kg
Field Screening Parameters												
Moisture			Slightly Moist	Slightly Moist	Slightly Moist	Slightly Moist	Slightly Moist	Slightly Moist	Very Slightly Moist	Very Slightly Moist	--
Odor			Strong	None	None	None	None	None	None	None	--
Discoloration			None	None	None	None	None	None	None	None	--
Sheen			Trace	None	None	None	None	--	None	None	--
Organic Headspace			1100 ppm	8.4 ppm	2.7 ppm	6.3 ppm	248 ppm	2.2 ppm	2.0 ppm	2.6 ppm	160 ppm
Soil description			clay with gravel	clay with gravel	clay with gravel	clay with gravel	clay with gravel	clay with gravel	--	grey/red clay with pebbles	--

(1) Applies within 4 feet of ground surface.
(2) Field screening depth is 10-12.5 ft.
(3) Field screening depth is 16-20 ft.
(4) Field screening depth is 10-12.5 ft.

Table 1a
Soil Analytical and Field Screening Table - Remaining Soil Contamination
Waverly Pump Station
Koch Pipeline Company, LP
WDNR BRRTS Activity #02-48-554019

			Sys Loc Code	WAV-18-6'	WAV-19-8'	WAV-20-4.5'	WAV-GP1a	WAV-GP1b	WAV-GP1c	WAV-GP2a
			Sample Date	5/12/2009	5/12/2009	5/12/2009	12/3/2009	12/3/2009	12/3/2009	12/3/2009
			Depth Interval	6	8	4.5	22 - 22.5	22.5 - 23.2	14 - 15	10 - 11[2]
			Depth Unit	ft	ft	ft	ft	ft	ft	ft
			Sample Type Code	N	N	N	N	N	N	N
Chemical Name	WI NR 746.06 Soil Screening Levels Table 1	Indicators of Residual Petroleum Product in Soil Pores NR 720.09								
Effective Date	09/01/2007	09/01/2007								
Exceedance Key	**Bold**	Underline								
General Parameters										
Moisture			--	--	--	16.0 %	7.3 %	19.1 %	19.6 %	
Solids, percent			83%	78%	80%	--	--	--	--	
Total Petroleum Hydrocarbons										
1,2,4-Trimethylbenzene	**83 mg/kg**		< 0.030 mg/kg	55 mg/kg	< 0.030 mg/kg	< 0.0595 mg/kg	< 0.0539 mg/kg	< 0.0618 mg/kg	34.3 mg/kg	
1,3,5-Trimethylbenzene	**11 mg/kg**		< 0.030 mg/kg	**20 mg/kg**	< 0.030 mg/kg	< 0.0595 mg/kg	< 0.0539 mg/kg	< 0.0618 mg/kg	**11.6 mg/kg**	
Benzene	**8.5 mg/kg**	0.0055 mg/kg	< 0.030 mg/kg	**9.8 mg/kg**	< 0.030 mg/kg	0.476 mg/kg	0.0942 mg/kg	0.1 mg/kg	< 0.156 mg/kg	
Diesel Range Organics		100 /250(1) mg/kg	< 9.6 mg/kg	30 mg/kg	< 9.4 mg/kg	< 10.7 mg/kg	< 10.0 mg/kg	< 10.1 mg/kg	52.2 mg/kg	
Ethyl benzene	**4.6 mg/kg**	2.9 mg/kg	< 0.030 mg/kg	**30 mg/kg**	< 0.030 mg/kg	0.0913 mg/kg	< 0.0539 mg/kg	< 0.0618 mg/kg	3.96 mg/kg	
Gasoline Range Organics		100 /250(1) mg/kg	< 6.0 mg/kg	1200 mg/kg	< 5.9 mg/kg	< 3.0 mg/kg	< 2.7 mg/kg	< 3.1 mg/kg	480 mg/kg	
Methyl tertiary butyl ether (MTBE)			< 0.030 mg/kg	1.3 mg/kg	< 0.030 mg/kg	< 0.0595 mg/kg	< 0.0539 mg/kg	< 0.0618 mg/kg	< 0.311 mg/kg	
Naphthalene	**2.7 mg/kg**	0.4 mg/kg	< 0.60 mg/kg	**9.5 mg/kg**	< 0.59 mg/kg	< 0.0595 mg/kg	< 0.0539 mg/kg	< 0.0618 mg/kg	1.7 mg/kg	
Toluene	**38 mg/kg**	1.5 mg/kg	< 0.030 mg/kg	**82 mg/kg**	< 0.030 mg/kg	1.07 mg/kg	0.258 mg/kg	0.283 mg/kg	4.44 mg/kg	
Xylenes, total	**42 mg/kg**	4.1 mg/kg	< 0.090 mg/kg	**130 mg/kg**	< 0.089 mg/kg	0.431 mg/kg	ND mg/kg	0.242 mg/kg	**56.5 mg/kg**	
Field Screening Parameters										
Moisture			--	Slightly Moist	Slightly Moist	Moist	Slightly Moist	Wet	Moist	
Odor			--	--	None	None	None	None	None	
Discoloration			--	--	None	None	None	None	None	
Sheen			--	--	None	No	No	No	Trace	
Organic Headspace			3.6 ppm	1700 ppm	6.2 ppm	316 ppm	10.9 ppm	78.2 ppm	3500 ppm	
Soil description			--	red clay	grey/red clay	red-brown sandy gravelly silt with clay nodules grading downward to gravelly sand with silt	limey sandstone refusal at 24' bgs	red-brown fat clay	red-brown fat clay	

(1) Applies within 4 feet of ground surface.
(2) Field screening depth is 10-12.5 ft.
(3) Field screening depth is 16-20 ft.
(4) Field screening depth is 10-12.5 ft.

Table 1a
Soil Analytical and Field Screening Table - Remaining Soil Contamination
Waverly Pump Station
Koch Pipeline Company, LP
WDNR BRRTS Activity #02-48-554019

			Sys Loc Code	WAV-GP2b	WAV-GP3a	WAV-GP3b	WAV-GP4a	WAV-GP4b
			Sample Date	12/3/2009	12/3/2009	12/3/2009	12/3/2009	12/3/2009
			Depth Interval	15 - 16.7	7.5 - 10	19 - 20(3)	10 - 11(4)	25 - 27.2
			Depth Unit	ft	ft	ft	ft	ft
			Sample Type Code	N	N	N	N	N
Chemical Name	WI NR 746.06 Soil Screening Levels Table 1	Indicators of Residual Petroleum Product in Soil Pores NR 720.09						
Effective Date	09/01/2007	09/01/2007						
Exceedance Key	**Bold**	Underline						
General Parameters								
Moisture			13.4 %	21.4 %	14.5 %	21.0 %	16.6 %	
Solids, percent			--	--	--	--	--	
Total Petroleum Hydrocarbons								
1,2,4-Trimethylbenzene	**83 mg/kg**		< 0.0577 mg/kg	**93.1 mg/kg**	0.195 mg/kg	34.1 mg/kg	12.1 mg/kg	
1,3,5-Trimethylbenzene	**11 mg/kg**		< 0.0577 mg/kg	**28.3 mg/kg**	< 0.0585 mg/kg	**11 mg/kg**	4.07 mg/kg	
Benzene	**8.5 mg/kg**	0.0055 mg/kg	0.161 mg/kg	2.34 mg/kg	1.09 mg/kg	1.46 mg/kg	0.251 mg/kg	
Diesel Range Organics		100 /250(1) mg/kg	< 10.9 mg/kg	471 mg/kg	< 9.9 mg/kg	37.3 mg/kg	36.5 mg/kg	
Ethyl benzene	**4.6 mg/kg**	2.9 mg/kg	< 0.0577 mg/kg	**45.9 mg/kg**	0.161 mg/kg	**13 mg/kg**	3.91 mg/kg	
Gasoline Range Organics		100 /250(1) mg/kg	< 2.9 mg/kg	1670 mg/kg	6.8 mg/kg	650 mg/kg	251 mg/kg	
Methyl tertiary butyl ether (MTBE)			< 0.0577 mg/kg	< 1.27 mg/kg	< 0.0585 mg/kg	< 0.316 mg/kg	< 0.12 mg/kg	
Naphthalene	**2.7 mg/kg**	0.4 mg/kg	< 0.0577 mg/kg	**10.7 mg/kg**	< 0.0585 mg/kg	**3.79 mg/kg**	1.8 mg/kg	
Toluene	**38 mg/kg**	1.5 mg/kg	0.277 mg/kg	**98.7 mg/kg**	2.51 mg/kg	28.9 mg/kg	5.84 mg/kg	
Xylenes, total	**42 mg/kg**	4.1 mg/kg	ND mg/kg	**240 mg/kg**	1.20 mg/kg	**70.6 mg/kg**	19.2 mg/kg	
Field Screening Parameters								
Moisture			Slightly Moist	Moist	Moist	Very Moist	Moist	
Odor			None	Moderate	Slight	Moderate	Slight	
Discoloration			None	None	None	None	None	
Sheen			Trace	No	No	Trace	Trace	
Organic Headspace			465 ppm	2286 ppm	829 ppm	3326 ppm	1969 ppm	
Soil description			interbedded red-brown clay with trace sand and tan silty sand with fine-grained gravel Refusal at 16.7' bgs	red-brown fat clay	red-brown fine to medium grained clay with gravel	red-brown clay	red silt or clay with interbedded silty sand Refusal at 27.2'	

(1) Applies within 4 feet of ground surface.
(2) Field screening depth is 10-12.5 ft.
(3) Field screening depth is 16-20 ft.
(4) Field screening depth is 10-12.5 ft.

Table 1b
Soil Analytical Table - Preremedial Soil Data
Waverly Pump Station
Koch Pipeline Company, LP
WDNR BRRTS Activity #02-48-554019

			Sys Loc Code	WAV-HCsoil01	WAVHCsoil01TCLP	WAVHCsoil02TCLP	WAV-HCsoil-SP1
			Sample Date	3/27/2009	3/27/2009	4/22/2009	5/11/2009
			Sample Type Code	N	N	N	N
Chemical Name	Total or Dissolved	Indicators of Residual Petroleum Product in Soil Pores NR 720.09 GW Protection					
Effective Date		09/01/2007					
Exceedance Key		**Bold**					
General Parameters							
Flash Point	NA			--	200 deg F	200 > deg F	200 deg F
Paint Filter (free liquids)	NA			--	< 0 PASS Pass/Fail	< 0 PASS Pass/Fail	< 0 PASS Pass/Fail
Solids, percent	NA			93%	--	--	--
TCLP Metals							
Arsenic	Total			--	< 0.50 mg/l	< 0.50 mg/l	< 0.50 mg/l
Barium	Total			--	< 1.0 mg/l	< 1.0 mg/l	< 1.0 mg/l
Cadmium	Total			--	< 0.050 mg/l	< 0.050 mg/l	< 0.050 mg/l
Chromium	Total			--	< 0.50 mg/l	< 0.50 mg/l	< 0.50 mg/l
Lead	Total			--	< 0.50 mg/l	< 0.50 mg/l	< 0.50 mg/l
Mercury	Total			--	< 0.0050 mg/l	< 0.0050 mg/l	< 0.0050 mg/l
Selenium	Total			--	< 1.0 mg/l	< 1.0 mg/l	< 1.0 mg/l
Silver	Total			--	< 0.25 mg/l	< 0.25 mg/l	< 0.25 mg/l
TCLP SVOCs							
2,4,5-Trichlorophenol	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
2,4,6-Trichlorophenol	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
2,4-Dinitrotoluene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Hexachlorobenzene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Hexachlorobutadiene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Nitrobenzene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
o-Cresol	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
p & m Cresol	NA			--	< 0.20 mg/l	< 0.20 mg/l	< 0.20 mg/l
Pentachlorophenol	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Pyridine	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
TCLP VOCs							
1,1-Dichloroethylene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
1,2-Dichloroethane	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
1,4-Dichlorobenzene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Benzene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Carbon tetrachloride	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Chlorobenzene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Chloroform	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Hexachloroethane	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Methyl ethyl ketone	NA			--	< 2.0 mg/l	< 2.0 mg/l	< 2.0 mg/l
Tetrachloroethylene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Trichloroethylene	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Vinyl chloride	NA			--	< 0.10 mg/l	< 0.10 mg/l	< 0.10 mg/l
Total Petroleum Hydrocarbons							
Benzene	NA	**0.0055 mg/kg**		**9.4 mg/kg**	--	--	--
Diesel Range Organics	NA	**100 /250(1) mg/kg**		**2500 mg/kg**	--	--	--
Ethyl benzene	NA	**2.9 mg/kg**		**100 mg/kg**	--	--	--
Gasoline Range Organics	NA	**100 /250(1) mg/kg**		**4500 mg/kg**	--	--	--
Toluene	NA	**1.5 mg/kg**		**180 mg/kg**	--	--	--
Xylenes, total	NA	**4.1 mg/kg**		**570 mg/kg**	--	--	--

(1) Applies within 4 feet of ground surface.