

## Source Property Information

BRRTS #:	02-50-562554	CLOSURE DATE:	08/15/2016
ACTIVITY NAME:	Additive Tank 338 Spill	FID #:	750011570
PROPERTY ADDRESS:	2267 County Highway HH	DATCP #:	
MUNICIPALITY:	Carson	PECFA#:	
PARCEL ID #:	01224070603		

**\*WTM COORDINATES:**

X: 542388 Y: 457890

*\* 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)

### CONTINUING OBLIGATIONS

#### Contaminated Media for Residual Contamination:

- |   |  |
|---|--|
| <input type="checkbox"/> Groundwater Contamination > ES (236) | <input checked="" type="checkbox"/> Soil Contamination > *RCL or **SSRCL (232) |
| <input type="checkbox"/> Contamination in ROW                 | <input type="checkbox"/> Contamination in ROW                                  |
| <input type="checkbox"/> Off-Site Contamination               | <input type="checkbox"/> Off-Site Contamination                                |

#### Site Specific Obligations:

- |  |   |
|--|---|
| <input type="checkbox"/> Soil: maintain industrial zoning (220)<br><i>(note: soil contamination concentrations<br/>between non-industrial and industrial levels)</i> | <input checked="" type="checkbox"/> Cover or Barrier (222)  |
| <input checked="" type="checkbox"/> Structural Impediment (224)  | <input checked="" type="checkbox"/> Direct Contact  |
| <input type="checkbox"/> Site Specific Condition (228)   | <input type="checkbox"/> Soil to GW Pathway   |
|  | <input type="checkbox"/> Vapor Mitigation (226)   |
|  | <input type="checkbox"/> Maintain Liability Exemption (230)<br><i>(note: local government unit or economic<br/>development corporation was directed to<br/>take a response action )</i> |

Monitoring wells are from previously closed site and will stay on property for voluntary sampling at the facility.

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

Yes  No  N/A

\* Residual Contaminant Level

\*\*Site Specific Residual Contaminant Level



August 15, 2016

Flint Hills Resources Pine Bend, LLC.  
Attn: Ms. Ling Li  
PO Box 64596  
St Paul MN 55164-0596

**KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS**

SUBJECT: Final Case Closure with Continuing Obligations  
Additive Tank 338 Spill, Junction City, WI  
DNR BRRTS Activity #: 02-50-562554  
FID #: 750011570

Dear Ms. Li:

The Department of Natural Resources (DNR) considers the Additive Tank 338 Spill closed, with continuing obligations. No further investigation or remediation is required at this time. However, you, future property owners, and occupants of the property must comply with the continuing obligations as explained in the conditions of closure in this letter. Please read over this letter closely to ensure that you comply with all conditions and other on-going requirements. Provide this letter and any attachments listed at the end of this letter to anyone who purchases, rents or leases this property from you

This final closure decision is based on the correspondence and data provided, and is issued under chs. NR 726 and 727, Wis. Adm. Code. The West Central Region (WCR) Closure Committee reviewed the request for closure on July 7, 2016. The Closure Committee reviewed this environmental remediation case for compliance with state laws and standards to maintain consistency in the closure of these cases. A request for remaining actions needed was issued by the DNR on July 8, 2016, and documentation that the conditions in that letter were met, was received on August 11, 2016.

This active fuel terminal has petroleum contamination in the soil from an additive tank spill on the property. Responses to this contamination included immediate spill response, soil excavation, and groundwater monitoring. The conditions of closure and continuing obligations required were based on the property being used for industrial purposes.

Continuing Obligations

The continuing obligations for this site are summarized below. Further details on actions required are found in the section Closure Conditions.

- Residual soil contamination exists that must be properly managed should it be excavated or removed.
- A soil cover must be maintained over contaminated soil and the DNR must be notified and approve any changes to this barrier.
- If a structural impediment that obstructed a complete site investigation and/or cleanup is removed or modified, additional environmental work must be completed.

The DNR fact sheet "Continuing Obligations for Environmental Protection," RR-819, helps to explain a property owner's responsibility for continuing obligations on their property. The fact sheet may be obtained at <http://dnr.wi.gov/files/PDF/pubs/rr/RR819.pdf>.

#### GIS Registry

This site will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS on the Web) at <http://dnr.wi.gov/topic/Brownfields/clean.html>, to provide public notice of residual contamination and of any continuing obligations. The site can also be viewed on the Remediation and Redevelopment Sites Map (RRSM), a map view, under the Geographic Information System (GIS) Registry layer, at the same web address.

DNR approval prior to well construction or reconstruction is required for all sites shown on the GIS Registry, in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. To obtain approval, complete and submit Form 3300-254 to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line at <http://dnr.wi.gov/topic/wells/documents/3300254.pdf>.

All site information is also on file at the West Central Regional DNR office, at 1300 W Clairemont Ave, Eau Claire, WI 54701. This letter and information that was submitted with your closure request application, including any maintenance plan and maps, can be found as a Portable Document Format (PDF) in BRRTS on the Web.

#### Prohibited Activities

Certain activities are prohibited at closed sites because maintenance of a barrier is intended to prevent contact with any remaining contamination. When a barrier is required, the condition of closure requires notification of the DNR before making a change, in order to determine if further action is needed to maintain the protectiveness of the remedy employed. The following activities are prohibited on any portion of the property where a soil cover is required, as shown on the attached maps, Capped Area Locations, Figure 2, July 22, 2016 and Soil Contamination, Figure B.2.a, unless prior written approval has been obtained from the DNR:

- removal of the existing barrier or cover;
- replacement with another barrier or cover;
- excavating or grading of the land surface;
- filling on covered or paved areas;
- plowing for agricultural cultivation;
- construction or placement of a building or other structure;
- changing the use or occupancy of the property to a residential exposure setting, which may include certain uses, such as single or multiple family residences, a school, day care, senior center, hospital, or similar residential exposure settings.

#### Closure Conditions

Compliance with the requirements of this letter is a responsibility to which you and any subsequent property owners must adhere. DNR staff will conduct periodic prearranged inspections to ensure that the conditions included in this letter and the attached maintenance plan are met. If these requirements are not followed, the DNR may take enforcement action under s. 292.11, Wis. Stats. to ensure compliance with the specified requirements, limitations or other conditions related to the property.

Please send written notifications in accordance with the following requirements to:

Department of Natural Resources  
Attn: Remediation and Redevelopment Program Environmental Program Associate  
1300 W Clairemont Ave  
Eau Claire, WI 54701

Residual Soil Contamination (ch. NR 718, chs. 500 to 536, Wis. Adm. Code or ch. 289, Wis. Stats.)

Soil contamination remains south and southwest of additive tank 338 as indicated on the attached map, Soil Contamination, Figure B.2.a. If soil in the specific locations described above is excavated in the future, the property owner or right-of-way holder at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the property owner or right-of-way holder 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. Contaminated soil may be managed in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval.

In addition, all current and future owners and occupants of the property and right-of-way holders 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.

Depending on site-specific conditions, construction over contaminated soils or groundwater may result in vapor migration of contaminants into enclosed structures or migration along newly placed underground utility lines. The potential for vapor inhalation and means of mitigation should be evaluated when planning any future redevelopment, and measures should be taken to ensure the continued protection of public health, safety, welfare and the environment at the site.

Cover or Barrier (s. 292.12 (2) (a), Wis. Stats., s. NR 726.15, s. NR 727.07 Wis. Adm. Code)

The soil cover that exists in the location shown on the attached map, Capped Area Locations, Figure 2, July 22, 2016 and Soil Contamination, Figure B.2.a, shall be maintained in compliance with the attached maintenance plan in order to prevent direct contact with residual soil contamination that might otherwise pose a threat to human health.

The cover approved for this closure was designed to be protective for a commercial or industrial use setting. Before using the property for residential purposes, you must notify the DNR at least 45 days before taking an action, to determine if additional response actions are warranted.

A request may be made to modify or replace a cover or barrier. Before removing or replacing the cover, you must notify the DNR at least 45 days before taking an action. The replacement or modified cover or barrier must be protective of the revised use of the property, and must be approved in writing by the DNR prior to implementation. A cover or barrier for industrial land uses, or certain types of commercial land uses may not be protective if the use of the property were to change such that a residential exposure would apply. This may include, but is not limited to single or multiple family residences, a school, day care, senior center, hospital or similar settings. In addition, a cover or barrier for multi-family residential housing use may not be appropriate for use at a single family residence.

The attached maintenance plan and inspection log (DNR form 4400-305) are to be kept up-to-date and on-site. Inspections shall be conducted semi-annually, in accordance with the attached maintenance plan. Submit the inspection log to the DNR only upon request.

Structural Impediments (s. 292.12 (2) (b), Wis. Stats., s. NR 726.15, s. NR 727.07, Wis. Adm. Code)

The additive tank containment area and support structures, as shown on the attached map Soil Contamination, Figure B.2.a, made complete investigation and/or remediation of the soil contamination on this property impracticable. If the structural impediment is to be removed, the property owner shall notify the DNR at least 45 days before removal, and conduct an investigation of the degree and extent of petroleum contamination below the structural impediment. If contamination is found at that time, the contamination shall be properly remediated in accordance with applicable statutes and rules.

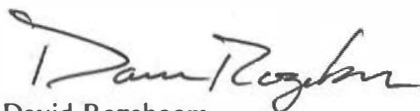
In Closing

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment,
- if the property owner does not comply with the conditions of closure, with any deed restrictions applied to the property, or with a certificate of completion issued under s. 292.15, Wis. Stats., or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

The DNR 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 Haillie Passow at (715)839-3760, or at [Haillie.Passow@wisconsin.gov](mailto:Haillie.Passow@wisconsin.gov).

Sincerely,



David Rozeboom  
West Central Team Supervisor  
Remediation & Redevelopment Program

Attachments:

- Capped Area Locations, Figure 2, July 22, 2016
- Soil Contamination, Figure B.2.a
- Additional Areas Maintenance Plan, July 21, 2016

cc: Marsha Meurette, Tetra Tech  
Jim Polum, Flint Hills Resources Pine Bend, LLC



## **Flint Hills Resources Pine Bend, LLC – Junction City, WI**

### **ADDITIONAL AREAS MAINTENANCE PLAN**

**October 29, 2007 (original), July 21, 2016 (revised)**

This plan was prepared in accordance with the Wisconsin Department of Natural Resources' (WDNR) September 27, 2007 conditional case closure decision letter and NR724.13 (2) Wisconsin Administrative Code requirements, and subsequently revised in accordance with the WDNR July 8, 2016 remaining actions letter in conjunction with the Tank 338 additive release project.

#### **PURPOSE OF PLAN:**

As a condition of site closure, the caps covering the Additional Areas (as indicated on Figure 2, attached), must be maintained to minimize direct contact with residual impacted soil and minimize potential impacts to groundwater. Caps consist of structures (Tank 323 & the fuel loading rack), asphalt (the fuel loading rack & the additive tank area), and soil (additive tank 338 area). The additive tank 338 cap area is located on level ground and consists of a minimum of 2-feet of soil, revegetated with grass, therefore it meets the cover design goals in the WDNR Guidance for Cover Systems as Soil Performance Standard Remedies (RR-709).

#### **MAINTENANCE PLAN IMPLEMENTATION:**

The maintenance plan includes visual inspection of the caps covering the Additional Areas, and maintenance will be performed as necessary. Visual inspections of the vegetated area and the concrete dike walls on the south side of the additive tanks area includes verifying that the grass is maintained and actively growing during the growing season, and verifying that dike walls remain competent with no cracking, heaving, and/or deterioration. However, should deficiencies or damage be noted, adequate soil amendment and repair to the grass cover will be completed as needed, and/or concrete repair will be completed with suitable materials, or concrete removal and replacement will be completed, if warranted.

Visual inspections of concrete / asphalt covered areas will include checking for:

- Individual Cracks
- General Disintegration

If significant cracking or disintegration is noted, substantially similar materials will be used to repair noted areas. For the Additional Area covered by Tank 323, no inspections will be required unless the tank is removed. For the Additional Area near additive Tank 338, the soil cover will be maintained

The following activities are prohibited on the cap covering the Additional Areas, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources or its successor or assign: (1) Replacement with another barrier; (2) Excavating or grading of the land surface; (3) Filling on capped or paved areas; (4) Plowing for agricultural cultivation; and (5) Construction or placement of a building or other structure in an area where pavement, a building foundation or another barrier is required. However, prior written approval is not required for emergency situations, maintenance activities, or replacement of existing barriers with substantially similar material. However, documentation of these activities is required for the life of the terminal.

Tetra Tech, Inc.

5404 Alderson Street, Schofield, WI 54478

Tel 715.355.4180 Fax 715.359.2853 [www.tetrattech.com](http://www.tetrattech.com)



Should the petroleum impacted soil that remains below the cap covering any of the Additional Areas be excavated in the future, sampling and analysis will be conducted to appropriately characterize the soil for proper handling and disposal in accordance with all applicable statutes and rules. Results of the sampling and analysis along with documentation of proper disposal will be provided to the WDNR.

**MAINTENANCE SCHEDULE:**

The Additional Areas will be visually inspected to evaluate conditions on a semi-annual basis. Records of these visual inspections will be maintained at FHR's Junction City, WI terminal.

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S:\ENVIKOC\FHR\JUNCTION CITY\2015\Additional Spill Closure\draft\_Additional Areas Maintenance Plan\_Rev 7.2016.doc



WDOT  
PROPERTY

FLINT HILLS RESOURCES PROPERTY

PROPERTY BOUNDARY

WDOT  
RIGHT-OF-WAY  
BOUNDARIES

TRUCK ENTRANCE

ENTRANCE

OFFICE

EXIT

NEW  
POTABLE  
WELL

BOOSTER  
PUMPS

300

322

306

321

305

323

304

307

303

302

301

LEGEND: CAPPED ADDITIONAL AREAS

LEGEND: DEED REGISTRATION

 = Loading Rack Drain Upgrade  
& Expansion  
(October/November 2004)  
(July/August 2006)

 = Soil Deed Restriction Area

 = Tank 323 Release  
(discovered October 2000)

 = Additive Tank 338 Release  
(May 2014)

LEGEND: CAPPED ASPHALTIC COVERED AREAS

 = Additive Tank Area  
(July 2001, September 2001)

FIGURE 2  
CAPPED AREA LOCATIONS  
JUNCTION CITY TERMINAL  
FLINT HILLS RESOURCES, LP  
JUNCTION CITY WI

PROJECT #: 5340048 & 340852  
DATE: 01/02/07 & 07/22/16  
DRAWN BY: ALT/TT  
REVIEWED BY: GMA  
SCALE: RELATIVE

FILE: S:\autocad\koch\junction\acad2000\GIS Registration\Capped Areas.dwg



TETRA TECH, INC.

Wausau, Wisconsin





Google 2014

Project No. 114-340852



**LEGEND**

- = Excavation Boundary
- S-1 = Soil Sample Location
- (HA) = Hand Auger Location
- (GP) = Geo Probe Location
- = Elevated Conduit & Concrete Supports
- = >NR720 GW RCL
- = >NR720 DC RCL
- = Buried Communications

**Figure B.2.a**  
 Soil Contamination  
 Additive Tk 338 Release  
 FHR Pine Bend, LLC Fuel Terminal  
 2267 County Highway HH, Junction City, WI



July 8, 2016

Ling Li  
Flint Hills Resources Pine Bend, LLC  
PO Box 64596  
St Paul MN 55164

Subject: Remaining Actions Needed  
Additive Tank 338 Spill, Junction City, Wisconsin  
DNR BRRTS Activity # 02-50-562554

Dear Ms. Li:

On July 7, 2016, the West Central Region (WCR) Closure Committee reviewed your request for closure of the case described above. The WCR Closure Committee reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. The following actions are needed to complete our review of your request. Upon completion of these actions, closure approval will be provided.

#### Documentation

Please provide a maintenance plan for the structural impediment and soil cap over the direct contact area that is identified in Attachment B2b. Also, the Continuing Obligation Table should be updated for the soil cap. So please check box in row v and uncheck the box in row viii. When the required actions have been completed, submit the appropriate documentation within 30 days of the date of this letter, to verify their completion. At that point, your closure request can be approved and your case can be closed.

Submit all changes to the original closure request in one final, complete compact disk. For the paper copy, only revisions or updates need to be submitted. The submittal of both an electronic and paper copy are required in accordance with s. NR 726.09 (1), Wis. Adm. Code.

#### GIS Registry

Your site will be listed on the DNR Remediation and Redevelopment Program's GIS Registry, to provide public notice of remaining contamination and continuing obligations. The continuing obligations will be specified in the final closure approval. Information that was submitted with your closure request application will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS on the Web), at <http://dnr.wi.gov/topic/Brownfields/rrsm.html>.

#### In Conclusion

We appreciate your efforts to restore the environment at this site. This remedial action project is nearing completion. I look forward to working with you to complete all remaining actions that are necessary to achieve closure.

If you have any questions regarding this letter, please contact the project manager at (715)839-3760, or by email at [Haillie.Passow@WI.gov](mailto:Haillie.Passow@WI.gov).

Sincerely,

A handwritten signature in cursive script that reads "Haillie Passow".

Haillie Passow  
Hydrogeologist  
Remediation & Redevelopment Program

cc: Marsha Meurette, Tetra Tech

**SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN**

**Notice:** Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.). Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided.

Site Information			
BRRTS No.	VPLE No.		
02-50-562554			
Parcel ID No.			
012240706-03			
FID No.	WTM Coordinates		
750011570	X 542388	Y 457890	
BRRTS Activity (Site) Name	WTM Coordinates Represent:		
Additive Tank 338 Spill	<input checked="" type="checkbox"/> Source Area <input type="checkbox"/> Parcel Center		
Site Address	City	State	ZIP Code
2267 County Highway HH Acres Ready For Use	Town of Carson	WI	54443
104.18			

Responsible Party (RP) Name			
Jim Polum			
Company Name			
Flint Hills Resources Pine Bend, LLC (FHR)			
Mailing Address	City	State	ZIP Code
2267 County Highway HH	Town of Carson	WI	54443
Phone Number	Email		
(715) 457-6404	jim.polum@fhr.com		

Check here if the RP is the owner of the source property.

Environmental Consultant Name			
Marsha Meurette			
Consulting Firm			
Tetra Tech			
Mailing Address	City	State	ZIP Code
5404 Alderson Street, Suite 100	Schofield	WI	54476
Phone Number	Email		
(715) 355-4180	marsha.meurette@tetrattech.com		

**Fees and Mailing of Closure Request**

1. **Send a copy of page one** of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR Regional EPA (Environmental Program Associate) at <http://dnr.wi.gov/topic/Brownfields/Contact.html>. Check all fees that apply:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> \$1,050 Closure Fee   | <input checked="" type="checkbox"/> \$300 Database Fee for Soil |
| <input type="checkbox"/> \$350 Database Fee for Groundwater or Monitoring Wells (Not Abandoned) | Total Amount of Payment \$ <u>1,350.00</u>                      |
|   | <input type="checkbox"/> Resubmittal, Fees Previously Paid      |

2. **Send one paper copy and one e-copy on compact disk of the entire closure package** to the Regional Project Manager assigned to your site. Submit as unbound, separate documents in the order and with the titles prescribed by this form. For electronic document submittal requirements, see <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.

## Site Summary

If any portion of the Site Summary Section is not relevant to the case closure request, you must fully explain the reasons why in the relevant section of the form. All information submitted shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected.

### 1. General Site Information and Site History

- A. Site Location: Describe the physical location of the site, both generally and specific to its immediate surroundings.  
Flint Hills Resources Junction City Fuels terminal is located in section 6 on County Highway HH, east of Junction City, WI with Hwy 10 to the North and Highway HH to the south. The additive spill was from the south side of Tank 338 located near the North central portion of the facility. (Figure B.1.c)
- B. Prior and current site usage: Specifically describe the current and historic occupancy and types of use.  
The Flint Hills property is in Portage county Wisconsin at the intersection of County Highway HH and U.S. Highway 10. The terminal, purchased by Koch in 1974, is serviced by two product lines from the Pine Bend Refinery in Minnesota. The facility also acts as a booster pump station for sending product to the Waupun Terminal. The terminal's primary function is to provide propane, gasoline, diesel, and fuel oil to local distributors. The Terminal consists of liquid product storage tanks, propane storage tanks, various tanks for product additives, loading racks, and various buildings that serve as office, workshop, and storage.
- C. Current zoning (e.g., industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).  
The property is zoned industrial (IND) and general agriculture (A4). The neighboring properties consist of general agriculture (A4). Verified using the Town of Carson, Portage County, WI zoning map (Attachment F.3).
- D. Describe how and when site contamination was discovered.  
On May 28, 2014, Junction City Terminal personnel discovered a leak in process piping for additive Tank 338. (Figure B.2. a) The tank is located within a secondary containment concrete "dike", along with Tank 332, however due to recent rainfall, the discharge outlet valve had been opened to discharge stormwater and remained open during the time of the leak, resulting in the loss of additive product from the concrete containment. FHR personnel performed the immediate response action, recovering product manually and with absorbent pads to the extent practicable. Based on additive tank storage inventories it was determined that 217 gallons of liquid was released. Regulatory notification was completed on May 28, 2014, shortly after the spill was identified, and Tetra Tech was requested to assist with additional spill clean-up activities. FHR also contacted diggers hotline for an emergency locate prior to soil excavation.
- E. Describe the type(s) and source(s) or suspected source(s) of contamination.  
The source of the contamination was from process piping for additive tank number 338 which contained diesel fuel additive. The discharge outlet valve which was opened to allow stormwater drainage allowed the spilled material to escape secondary containment into the surrounding soil.
- F. Other relevant site description information (or enter Not Applicable).  
Review previous site closure reports listed below.
- G. List BRRTS activity/site name and number for BRRTS activities at this source property, including closed cases.  
1. - Vapor Recovery Unit Line Leak (Closed): BRRTS #: 02-50-559565  
2. - Flint Hills Ditch Release (Closed): BRRTS #: 02-50-553760  
3. - Flint Hills Resources Junction City Term (Closed): BRRTS #: 02-50-000353
- H. List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to (abutting) this source property.  
1. - HWY 10 \*AC (Closed): BRRTS #: 02-50-000547  
USH 10 & STH 34 Carson

### 2. General Site Conditions

- A. Soil/Geology
- i. Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types.  
The Flint Hills Resources property lies within Rozellville (RzB) and Point Sandy Loam (PoA). The surface layer varies from 4-10 inches of very dark grayish-brown loam and dark-brown sandy loam. The sub-surface layer varies from 2-6 inches of yellowish-brown loam and brown / dark yellowish-brown sandy loam. The subsoil varies from 18-22 inches of dark-brown and yellowish-brown loam in the upper layer. The middle layer is dark-brown sandy clay loam and the lower layer is dark-brown loam. The substratum is pale-olive and dark-red stony loam along with strong-brown loam with grayish-brown mottles.  
Rozelleville Loam (RzB) is a gently sloping soil occupying 10-100 acre tracts on uplands with a 2-6% slope. The water capacity of the soil is medium with a moderate permeability. Bedrock is found at 5-20 feet bls.  
Point Sandy Loam (PoA) is a nearly level soil occupying 20-300 acre tracts on uplands. The water capacity of the soil is medium with a moderately rapid permeability. Bedrock is found at 4-20 feet bls. (soil survey of Portage Co. 1978).
- ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.  
Sand fill was present in close proximity to the concrete dike structures perimeter and between the vaults. Historical

impacted soil was encountered during excavating.

- iii. Describe the depth to bedrock, bedrock type, competency and whether or not it was encountered during the investigation. The underlying bedrock in the area is Precambrian, migmatitic quartzo-feldspathic gneiss. The gneiss tends to be weakly foliated, although intervals of strong foliation (schistosity) are present, as well as intervals of weakly to non-foliated granitic gneiss. The upper 2 or 3 feet of the bedrock tends to be moderately to highly weathered, but the deeper bedrock tends to be hard and dense. Cores taken at the terminal (during prior investigations) do not suggest that there is an extensive fracture system, although some fractures were intersected in all cored piezometers (Koch Remedial Action Plan Report, 1996).

Bedrock was encountered when drilling monitoring wells MW-23, and MW-24, it was hit at 8 feet 4 inches at MW-23, and at 11 feet 5 inches at MW-24. Bedrock was not cored as part of this investigation.

- iv. Describe the nature and locations of current surface cover(s) across the site (e.g., natural vegetation, landscaped areas, gravel, hard surfaces, and buildings).  
The spill site area consists of maintained lawn. The facility also includes meadow, asphalt driveways and parking areas, AST with both concrete and clay secondary containment, loading terminal, and office / maintenance buildings.

#### B. Groundwater

- i. Discuss depth to groundwater and piezometric elevations. Describe and explain depth variations, including high and low water table elevation and whether free product affects measurement of water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.

Groundwater elevations range from approximately 1110 feet msl to approximately 1131 feet msl within the area of the fuels terminal where monitoring wells are located. The highest groundwater elevations are North with the lowest elevations to the south. There is no free product in the wells to affect measurements.

- ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.

Groundwater flow for the property is South / South-West for both shallow and deep elevations.

- iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.

Pumping tests, slug tests, and falling head permeability tests indicate there is a variety of aquifer media at the terminal. Comparison of test results suggests that the bedrock is the main aquifer in that area with the glacial overburden acting as a leaky aquitard. A pumping test measured the conductivity of the bedrock. The various equations used indicate a K of between 1.8 to 9.0 x 10<sup>-4</sup> cm/sec. The falling head permeability results were 3.8 and 4.28 x 10<sup>-6</sup> cm/sec. (Koch Remedial Action Plan Report, 1996)

- iv. Identify and describe locations/distance of potable and/or municipal wells within 1200 feet of the site. Include general summary of well construction (geology, depth of casing, depth of screened or open interval).

The area surrounding the Flint Hills property is considered mostly agricultural rural area. This consists of intermittent fields and agricultural forest along with single family residences utilizing private wells. The Portage County online interactive GIS database was used to determine well distance from the Flint Hills property boundary along with the well information.

There are nine wells within 1200 feet of the Flint Hills property boundary ranging from 85 feet to 225 feet deep. This includes the Flint Hills terminal potable well located on the property.

1. - 3171 Oak Hill Road (1200' NW): single family residence. A single family residence utilizes a private potable well at 225 feet for its water source. The residence is located to the NW of the property approximately 1200 feet from the Flint Hills property boundary. Current and historical groundwater data indicates the well is upgradient of the 338 release. This, along with clean results from intercepting monitoring well (MW-25), indicates there is no threat of contamination to this well.

2. - 3154 Oak Hill Road (987' N): single family residence. A single family residence utilizes a private potable well at 200 feet for its water source. The residence is located to the north of the property approximately 987 feet from the Flint Hills property boundary. Current and historical groundwater data indicate this well is upgradient of the 338 release. This, along with clean results from intercepting monitoring well (MW-25), indicates there is no threat of contamination to this well.

3. - 3054 Oak Hill Road (722' NE): single family residence. A single family residence utilizes a private potable well at 175 feet for its water source. The residence is located NE of the property approximately 722 feet from the Flint Hills property boundary. Current and historical groundwater data indicate this well is upgradient of the 338 release. This, along with clean results from intercepting well (MW-25), indicates there is no threat of contamination to this well.

4. - 3070 Oak Hill Road (846' N): Oak Hill Repair Inc. Oak hill repair Inc. utilizes a private potable well at 175 feet for its water source. The location is north of the property approximately 846 feet from the Flint Hills property boundary. Current and historical groundwater data indicates the well is upgradient of the 338 release. This, along with clean results from intercepting well (MW-25), indicates there is no threat of contamination to this well.

5. - 3070 Oak Hill Road (1200' NE): single family residence. A single family utilizes a private potable well at 143 feet for its water source. The location is north east of the property approximately 1200 feet from the Flint Hills property boundary. Current and historical groundwater data indicate the well is upgradient and sidegradient of the 338 release. This, along with clean results from intercepting well (MW-25), indicates there is no threat of contamination to this well.

6. - 4398 Oakridge Ct. (465' NE): single family residence. A single family residence utilizes a private potable well at 200 feet for its water source. The residence is located to the NE of the property approximately 465 feet from the property boundary. Current and historical groundwater data indicates the well is up-gradient of the spill location. Consequently the potential for the well to be impacted via groundwater migration from the 338 release is evidently improbable.
7. - 2996 County Road HH W (153' SE): single family residence. A single family residence utilizes a private potable well at 85 feet for its water source. The residence is located to the SE of the property approximately 153 feet from the Flint Hills property boundary. Current and historical groundwater data indicates the well is up-gradient and side-gradient of the spill location. However due to its distance from the spill site the potential for the well to be impacted via groundwater migration from the 338 release is negligible.
8. - 2955 County Road HH W (956' SE): single family residence. A single family residence utilizes a private potable well for its water source. The residence is located to the SE of the property approximately 956 feet from the Flint Hills property boundary. Current and historical groundwater data indicates the well is side gradient and down gradient of the spill location. However due to its distance from the spill site the potential for the well to be impacted via groundwater migration from the 338 release is negligible.
9. - Flint Hills resources - Pine Bend LLC. utilizes a 122 foot private potable well on the source property, which is approximately 1,077 feet east of the 338 release site. Historical groundwater flow indicates this well is up-gradient and side-gradient of the 338 release and thus indicates there is no threat of contamination to this well.

### 3. Site Investigation Summary

#### A. General

- i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.  
-Previous Site investigatory field work and additional information has been summarized and provided to Ms. Lisa Gutknecht, WDNR project manager, in the 'No Further Action report (NFA) Additive Tank 338 Spill' dated August 29, 2014.  
-Since then additional geoprobes and monitoring wells have been installed to further delineate the extent of soil and groundwater contamination. Geoprobe data and locations are found in Attachment C.1.  
-Annual Groundwater Sampling Report has been provided to Hallie Passow, WDNR project manager, dated October 23, 2015.
- ii. Identify whether contamination extends beyond the source property boundary, and if so describe the media affected (e.g., soil, groundwater, vapors and/or sediment, etc.), and the vertical and horizontal extent of impacts.  
There is no off site impact from this release. Impacted area is within the FHR property.
- iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.

Soil removal was completed to the extent practicable with consideration given to the septic mound system and buried communication utility located to the southwest, the elevated conduit and associated support footings within the release area, and the location of the additive tanks' concrete secondary containment "dikes". The concrete containment "dikes" & associated footings are located immediately north of the release. All structural impediments are part of FHR infrastructure and are located on the source property.

#### B. Soil

- i. Describe degree and extent of soil contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways.  
The extent of soil contamination was confined to surficial soils in two main areas directly south and southwest of the tank dike valve from which the diesel fuel additive was released (Powerguard 2221), following the relatively flat elevation south of the valve, the permeable sand fill along tank dike wall footings, and the slight slope toward the southwest, totaling ~1500 ft<sup>2</sup>. The degree of soil contamination included areas in excess of NR720 groundwater pathway and direct contact soil standards therefore soil was excavated to various depths ranging from 1- to 2½-feet below existing land surface with the soil stockpiled, characterized, and disposed at Advanced Disposal's Cranberry Creek Landfill on August 22, 2014. Soils encountered consisted primarily of organic topsoil over sandy clay or clayey sand. Sand fill was present near the concrete dike vault structures perimeter and between the vaults. Historically impacted soil was also encountered during excavating. Known or potential receptors/migration pathways consist of shallow groundwater that has previously been delineated, and one buried communications utility corridor located to the southwest, however the actual vertical extent of soil contamination did not attain or exceed depths that would intersect with these potential pathways.
- ii. Describe the concentration(s) and types of soil contaminants found in the upper four feet of the soil column.  
Upon completion of impacted soil removal, confirmatory soil samples (S-1 through S-15) were obtained from the excavation interior and perimeter (Figure B.2.a-Soil Contamination - Additive Tk 338 Release). Samples were field screened with a Photoionization Detector (PID) using headspace techniques for total organic vapor analysis. Results

indicated PID readings ranged from 6 ppm to 200+ ppm. Soil samples were submitted for Volatile Organic Compound (VOC) analysis. Analytical results indicated samples S-9, S-11, S-13, and S-14 had one or more parameters in excess of NR 720 Not-to-Exceed Groundwater Pathway Residual Contaminant Levels (RCL). In addition, the sample collected from S-9 exhibited a Naphthalene concentration (49.6 ppm) in excess of the WNDR Not-to-Exceed Industrial Direct Contact RCL of 26 ppm. Based on the analytical results of the post excavation soil sampling, additional perimeter soil samples were obtained employing a hand auger. Soil samples S-16 through S-20 were collected in locations depicted on Figure B.2.a. Auger borings were advanced to 2' below existing grade with analytical samples obtained from the 1- to 2-ft. sampling interval. Analytical results indicated VOCs were not detected in excess of their respective Method Detection Levels (MDL), indicating the area of soil impact was defined.

An additional geoprobe investigation was performed to further define the extent of soil and groundwater impacts. Soil samples, taken above the water table, and groundwater samples were analyzed for VOC's and 2-Ethyl Hexyl Nitrate (a constituent of Diesel fuel additive). Results of this investigation can be found in Attachment C.1.

Groundwater in this area is approximately six feet below grade and was not encountered during excavating or hand auger sampling.

- iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site. This includes a soil performance standard established in accordance with s. NR 720.08, a Residual Contaminant Level (RCL) established in accordance with s. NR 720.10 that is protective of groundwater quality, or an RCL established in accordance with s. NR 720.12 that is protective of human health from direct contact with contaminated soil. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/information in Attachment C.

Used baseline, not to exceed, standard due to low level concentrations that would not indicate a compounding effect.

#### C. Groundwater

- i. Describe degree and extent of groundwater contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.

This site is a closed site with historical groundwater contamination that is found in the GIS registry (BRRTS #: 02-50-553760). The addition of three new up-gradient wells along with historical data and clean results from the newly installed wells indicates the additive tank leak had no effect on the site's current groundwater contamination levels.

- ii. Describe the presence of free product at the site, including the thickness, depth, and locations. Identify the depth and location of the smear zone.

There has never been free product on the site or associated smear zone.

#### D. Vapor

- i. Describe how the vapor migration pathway was assessed, including locations where vapor, soil gas, or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.

The extent of impacted soil for this site has been defined. The FHR office on the property is not within this area, thus there is no need for a vapor migration pathway assessment.

- ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).

See 3.D.i

#### E. Surface Water and Sediment

- i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.

NA, Surface water and sediment is not a receptor of concern from the release.

- ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.

NA, Surface water and sediment is not a receptor of concern from the release.

### 4. Remedial Actions **Implemented** and Residual Levels at Closure

- A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.

69.44 tons of soil was excavated, stockpiled and then disposed of in the Advanced Disposal Cranberry Creek Landfill on August 22, 2014. The excavation and removal of the impacted soil was the remedial action. The remedial action was followed by a site investigation that confirmed groundwater was not impacted. Refer to the Additive Tank 338 Spill no further action report dated August, 29, 2014.



- B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.  
Excavation and disposal of soil. See August 29, 2014 Additive Tank 338 Spill No Further Action report
- C. Describe the *active* remedial actions taken at the source property, including: type of remedial system(s) used for each media affected; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.  
There were no active remedial actions.
- D. Describe the alternatives considered during the Green and Sustainable Remediation evaluation in accordance with NR 722.09 and any practices implemented as a result of the evaluation.  
NR 722.09 (2m) was reviewed as follows:  
(a) Total energy use and the potential to use renewable energy: N/A  
(b) The generation of air pollutants, including particulate matter and greenhouse gas emissions: material was landfilled and the facility reclaims methane for energy.  
(c) Water use and the impacts to water resources: N/A  
(d) the future land use and enhancement of ecosystems, including minimizing unnecessary soil and habitat disturbance, or destruction: Site closed with soil, groundwater, and deed restrictions.  
(e) Reducing, reusing, and recycling materials and wastes, including investigative or sampling wastes: construction and sampling equipment decontaminated for future use.  
(f) Optimizing sustainable management practices during long-term care and stewardship: Area re-vegetated
- E. Describe the nature, degree and extent of residual contamination that will remain at the source property or on other affected properties after case [closure](#).  
Industrial Residual Direct Contact RCL exceedance soil contamination will remain in the small area around S-9, immediately West of the spill center. (Fig B.2.a) This area has been defined with geoprobe soil and monitoring well groundwater results which are clean, or fall within the GIS registry. The excavation has been backfilled to prevent direct contact and the additive tank secondary containment dikes act as a cap for the inaccessible soil. This capped area has a maintenance plan which was defined in the Final Case Closure dated March 18, 2008. Several Industrial Residual Groundwater Pathway RCL exceedance soils also remain near the spill center, this area is within the new GIS registry for the groundwater plume and falls within the soil deed restriction area. No other properties are affected. Refer to figures and tables.
- F. Describe the residual soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds RCLs established under s. NR 720.12, Wis. Adm. Code, for protection of human health from direct contact.  
As stated in section E, the area around S-9 contains direct contact RCL exceedances which are not accessible due to engineered barrier. The excavation site was filled and seeded to reduce direct contact exposure. This area falls within the soil deed restriction GIS registered area. See figures and tables.
- G. Describe the residual soil contamination that is above the observed low water table that attains or exceeds the soil standard(s) for the groundwater pathway.  
Upon completion of impacted soil removal, confirmatory soil samples (S-1 through S-15) were obtained from the excavation interior and perimeter. Samples were field screened with a Photoionization Detector (PID) using headspace techniques for total organic vapor analysis. Results indicated PID readings ranged from 6 ppm to 200+ ppm. Soil samples were submitted for Volatile Organic Compound (VOC) analysis. Analytical results indicated samples S-9, S-11, S-13, and S-14 had one or more parameters in excess of NR 720 Not-to-Exceed Groundwater Pathway Residual Contaminant Levels (RCL). Additional hand auger soil sampling was performed to delineate affected area. Clean hand auger samples verifies the extent of groundwater RCL exceedance soil contamination. See figures and tables.
- H. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.  
The groundwater impact will be monitored via annual groundwater sampling. If the additive tanks and containment are removed additional investigation and remediation will be conducted.
- I. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration (e.g., stable or receding groundwater plume).  
According to Tetra Tech's Remedial Action Plan report from 1996 all biological and physical indicators suggest the bioremediation of the soils is a viable option, and in fact is already in place. Direct and indirect evidence shows that a successful population of indigenous aerobic microbes are present at the site.
- J. Identify how all exposure pathways (soil, groundwater, vapor) were removed and/or adequately addressed by immediate, interim and/or remedial action(s).  
Identified, evaluated, and removed 69.44 tons of impacted soil and monitored groundwater for a year with no rise in historical groundwater contamination levels.
- K. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.  
No system hardware used.

- L. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances.  
Groundwater has not been impacted by this specific release therefore no PAL exemption is necessary for this closure request.
- M. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed.  
NA, refer to 3.D.i
- N. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed.  
NA, Refer to 3.E.i

**5. Continuing Obligations: Situations where sites, including all affected properties and rights-of-way (ROWs), are included on the DNR's GIS Registry. In certain situations, maintenance plans are also required, and must be included in Attachment D.**

Directions: For each of the 3 property types below, check all situations that apply to this closure request.  
(NOTE: Monitoring wells to be transferred to another site are addressed in Attachment E.)

This situation applies to the following property or Right of Way (ROW):			Case Closure Situation - Continuing Obligation Inclusion on the GIS Registry is Required (ii. - xiv.)	Maintenance Plan Required	
Property Type:					
Source Property	Affected Property (Off-Source)	ROW			
i.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None of the following situations apply to this case closure request.	NA
ii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual groundwater contamination exceeds ch. NR 140 ESs.	NA
iii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination exceeds ch. NR 720 RCLs.	NA
iv.				Monitoring Wells Remain:	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Not Abandoned (filled and sealed)	NA
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Continued Monitoring (requested or required)	Yes
v.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) direct contact pathways (includes vapor barriers)	Yes
vi.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) groundwater infiltration pathway	Yes
vii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural Impediment: impedes completion of investigation or remedial action (not as a performance standard cover)	NA
viii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination meets NR 720 industrial soil RCLs, land use is classified as industrial	NA
ix.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor Mitigation System (VMS) required due to exceedances of vapor risk screening levels or other health based concern	Yes
x.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Dewatering System needed for VMS to work effectively	Yes
xi.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Compounds of Concern in use: full vapor assessment could not be completed	NA
xii.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Commercial/industrial exposure assumptions used.	NA
xiii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vapor: Residual volatile contamination poses future risk of vapor intrusion	NA
xiv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Site-specific situation: (e. g., fencing, methane monitoring, other) ( <i>discuss with project manager before submitting the closure request</i> )	Site specific

**6. Underground Storage Tanks**

- A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action?  Yes  No
- B. Do any upgraded tanks meeting the requirements of ch. ATCP 93, Wis. Adm. Code, exist on the property?  Yes  No
- C. If the answer to question 6.B. is yes, is the leak detection system currently being monitored?  Yes  No

## General Instructions

All information shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected. For each attachment (A-G), provide a Table of Contents page, listing all 'applicable' and 'not applicable' items by Closure Form titles (e.g., A.1. Groundwater Analytical Table, A.2. Soil Analytical Results Table, etc.). If any item is 'not applicable' to the case closure request, you must fully explain the reasons why.

## Data Tables (Attachment A)

### Directions for Data Tables:

- Use **bold** and italics font for information of importance on tables and figures. Use **bold** font for ch. NR 140, Wis. Adm. Code ES attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, PAL attainments or exceedances.
- Use **bold** font to identify individual ch. NR 720 Wis. Adm. Code RCL exceedances. Tables should also include the corresponding groundwater pathway and direct contact pathway RCLs for comparison purposes. Cumulative hazard index and cumulative cancer risk exceedances should also be tabulated and identified on Tables A.2 and A.3.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e., do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15 (3)(c), Wis. Adm. Code, in the format required in s. NR 716.15(4)(e), Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Soil Analytical Results Table, etc.).
- For required documents, each table (e.g., A.1., A.2., etc.) should be a separate Portable Document Format (PDF).

### A. Data Tables

- Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates for all groundwater sampling points (e.g., monitoring wells, temporary wells, sumps, extraction wells, potable wells) for which samples have been collected.
- Soil Analytical Results Table(s):** Table(s) showing **all** soil analytical results and collection dates. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated).
- Residual Soil Contamination Table(s):** Table(s) showing the analytical results of only the residual soil contamination at the time of closure. This table shall be a subset of table A.2 and should include only the soil sample locations that exceed an RCL. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated). Table A.3 is optional only if a total of fewer than 15 soil samples have been collected at the site.
- Vapor Analytical Table(s):** Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method and results of communication testing.
- Other Media of Concern (e.g., sediment or surface water):** Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, and time period for sample collection.
- Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.
- Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

## Maps, Figures and Photos (Attachment B)

### Directions for Maps, Figures and Photos:

- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11 x 17 inches, in a PDF readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.
- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(4), 726.09(2) and 726.11(3), (5) and (6), Wis. Adm. Code.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc.).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.,) should be a separate PDF.
- Maps, figures and photos should be dated to reflect the most recent revision.

### B.1. Location Maps

- Location Map:** A map outlining all properties within the contaminated site boundaries on a United States Geological Survey (U.S.G.S.) topographic map or plat map in sufficient detail to permit easy location of all affected and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.
- Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for all affected properties, 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 attaining or exceeding a ch. NR 140 ES, and/or in relation to the boundaries of soil contamination attaining or exceeding a RCL. Provide parcel identification numbers for all affected properties.
- RR Sites Map:** From RR Sites Map ([http://dnrmaps.wi.gov/sl/?Viewer=RR\\_Sites](http://dnrmaps.wi.gov/sl/?Viewer=RR_Sites)) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

## B.2. Soil Figures

- B.2.a. **Soil Contamination:** Figure(s) showing the location of **all** identified unsaturated soil contamination. Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720.Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedances (0-4 foot depth).
- B.2.b. **Residual Soil Contamination:** Figure(s) showing only the locations of soil samples where unsaturated soil contamination remains at the time of closure (locations represented in Table A.3). Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720 Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedance (0-4 foot depth).

## B.3. Groundwater Figures

- B.3.a. **Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered. Display on one or more figures all of the following:
- Source location(s) and vertical extent of residual soil contamination exceeding an RCL. Distinguish between direct contact and the groundwater pathway RCLs.
  - Source location(s) and lateral and vertical extent if groundwater contamination exceeds ch. NR 140 ES.
  - Surface features, including buildings and basements, and show surface elevation changes.
  - Any areas of active remediation within the cross section path, such as excavations or treatment zones.
  - Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1.b.)
- B.3.b. **Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, PAL and/or an ES. Indicate the date and direction of groundwater flow based on the most recent sampling data.
- B.3.c. **Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.
- B.3.d. **Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been abandoned.

## B.4. Vapor Maps and Other Media

- B.4.a. **Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway in relation to residual soil and groundwater contamination, including sub-slab, indoor air, soil vapor, soil gas, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.
- B.4.b. **Other media of concern (e.g., sediment or surface water):** Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.
- B.4.c. **Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank).

- B.5. **Structural Impediment Photos:** One or more photographs documenting the structural impediment feature(s) which precluded a complete site investigation or remediation at the time of the closure request. The photographs should document the area that could not be investigated or remediated due to a structural impediment. The structural impediment should be indicated on Figures B.2.a and B.2.b.

## Documentation of Remedial Action (Attachment C)

### Directions for Documentation of Remedial Action:

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc.).
- If the documentation requested below has already been submitted to the DNR, please note the title and date of the report for that particular document requested.
  - C.1. **Site investigation documentation**, that has not otherwise been submitted with the Site Investigation Report.
  - C.2. **Investigative waste** disposal documentation.
  - C.3. Provide a **description of the methodology** used along with all supporting documentation if the RCLs are different than those contained in the Department's RCL Spreadsheet available at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html>.
  - C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.
  - C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment.
  - C.6. **Other.** Include any other relevant documentation not otherwise noted above (This section may remain blank).

## Maintenance Plan(s) and Photographs (Attachment D)

### Directions for Maintenance Plans and Photographs:

Attach a maintenance plan for each affected property (source property, each off-source affected property) with continuing obligations requiring future maintenance (e.g., direct contact, groundwater protection, vapor intrusion). See Site Summary section 5 for all affected property(s) requiring a maintenance plan. Maintenance plan guidance and/or templates for: 1) Cover/barrier systems; 2) Vapor intrusion; and 3) Monitoring wells, can be found at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html#tabx3>

- D.1. **Descriptions of maintenance action(s) required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required:**
- Provide brief descriptions of the type, depth and location of residual contamination.

- Provide a description of the system/cover/barrier/monitoring well(s) to be maintained.
  - Provide a description of the maintenance actions required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.
  - Provide contact information, including the name, address and phone number of the individual or facility who will be conducting the maintenance.
- D.2. **Location map(s) which show(s):** (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) all property boundaries.
- D.3. **Photographs** for site or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system, include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features shall be visible and discernible. Photographs shall be submitted with a title related to the site name and location, and the date on which it was taken.
- D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter. The inspection and maintenance log is found at: <http://dnr.wi.gov/files/PDF/forms/4400/4400-305.pdf>.

#### Monitoring Well Information (Attachment E)

##### Directions for Monitoring Well Information:

For all wells that will remain in use, be transferred to another party, or that could not be located; attach monitoring well construction and development forms (DNR Form 4400-113 A and B: [http://dnr.wi.gov/topic/groundwater/documents/forms/4400\\_113\\_1\\_2.pdf](http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf))

##### Select One:

- No monitoring wells were installed as part of this response action.
- All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site
- Select One or More:**
- Not all monitoring wells can be located, despite good faith efforts. Attachment E must include a description of efforts made to locate the wells.
- One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason (s) the well(s) will remain in use. When one or more monitoring wells will remain in use this is considered a continuing obligation and a maintenance plan will be required and must be included in Attachment D.
- One or more monitoring wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s). Provide documentation from the party accepting future responsibility for monitoring well(s).

#### Source Legal Documents (Attachment F)

##### Directions for Source Legal Documents:

Label documents with the specific closure form titles (e.g., F.1. Deed, F.2. Certified Survey Map, etc.). Include all of the following documents, in the order listed:

- F.1. **Deed:** The most recent deed with legal description clearly listed.
- 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.*
- F.2. **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. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- F.3. **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- F.4. **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties. This section applies to the source property only. Signed statements for Other Affected Properties should be included in Attachment G.

**Notifications to Owners of Affected Properties (Attachment G)**

**Directions for Notifications to Owners of Affected Properties:**

Complete the table on the following page for sites which require notification to owners of affected properties pursuant to ch. 292, Wis. Stats. and ch. NR 725 and 726, Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31- 19.39, Wis. Stats.]. The DNR's "Guidance on Case Closure and the Requirements for Managing Continuing Obligations" (PUB-RR-606) lists specific notification requirements <http://dnr.wi.gov/files/PDF/pubs/rr/RR606.pdf>.

State law requires that the responsible party provide a 30-day, written advance notification to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned. Use form 4400-286, Notification of Continuing Obligations and Residual Contamination, at <http://dnr.wi.gov/files/PDF/forms/4400/4400-286.pdf>

Include a copy of each notification sent and accompanying proof of delivery, i.e., return receipt or signature confirmation. (These items will not be placed on the GIS Registry.)

Include the following documents for each property, keeping each property's documents grouped together and labeled with the letter G and the corresponding ID number from the table on the following page. (Source Property documents should only be included in Attachment F):

- **Deed:** The most recent deed with legal descriptions clearly listed for all affected properties.  
*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. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes the attached legal description(s) accurately describe(s) the correct contaminated property or properties.



**Signatures and Findings for Closure Determination**

Check the correct box for this case closure request, and have either a professional engineer or a hydrogeologist, as defined in ch. NR 712, Wis. Adm. Code, sign this document.

- A response action(s) for this site addresses groundwater contamination (including natural attenuation remedies).
- The response action(s) for this site addresses media other than groundwater.

**Engineering Certification**

I, Daniel L. Morgan hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this case closure request has been prepared by me or prepared under my supervision in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this case closure request is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

Daniel L. Morgan  
Printed Name

Principal Engineer  
Title

Daniel L. Morgan  
Signature

6/20/2016  
Date



**Hydrogeologist Certification**

I, \_\_\_\_\_ hereby certify that I am a hydrogeologist as the term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this case closure request is correct and the document was prepared by me or prepared by me or prepared under my supervision and, in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code. Specifically, with respect to compliance with the rules, in my professional opinion a site investigation has been conducted in accordance with ch. NR 716, Wis. Adm. Code, and all necessary remedial actions have been completed in accordance with chs. NR 140, NR 718, NR 720, NR 722, NR 724 and NR 726, Wis. Adm. Codes."

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date





TETRA TECH, INC.

# **Data Tables**

## **(Attachment A)**



**Table A.1.**  
**Groundwater Analytical Table(s)**



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-1										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	66	-	230	250	112	157	27*	<10.1	48.7*	31.4*	NS	NS
Gasoline Range Organics	<26.2	<26.2	<26.2	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	2000**
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.80	<1.80	<1.80	<1.80	<1.80	<1.80	<1.80	96	480
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	0.023*	<0.016	0.034*	0.014*	0.013*	0.0049*	0.0055*	0.015*	0.031*	0.0097*	10	100
Anthracene	<0.0065	0.0065*	<0.0065	<0.0065	0.0073*	<0.0057	<0.0057	0.0062*	<0.0026	<0.0027	600	3,000
Benzo(a)Pyrene	<0.0054	<0.0054	<0.0054	<0.0032	<0.0029	<0.0029	<0.0029	<0.0029	<0.0042	<0.0044	0.02	0.2
Benzo(b)fluoranthene	<0.0051	<0.0051	<0.0051	<0.0038	<0.0034	<0.0034	<0.0034	<0.0034	<0.0045	0.0049*	0.02	0.2
Chrysene	<0.0070	<0.0070	<0.0070	<0.0039	<0.0035	<0.0035	<0.0035	<0.0035	<0.0046	<0.0047	0.02	0.2
Fluoranthene	<0.0053	0.010*	<0.0053	<0.0050	0.0076*	<0.0044	<0.0044	<0.0044	<0.0032	<0.0033	80	400
Fluorene	<0.0063	<0.0063	<0.0063	<0.0054	0.0052*	<0.0048	<0.0048	<0.0048	<0.0030	<0.0031	80	400
Pyrene	<0.0068	0.013*	<0.0068	<0.0054	<0.0047	<0.0047	<0.0047	<0.0047	<0.0041	<0.0043	50	250
<b>Total PAH List</b>	0.035	0.063	0.034*	0.014*	0.0682*	0.0049*	0.0109*	0.0356*	0.0439*	0.0243*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

\*\* = Revised NR 140 values effective December 2011.

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-1									NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15							
<b>PARAMETER</b>												
Diesel Range Organics	23.0*	<19.2	<19.2	22.9*							NS	NS
Gasoline Range Organics	<32.4	<34.9	<29.6	<29.6							NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.50	<0.50	<0.50							0.5	5
Toluene	<0.67	<0.44	<0.50	<0.50							160	800
Ethylbenzene	<0.54	<0.50	<0.50	<0.50							140	700
Xylenes	<2.63	<1.32	<1.50	<1.50							400	2,000
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17							12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<3.07	<1.0	<1.0							96	480
1,2-Dichloroethane	<0.36	<0.48	<0.17	<0.17							0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	0.0055*	<0.0046	NA	NA							10	100
Anthracene	<0.0054	<0.0055	NA	NA							600	3,000
Benzo(a)Pyrene	<0.0055	<0.0095	NA	NA							0.02	0.2
Benzo(b)fluoranthene	<0.0075	<0.0074	NA	NA							0.02	0.2
Chrysene	<0.0069	<0.0071	NA	NA							0.02	0.2
Fluoranthene	<0.0058	<0.0052	NA	NA							80	400
Fluorene	<0.0043	<0.0064	NA	NA							80	400
Pyrene	<0.0059	<0.0053	NA	NA							50	250
Total PAH List	0.0215*	0.0203*	NA	NA							NS	NS

All concentrations in ppb (ug/l)

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<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

NA = Parameter was not analyzed

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-3										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
<b>Diesel Range Organics</b>	69	35*	170	100	71	116	801	201	194	110	NS	NS
<b>Gasoline Range Organics</b>	<26.2	<26.2	29.3*	71.4	76.6	113	97.4	349	142	79.8	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
<b>Benzene</b>	<0.41	1.7	0.43*	1.4	2.0	<0.41	1.6	<b>6.1</b>	3.2	1.6	0.5	<b>5</b>
<b>Toluene</b>	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.45	0.85	<0.67	<0.67	160**	<b>800**</b>
<b>Ethylbenzene</b>	<0.54	2.1	1.4	2.8	5.9	<0.54	3.1	18.3	5.9	5.3	140	<b>700</b>
<b>Xylenes</b>	<2.63	<2.63	<2.63	<2.63	5.4	<2.63	3.9	8.7	2.9	<2.63	400**	<b>2000**</b>
<b>Methyl-tert-butyl-ether</b>	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	12	<b>60</b>
<b>Trimethylbenzenes<sup>1</sup></b>	<1.80	<2.13	<2.53	<3.73	12.6	1.1	8.5	16.0	8.6	<1.80	96	<b>480</b>
<b>1,2-Dichloroethane</b>	<0.36	<0.36	<0.57	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
<b>Naphthalene</b>	<0.017	<0.016	0.031*	0.0092*	0.022*	0.11	6.8	1.2	0.0073*	1.1	10	<b>100</b>
<b>Anthracene</b>	<0.0066	<0.0065	<0.0065	<0.0061	<0.0057	<0.0057	0.0077*	<0.0063	<0.0026	<0.011	600	<b>3,000</b>
<b>Benzo(a)Pyrene</b>	<0.0055	<0.0054	<0.0054	<0.0030	<0.0029	<0.0029	<0.0029	<0.0032	<0.0042	<0.017	0.02	<b>0.2</b>
<b>Benzo(b)fluoranthene</b>	<0.0052	<0.0051	<0.0051	<0.0046	<0.0044	0.0034	<0.0034	<0.0038	<0.0045	<0.019	0.02	<b>0.2</b>
<b>Chrysene</b>	<0.0071	<0.0070	<0.0070	<0.0037	<0.0035	0.0043*	<0.0035	<0.0038	<0.0046	<0.019	0.02	<b>0.2</b>
<b>Fluoranthene</b>	<0.0054	<0.0053	<0.0053	<0.0047	0.0094*	0.0054*	<0.0044	<0.0049	<0.0032	<0.013	80	<b>400</b>
<b>Fluorene</b>	<0.0063	<0.0063	<0.0063	<0.0051	<0.0048	<0.0048	0.030*	0.010*	<0.0029	0.017*	80	<b>400</b>
<b>Pyrene</b>	<0.0068	<0.0068	<0.0068	<0.0050	0.0079*	0.0057*	0.0072*	0.0065*	<0.0041	<0.017	50	<b>250</b>
<b>Total PAH List</b>	0.0197	0.013	0.031*	0.0092*	0.0842*	0.1925	13.9809	1.527	0.0073*	1.532*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

\*\* = Revised NR 140 values effective December 2011.

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-3										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	106	149	42.4*	82.6								NS	NS
Gasoline Range Organics	775	146	55.7	107								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<b>6.4</b>	3.7	1.3	2.1								0.5	<b>5</b>
Toluene	2.6	1.1	<0.50	0.62*								160	<b>800</b>
Ethylbenzene	58.7	13.8	<0.50	5.9								140	<b>700</b>
Xylenes	45.3	7.3	<1.50	<1.69								400	<b>2,000</b>
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17								12	<b>60</b>
Trimethylbenzenes <sup>1</sup>	70.8	<22.8	<1.0	<1.0								96	<b>480</b>
1,2-Dichloroethane	<0.36	<0.48	<0.17	<0.17								0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	1.2	0.0099*	NA	NA								10	<b>100</b>
Anthracene	<0.020	<0.0062	NA	NA								600	<b>3,000</b>
Benzo(a)Pyrene	<0.020	<0.011	NA	NA								0.02	<b>0.2</b>
Benzo(b)fluoranthene	<0.027	<0.0083	NA	NA								0.02	<b>0.2</b>
Chrysene	<0.025	<0.0080	NA	NA								0.02	<b>0.2</b>
Fluoranthene	<0.021	<0.0058	NA	NA								80	<b>400</b>
Fluorene	<0.016	<0.0072	NA	NA								80	<b>400</b>
Pyrene	<0.21	<0.0059	NA	NA								50	<b>250</b>
<b>Total PAH List</b>	1.695	0.0309*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

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NA = Parameter was not analyzed.

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-4										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/18/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	210	38*	450	530	<10.7	513	155	<10.1	26.4*	138	NS	NS
Gasoline Range Organics	<26.2	<26.2	<26.2	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	2000**
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.80	<1.8	<1.80	<1.80	<1.80	<1.80	<1.80	96	480
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	<0.016	0.54	<0.016	0.0068*	0.0079*	0.021*	0.016*	0.024*	0.0075*	<0.0047	10	100
Anthracene	<0.0065	<0.014	<0.0065	<0.0061	0.013*	0.0057*	<0.0057	0.0057*	<0.0026	<0.0027	600	3,000
Benzo(a)Pyrene	<0.0054	<0.012	<0.0054	<0.0030	<0.0029	<0.0029	<0.0029	<0.0029	<0.0042	<0.0044	0.02	0.2
Benzo(b)fluoranthene	<0.0051	<0.011	<0.0051	<0.0036	<0.0035	<0.0034	<0.0034	0.0045*	<0.0045	0.0062*	0.02	0.2
Chrysene	<0.0070	<0.015	<0.0070	<0.0037	<0.0036	<0.0035	<0.0035	0.0060*	<0.0046	0.0055*	0.02	0.2
Fluoranthene	<0.0053	<0.012	<0.0053	<0.0047	0.012*	<0.0044	<0.0044	<0.0044	0.0034*	0.0039*	80	400
Fluorene	<0.0063	0.036*	<0.0063	<0.0051	0.0051*	<0.0048	<0.0048	<0.0048	<0.0030	<0.0031	80	400
Pyrene	<0.0068	<0.015	<0.0068	<0.0050	0.02*	<0.0047	<0.0047	<0.0047	<0.0041	<0.0043	50	250
Total PAH List	0.0086*	1.028	0.0086*	0.0068*	0.098*	0.0341*	0.027*	0.0458*	0.0219*	0.0276*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

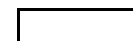
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**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-4										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	12.9*	<20.0	<20.8	<20.6								NS	NS
Gasoline Range Organics	<32.4	<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<0.41	<0.50	<0.50	<0.50								0.5	5
Toluene	<0.67	<0.44	<0.50	<0.50								160	800
Ethylbenzene	<0.54	<0.50	<0.50	<0.50								140	700
Xylenes	<2.63	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17								12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<3.07	<1.0	<1.0								96	480
1,2-Dichloroethane	<0.36	<0.48	<0.17	<0.17								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	<0.0033	<0.0046	NA	NA								10	100
Anthracene	0.0066*	<0.0055	NA	NA								600	3,000
Benzo(a)Pyrene	<0.0050	<0.0095	NA	NA								0.02	0.2
Benzo(b)fluoranthene	<0.0068	<0.0074	NA	NA								0.02	0.2
Chrysene	<0.0062	<0.0071	NA	NA								0.02	0.2
Fluoranthene	<0.0052	<0.0052	NA	NA								80	400
Fluorene	<0.0039	<0.0064	NA	NA								80	400
Pyrene	0.0059*	<0.0053	NA	NA								50	250
Total PAH List	0.0305*	0.0073*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

NA = Parameter was not analyzed

1.3 = concentration > PAL

9.9 = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-5										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	790	2600	2400	1800	1960	1880	1340	1520	2330	1030	NS	NS
Gasoline Range Organics	8990	11700	8090	8910	7400	7350	7290	10300	8280	5810	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<b>1780</b>	<b>2410</b>	<b>1800</b>	<b>1520</b>	<b>1970</b>	<b>1290</b>	<b>1690</b>	<b>1830</b>	<b>1660</b>	<b>1330</b>	0.5	<b>5</b>
Toluene	472	681	524	436	479	234	276	465	348	232	160**	<b>800**</b>
Ethylbenzene	514	<b>764</b>	574	622	640	484	581	650	657	610	140	<b>700</b>
Xylenes	1085	1510	1079	1086	1241	866	1032	1276	1263	1054	400**	<b>2000**</b>
Methyl-tert-butyl-ether	<15.2	<6.1	<12.2	<12.2	<12.2	<12.2	<6.1	<12.2	<12.2	<12.2	12	<b>60</b>
Trimethylbenzenes <sup>1</sup>	459.7	<b>641</b>	395.4	<b>514</b>	<b>547</b>	447.7	<b>507</b>	<b>514</b>	<b>545</b>	369.9	96	<b>480</b>
1,2-Dichloroethane	<9.0	<0.36	<7.2	<7.2	<7.2	<7.2	<3.6	<7.2	<7.2	<7.2	0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	73.2	80.5	67.2	98.2	49.7	43.7	<b>106</b>	<b>111</b>	79.3	79.3	10	<b>100</b>
Anthracene	<0.65	<1.3	<0.13	<0.30	<0.58	<0.72	<0.12	0.21*	<1.0	<0.65	600	<b>3,000</b>
Benzo(a)Pyrene	<0.54	<1.1	<0.11	<0.15	<0.29	<0.36	<0.059	<0.058	<1.7	<1.0	0.02	<b>0.2</b>
Benzo(b)fluoranthene	<0.51	<1.0	<0.10	<0.18	<0.35	<0.55	<0.090	<0.088	<1.8	<1.1	0.02	<b>0.2</b>
Chrysene	<0.70	<1.4	<0.14	<0.18	<0.35	<0.44	<0.072	<0.070	<1.8	<1.1	0.02	<b>0.2</b>
Fluoranthene	<0.53	<1.1	<0.11	<0.23	<0.45	<0.55	<0.091	<0.089	<1.3	<0.80	80	<b>400</b>
Fluorene	0.91*	<1.3	0.93*	1.3*	0.94*	<0.60	1.4	1.8	<1.2	1.4*	80	<b>400</b>
Pyrene	<0.68	<1.4	<0.14	<0.25	<0.48	<0.59	<0.098	<0.096	<1.7	<1.0	50	<b>250</b>
<b>Total PAH List</b>	132.11	130.7	68.13	99.5	81.26	68.7	179.3	182.37	139.1	129.09	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

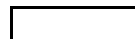
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**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-5									NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15							
<b>PARAMETER</b>												
Diesel Range Organics	-	1250	1820	1040							NS	NS
Gasoline Range Organics	-	6820	9970	5880							NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	-	<b>1270</b>	<b>1490</b>	<b>992</b>							0.5	<b>5</b>
Toluene	-	266	360	183							160	<b>800</b>
Ethylbenzene	-	<b>569</b>	696	500							140	<b>700</b>
Xylenes	-	1086	1305	842							400	<b>2,000</b>
Methyl-tert-butyl-ether	-	<4.9	<3.5	<1.7							12	<b>60</b>
Trimethylbenzenes <sup>1</sup>	-	451.1	<b>558</b>	401.4							96	<b>480</b>
1,2-Dichloroethane	-	<4.8	<3.4	<1.7							0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	-	46.0	NA	NA							10	<b>100</b>
Anthracene	-	<1.5	NA	NA							600	<b>3,000</b>
Benzo(a)Pyrene	-	<b>&lt;2.5</b>	NA	NA							0.02	<b>0.2</b>
Benzo(b)fluoranthene	-	<b>&lt;2.0</b>	NA	NA							0.02	<b>0.2</b>
Chrysene	-	<b>&lt;1.9</b>	NA	NA							0.02	<b>0.2</b>
Fluoranthene	-	<1.4	NA	NA							80	<b>400</b>
Fluorene	-	<1.7	NA	NA							80	<b>400</b>
Pyrene	-	<1.4	NA	NA							50	<b>250</b>
<b>Total PAH List</b>	-	71.5*	NA	NA							NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

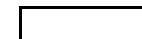
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NA = Parameter was not analyzed

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-6										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
<b>Diesel Range Organics</b>	29*	73	110	150	113	164	82.1	13.9*	77.7	59.2	NS	NS
<b>Gasoline Range Organics</b>	<26.2	<26.2	<26.2	<32.4	82.9	<32.4	<32.4	<32.4	73.9	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
<b>Benzene</b>	4.5	<0.41	2.0	<0.41	<b>67.2</b>	<0.41	<b>26.4</b>	<0.41	<b>77.8</b>	<0.41	0.5	<b>5</b>
<b>Toluene</b>	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	<b>800**</b>
<b>Ethylbenzene</b>	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	140	<b>700</b>
<b>Xylenes</b>	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	<b>2000**</b>
<b>Methyl-tert-butyl-ether</b>	<0.61	1.3	0.78*	<0.61	0.65*	<0.61	<0.61	<0.61	<0.61	<0.61	12	<b>60</b>
<b>Trimethylbenzenes<sup>1</sup></b>	<1.80	<1.80	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	96	<b>480</b>
<b>1,2-Dichloroethane</b>	<0.36	0.81*	<0.36	<0.36	<0.36	<0.36	<0.36	0.42*	<0.36	<0.36	0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
<b>Naphthalene</b>	<0.017	0.040*	0.037*	0.014*	0.034*	0.0066*	0.25	0.049*	0.011*	0.017*	10	<b>100</b>
<b>Anthracene</b>	<0.0066	0.014*	<0.0065	<0.0061	0.0077*	<0.0057	<0.0057	<0.0058	<0.0026	<0.0026	600	<b>3,000</b>
<b>Benzo(a)Pyrene</b>	<0.0055	<0.0057	<0.0054	<0.0030	<0.0029	<0.0029	<0.0029	<0.0029	<0.0042	<0.0042	0.02	<b>0.2</b>
<b>Benzo(b)fluoranthene</b>	<0.0052	<0.0055	<0.0051	<0.0046	<0.0034	<0.0034	<0.0034	<0.0034	<0.0045	<0.0045	0.02	<b>0.2</b>
<b>Chrysene</b>	<0.0071	<0.0074	<0.0070	<0.0037	<0.0035	<0.0035	<0.0035	<0.0035	<0.0046	<0.0046	0.02	<b>0.2</b>
<b>Fluoranthene</b>	<0.0054	<0.0057	<0.0053	<0.0047	0.0099*	<0.0044	0.005*	<0.0044	0.0042*	<0.0032	80	<b>400</b>
<b>Fluorene</b>	<0.0064	<0.0066	<0.0063	<0.0051	0.0061*	<0.0048	<0.0048	<0.0048	<0.0030	<0.0029	80	<b>400</b>
<b>Pyrene</b>	<0.0069	<0.0072	<0.0068	<0.0050	0.0066*	<0.0047	0.0072*	<0.0048	<0.0041	<0.0041	50	<b>250</b>
<b>Total PAH List</b>	0.00	0.08	0.037*	0.014*	0.1228*	0.0306*	0.4422	0.0804*	0.0152*	0.0394*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

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NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

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GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-6										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	95.6	85.4	<19.8	32.8*								NS	NS
Gasoline Range Organics	<32.4	<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<b>5.0</b>	<0.50	<0.50	<0.50								0.5	<b>5</b>
Toluene	<0.67	<0.44	<0.50	<0.50								160	<b>800</b>
Ethylbenzene	<0.54	<0.50	<0.50	<0.50								140	<b>700</b>
Xylenes	<2.63	<1.32	<1.50	<1.50								400	<b>2,000</b>
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17								12	<b>60</b>
Trimethylbenzenes <sup>1</sup>	<1.80	<3.07	<1.0	<1.0								96	<b>480</b>
1,2-Dichloroethane	<0.36	<0.48	<0.17	<0.17								0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	0.0035*	0.0063*	NA	NA								10	<b>100</b>
Anthracene	<0.0048	<0.0055	NA	NA								600	<b>3,000</b>
Benzo(a)Pyrene	<0.0049	<0.0095	NA	NA								0.02	<b>0.2</b>
Benzo(b)fluoranthene	<0.0067	<0.0074	NA	NA								0.02	<b>0.2</b>
Chrysene	<0.0062	<0.0071	NA	NA								0.02	<b>0.2</b>
Fluoranthene	<0.0052	<0.0052	NA	NA								80	<b>400</b>
Fluorene	<0.0038	<0.0064	NA	NA								80	<b>400</b>
Pyrene	<0.0053	0.0056*	NA	NA								50	<b>250</b>
<b>Total PAH List</b>	0.0128*	0.0359*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

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NA = Parameter was not analyzed

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-9										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	16*	19*	370*	<100	<10.6	<10.1	frozen	<10.1	11.0*	367	NS	NS
Gasoline Range Organics	<26.2	<26.2	<26.2	<32.4	<32.4	<32.4	frozen	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	frozen	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	frozen	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	frozen	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	frozen	<2.63	<2.63	<2.3	400**	2000**
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	frozen	<0.61	<0.61	<0.61	12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.8	<1.8	<1.8	frozen	<1.8	<1.8	<1.8	96	480
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	frozen	<0.36	<0.36	<0.36	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	0.18*	0.17	0.028*	0.15*	0.0053*	0.010*	frozen	0.027*	<0.0053	<0.0045	10	100
Anthracene	<0.0065	0.011*	<0.0065	<0.0065	<0.0058	<0.0057	frozen	<0.0057	<0.0031	<0.0026	600	3,000
Benzo(a)Pyrene	<0.0054	0.012*	<0.0054	<0.0033	<0.0029	<0.0029	frozen	<0.0029	<0.0049	<0.0042	0.02	0.2
Benzo(b)fluoranthene	<0.0051	0.0077*	<0.0051	<0.0039	<0.0035	<0.0034	frozen	<0.0034	<0.0053	0.0045*	0.02	0.2
Chrysene	<0.0070	0.011*	<0.0070	<0.0040	<0.0035	<0.0035	frozen	<0.0035	<0.0054	<0.0046	0.02	0.2
Fluoranthene	<0.0053	0.011*	<0.0053	0.0056*	<0.0045	<0.0044	frozen	<0.0044	<0.0038	0.0065*	80	400
Fluorene	<0.0063	0.0091*	<0.0063	<0.0054	<0.0049	<0.0048	frozen	<0.0048	<0.0035	<0.0029	80	400
Pyrene	<0.0068	0.014*	<0.0068	0.0075*	<0.0048	<0.0047	frozen	<0.0047	<0.0048	0.0060*	50	250
Total PAH List	0.027	0.4412*	0.028*	0.0561*	0.0173*	0.0172*	frozen	0.0362*	<0.011	0.0267*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- = Not sampled

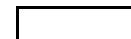
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\*\* = Revised NR 140 values effective December 2011.

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-9										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	-	<19.2	<19.8	50.2								NS	NS
Gasoline Range Organics		<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	-	<0.50	<0.50	<0.50								0.5	5
Toluene	-	<0.44	<0.50	<0.50								160	800
Ethylbenzene	-	<0.50	<0.50	<0.50								140	700
Xylenes	-	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	-	<0.49	<0.17	<0.17								12	60
Trimethylbenzenes <sup>1</sup>	-	<2.07	<1.0	<1.0								96	480
1,2-Dichloroethane	-	<0.48	<0.17	<0.17								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	-	<0.0046	NA	NA								10	100
Anthracene	-	<0.0056	NA	NA								600	3,000
Benzo(a)Pyrene	-	<0.0095	NA	NA								0.02	0.2
Benzo(b)fluoranthene	-	<0.0075	NA	NA								0.02	0.2
Chrysene	-	<0.0072	NA	NA								0.02	0.2
Fluoranthene	-	0.0055*	NA	NA								80	400
Fluorene	-	<0.0065	NA	NA								80	400
Pyrene	-	<0.0053	NA	NA								50	250
Total PAH List	-	0.0155*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

NA = Parameter was not analyzed

1.3 = concentration > PAL

9.9 = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-10										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	23*	<14	960	690	<10.4	171	69	<10.6	25.0*	<11.0	NS	NS
Gasoline Range Organics	<26.2	<26.2	<26.2	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	2000**
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	96	480
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	0.020*	0.039*	<0.016	0.021*	0.008*	0.020*	0.013*	0.015*	<0.0051	0.0060*	10	100
Anthracene	<0.0070	0.012*	<0.0065	<0.0065	0.0066*	<0.0060	<0.0057	<0.0057	<0.0030	0.0037*	600	3,000
Benzo(a)Pyrene	<0.0058	0.0071*	<0.0054	<0.0033	<0.0029	0.0032*	<0.0029	<0.0029	<0.0048	<0.0043	0.02	0.2
Benzo(b)fluoranthene	<0.0055	0.0077*	<0.0051	<0.0050	<0.0034	0.0048*	<0.0034	<0.0034	<0.0051	0.0050*	0.02	0.2
Chrysene	<0.0075	0.0076*	<0.0070	<0.0040	<0.0035	0.0053*	0.0035*	<0.0035	<0.0052	<0.0047	0.02	0.2
Fluoranthene	<0.0057	0.010*	<0.0053	<0.0050	0.0045*	0.011*	0.0070*	<0.0044	0.0054*	0.0053*	80	400
Fluorene	<0.0067	<0.0068	<0.0063	<0.0054	<0.0048	<0.0050	<0.0048	<0.0048	<0.0034	<0.0030	80	400
Pyrene	<0.0072	0.012*	<0.0068	<0.0054	<0.0048	0.0090*	0.010*	<0.0047	<0.0047	<0.0053*	50	250
Total PAH List	0.042*	0.185	<0.016	0.021*	0.0355*	0.0874*	0.043*	0.0211*	0.0154*	0.034*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

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NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

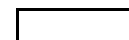
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**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES





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GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-10										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	16.7*	<19.8	<20.6	<20.4								NS	NS
Gasoline Range Organics	<32.4	<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<0.41	<0.50	<0.50	<0.50								0.5	5
Toluene	<0.67	<0.44	<0.50	<0.50								160	800
Ethylbenzene	<0.54	<0.50	<0.50	<0.50								140	700
Xylenes	<2.63	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17								12	60
Trimethylbenzenes <sup>1</sup>	<1.8	<3.07	<1.0	<1.0								96	480
1,2-Dichloroethane	<0.36	<0.48	<0.17	<0.17								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	<0.0033	<0.0050	NA	NA								10	100
Anthracene	<0.0049	<0.0060	NA	NA								600	3,000
Benzo(a)Pyrene	<0.0050	<0.010	NA	NA								0.02	0.2
Benzo(b)fluoranthene	<0.0068	<0.0081	NA	NA								0.02	0.2
Chrysene	<0.0062	<0.0078	NA	NA								0.02	0.2
Fluoranthene	<0.0052	<0.0056	NA	NA								80	400
Fluorene	<0.0039	<0.0070	NA	NA								80	400
Pyrene	<0.0053	<0.0057	NA	NA								50	250
Total PAH List	0.0082*	0.0088*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

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NA = Parameter was not analyzed

**1.3** = concentration > PAL

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**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-14										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	67	25*	160	170*	<10.5	183	frozen	<10.1	50.3	179	NS	NS
Gasoline Range Organics	<26.2	<26.2	<26.2	<32.4	<32.4	<32.4	frozen	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	frozen	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	frozen	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	frozen	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	frozen	<2.63	<2.63	<2.63	400**	2000**
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	frozen	<0.61	<0.61	<0.61	12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.8	<1.8	<1.8	frozen	<1.8	<1.8	<1.8	96	480
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	frozen	<0.36	<0.36	<0.36	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	<0.017	0.22	<0.017	0.018*	0.0054*	<0.0048	frozen	0.025*	0.014*	0.090	10	100
Anthracene	<0.0066	<0.0066	<0.0066	<0.0063	0.0062*	<0.0057	frozen	<0.0057	<0.0026	<0.0026	600	3,000
Benzo(a)Pyrene	<0.0055	<0.0055	<0.0055	<0.0032	<0.0029	<0.0029	frozen	<0.0029	<0.0042	<0.0042	0.02	0.2
Benzo(b)fluoranthene	<0.0052	<0.0052	<0.0052	<0.0038	<0.0034	<0.0034	frozen	<0.0034	<0.0045	<0.0045	0.02	0.2
Chrysene	<0.0071	<0.0071	<0.0071	<0.0038	<0.0035	<0.0035	frozen	<0.0035	<0.0046	<0.0046	0.02	0.2
Fluoranthene	<0.0054	<0.0054	<0.0054	<0.0049	<0.0044	<0.0044	frozen	<0.0044	<0.0032	<0.0032	80	400
Fluorene	<0.0064	<0.0063	<0.0063	<0.0053	<0.0048	<0.0048	frozen	<0.0048	<0.0030	<0.0029	80	400
Pyrene	<0.0069	<0.0068	<0.0068	<0.0052	<0.0047	<0.0047	frozen	<0.0047	<0.0041	<0.0041	50	250
Total PAH List	0.0085*	0.366	0.0083*	0.018*	0.0116*	<0.0081	frozen	0.0404*	0.014*	0.142*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

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NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

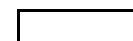
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GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-14										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	-	45.8*	30.9*	23.9*								NS	NS
Gasoline Range Organics	-	<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	-	<0.50	<0.50	<0.50								0.5	5
Toluene	-	<0.44	<0.50	<0.50								160	800
Ethylbenzene	-	<0.50	<0.50	<0.50								140	700
Xylenes	-	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	-	<0.49	<0.17	<0.17								12	60
Trimethylbenzenes <sup>1</sup>	-	<3.07	<1.0	<1.0								96	480
1,2-Dichloroethane	-	<0.48	<0.17	<0.17								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	-	<0.0046	NA	NA								10	100
Anthracene	-	<0.0056	NA	NA								600	3,000
Benzo(a)Pyrene	-	<0.0095	NA	NA								0.02	0.2
Benzo(b)fluoranthene	-	<0.0075	NA	NA								0.02	0.2
Chrysene	-	<0.0072	NA	NA								0.02	0.2
Fluoranthene	-	<0.0052	NA	NA								80	400
Fluorene	-	<0.0065	NA	NA								80	400
Pyrene	-	<0.0053	NA	NA								50	250
Total PAH List	-	0.0065*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

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<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

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9.9 = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-19										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	270	460	530	430	498	459	312	180	424	165	NS	NS
Gasoline Range Organics	<26.2	<26.2	34.5*	<32.4	<32.4	43.2*	<32.4	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	0.73*	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.61	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	2000**
Methyl-tert-butyl-ether	0.77*	0.96*	1.0	0.98*	1.0	0.77*	0.94*	<0.61	0.71*	0.74*	12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	96	480
1,2-Dichloroethane	2.1	1.4	2.3	2.0	2.0	1.2	1.3	1.2	1.4	0.93*	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	<0.018	<0.017	<0.017	0.012*	0.011*	<0.0048	0.0048*	0.030*	0.013*	0.012*	10	100
Anthracene	<0.0070	0.0076*	<0.0069	<0.0065	<0.0057	<0.0057	<0.0057	0.0070*	<0.0026	<0.0052	600	3,000
Benzo(a)Pyrene	<0.0058	<0.0056	<0.0057	<0.0032	<0.0029	<0.0029	<0.0029	<0.0029	<0.0042	<0.0084	0.02	0.2
Benzo(b)fluoranthene	<0.0056	<0.0053	<0.0055	<0.0038	<0.0034	<0.0034	<0.0034	<0.0034	<0.0045	0.0098*	0.02	0.2
Chrysene	<0.0076	<0.0072	<0.0074	<0.0039	<0.0035	<0.0035	<0.0035	<0.0035	<0.0046	<0.0091	0.02	0.2
Fluoranthene	<0.0058	0.0062*	<0.0057	<0.0050	<0.0044	<0.0044	<0.0044	<0.0044	0.0035*	<0.0064	80	400
Fluorene	<0.0068	<0.0064	<0.0066	<0.0054	<0.0048	<0.0048	<0.0048	<0.0048	0.0034*	<0.0059	80	400
Pyrene	<0.0073	0.0078*	<0.0072	<0.0054	<0.0047	<0.0047	<0.0047	<0.0047	<0.0041	<0.0082	50	250
<b>Total PAH List</b>	0.12	0.2357	<0.017	0.012*	0.0287*	0.0131*	0.0204*	0.0708*	0.0439*	0.045*	NS	NS

All concentrations in ppb (ug/l)

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<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

\*\* = Revised NR 140 values effective December 2011.

1.3 = concentration > PAL

9.9 = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-19										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	351	129	184	111								NS	NS
Gasoline Range Organics	<32.4	<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<0.41	<0.50	<0.50	<0.50								0.5	5
Toluene	<0.67	<0.44	<0.50	<0.50								160	800
Ethylbenzene	<0.54	<0.50	<0.50	<0.50								140	700
Xylenes	<2.63	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	0.81*	0.87*	0.55*	0.79*								12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<3.07	<1.0	<1.0								96	480
1,2-Dichloroethane	0.96*	0.87*	0.63*	0.74*								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	0.012*	0.0061*	NA	NA								10	100
Anthracene	<0.0048	<0.0056	NA	NA								600	3,000
Benzo(a)Pyrene	<0.0049	<0.0096	NA	NA								0.02	0.2
Benzo(b)fluoranthene	<0.0067	<0.0075	NA	NA								0.02	0.2
Chrysene	<0.0062	<0.0073	NA	NA								0.02	0.2
Fluoranthene	<0.0052	<0.0053	NA	NA								80	400
Fluorene	<0.0038	<0.0065	NA	NA								80	400
Pyrene	<0.0053	<0.0054	NA	NA								50	250
<b>Total PAH List</b>	0.046*	0.0351*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

NA = Parameter was not analyzed

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-20										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	120	48*	980	750	<10.2	96.2	57	<10.1	29.2*	21.8*	NS	NS
Gasoline Range Organics	<26.2	<26.2	<26.2	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	2000**
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	96	480
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	<0.017	0.029*	<0.017	0.014*	0.0081*	0.013*	0.0054*	0.013*	0.060	<0.0045	10	100
Anthracene	<0.0066	<0.0066	<0.0066	<0.0061	<0.0061	<0.0057	<0.0057	<0.0062	<0.0026	<0.0026	600	3,000
Benzo(a)Pyrene	<0.0055	<0.0055	<0.0055	<0.0030	<0.0030	<0.0029	<0.0029	<0.0029	<0.0042	0.0055*	0.02	0.2
Benzo(b)fluoranthene	<0.0052	<0.0052	<0.0052	<0.0036	<0.0036	<0.0034	<0.0034	<0.0034	<0.0045	0.016*	0.02	0.2
Chrysene	<0.0071	<0.0071	<0.0071	<0.0037	<0.0037	<0.0035	<0.0035	0.0048	<0.0046	0.010*	0.02	0.2
Fluoranthene	<0.0054	<0.0054	<0.0054	<0.0047	<0.0047	<0.0044	<0.0044	0.0073*	0.0039*	0.0047*	80	400
Fluorene	<0.0063	<0.0063	<0.0063	<0.0051	<0.0051	<0.0048	<0.0048	<0.0052	0.042*	<0.0030	80	400
Pyrene	<0.0068	<0.0068	<0.0068	<0.0050	<0.0050	<0.0047	<0.0047	0.0070*	<0.0041	0.0054*	50	250
Total PAH List	0.032	0.041	<0.017	0.014*	0.0081*	0.0197*	0.0096*	0.0364*	0.231	0.078*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- = Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

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1.3 = concentration > PAL

9.9 = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-20										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	16.0*	<19.8	<19.6	<19.4								NS	NS
Gasoline Range Organics	<32.4	<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<0.41	<0.50	<0.50	<0.50								0.5	5
Toluene	<0.67	<0.44	<0.50	<0.50								160	800
Ethylbenzene	<0.54	<0.50	<0.50	<0.50								140	700
Xylenes	<2.63	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17								12	60
Trimethylbenzenes <sup>1</sup>	<1.80	<3.07	<1.0	<1.0								96	480
1,2-Dichloroethane	<0.36	<0.48	<0.17	<0.17								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	<0.0033	<0.0046	NA	NA								10	100
Anthracene	<0.0048	<0.0056	NA	NA								600	3,000
Benzo(a)Pyrene	0.0065*	<0.0095	NA	NA								0.02	0.2
Benzo(b)fluoranthene	0.012*	<0.0075	NA	NA								0.02	0.2
Chrysene	0.012*	<0.0072	NA	NA								0.02	0.2
Fluoranthene	0.011*	<0.0052	NA	NA								80	400
Fluorene	<0.0038	<0.0065	NA	NA								80	400
Pyrene	0.010*	<0.0053	NA	NA								50	250
Total PAH List	0.0969*	0.011*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

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NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

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\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

NA = Parameter was not analyzed

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-21										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	-	28*	110	230*	<10.1	284	69.4	<10.1	<10.5	26.4*	NS	NS
Gasoline Range Organics	<26.2	<26.2	<26.2	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	<32.4	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	0.5	5
Toluene	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	800**
Ethylbenzene	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	140	700
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	2000**
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	12	60
Trimethylbenzenes <sup>1</sup>	<1.96	<1.80	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	96	480
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	*0.021	<0.016	0.14	0.035*	0.52	0.013*	0.0097*	0.21	<0.0045	0.0050*	10	100
Anthracene	<0.0065	<0.0065	<0.0065	<0.0065	<0.0058	<0.0057	<0.0057	<0.0057	<0.0026	<0.0027	600	3,000
Benzo(a)Pyrene	<0.0054	<0.0054	<0.0054	<0.0032	<0.0029	<0.0029	<0.0029	<0.0029	<0.0043	<0.0044	0.02	0.2
Benzo(b)fluoranthene	<0.0051	<0.0051	<0.0051	<0.0038	<0.0035	<0.0034	<0.0034	<0.0034	<0.0045	0.0084*	0.02	0.2
Chrysene	<0.0070	<0.0070	<0.0070	<0.0039	<0.0035	0.0073*	<0.0035	<0.0035	<0.0046	0.0057*	0.02	0.2
Fluoranthene	<0.0053	<0.0053	<0.0053	<0.0050	<0.0045	<0.0044	<0.0044	<0.0044	0.0040*	0.0046*	80	400
Fluorene	<0.0063	<0.0063	<0.0063	<0.0054	<0.0049	<0.0048	<0.0048	<0.0048	<0.0030	<0.0031	80	400
Pyrene	<0.0068	<0.0068	<0.0068	<0.0054	<0.0048	<0.0047	<0.0047	<0.0047	<0.0042	0.0051*	50	250
Total PAH List	0.021*	0.0077	0.14	0.035*	0.8195	0.0546*	0.0283*	0.321	0.015*	0.053*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- = Not sampled

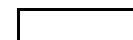
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**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-21										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	16.5*	<19.8	<19.4	<21.0								NS	NS
Gasoline Range Organics	<32.4	<34.9	<29.6	<29.6								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<0.41	<0.50	<0.50	<0.50								0.5	5
Toluene	<0.67	<0.44	<0.50	<0.50								160	800
Ethylbenzene	<0.54	<0.50	<0.50	<0.50								140	700
Xylenes	<2.63	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17								12	60
Trimethylbenzenes <sup>1</sup>	<1.8	<3.07	<1.0	<1.0								96	480
1,2-Dichloroethane	<0.37	<0.48	<0.17	<0.17								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	0.0043*	<0.0046	NA	NA								10	100
Anthracene	<0.0049	<0.0055	NA	NA								600	3,000
Benzo(a)Pyrene	<0.0050	<0.0095	NA	NA								0.02	0.2
Benzo(b)fluoranthene	<0.0068	<0.0074	NA	NA								0.02	0.2
Chrysene	<0.0062	<0.0071	NA	NA								0.02	0.2
Fluoranthene	0.0063*	<0.0052	NA	NA								80	400
Fluorene	<0.0039	<0.0064	NA	NA								80	400
Pyrene	0.0070*	<0.0053	NA	NA								50	250
Total PAH List	0.0296*	0.011*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

NA = Parameter was not analyzed

1.3 = concentration > PAL

9.9 = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-22										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	1800	2000	3400	2800	1450	7490	frozen	4180	4420	3500	NS	NS
Gasoline Range Organics	59500	30600	36600	45700	50300	62900	frozen	60400	45500	44900	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	14200	13600	14000	15700	16000	15100	frozen	13800	14700	14300	0.5	5
Toluene	10400	4600	7400	7870	11300	11500	frozen	14100	11000	8330	160**	800**
Ethylbenzene	2220	1910	2140	2590	2460	2980	frozen	2570	2510	2350	140	700
Xylenes	5760	2081	4610	5450	7150	8860	frozen	10160	7960	5560	400**	2000**
Methyl-tert-butyl-ether	<76.2	<61	<122	<122	<122	<122	frozen	<61	<76.2	<122	12	60
Trimethylbenzenes <sup>1</sup>	1226	691	1010	1319	1308	1781	frozen	1429	1402	425	96	480
1,2-Dichloroethane	<45.0	<36	<72.0	<72.0	<72	<72.0	frozen	<36	<45.0	<150	0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	233	193	204	259	281	113	frozen	370	183	465	10	100
Anthracene	<0.65	<2.6	<0.13	<0.65	<0.11	<0.57	frozen	<0.57	<1.3	<2.6	600	3,000
Benzo(a)Pyrene	<0.54	<2.2	<0.11	<0.32	<0.057	<0.29	frozen	<0.29	<2.1	<4.3	0.02	0.2
Benzo(b)fluoranthene	<0.51	<2.1	<0.10	<0.38	<0.068	<0.34	frozen	<0.34	<2.3	<4.5	0.02	0.2
Chrysene	<0.70	<2.8	<0.14	<0.39	<0.070	<0.35	frozen	<0.35	<2.3	<4.6	0.02	0.2
Fluoranthene	<0.53	<2.1	<0.11	<0.50	<0.088	<0.44	frozen	<0.44	<1.6	<3.3	80	400
Fluorene	<0.63	<2.5	<0.13	<0.54	<0.095	<0.48	frozen	<0.48	<1.5	<3.0	80	400
Pyrene	<0.68	<2.7	<0.14	<0.54	<0.095	<0.47	frozen	<0.47	<2.1	<4.2	50	250
<b>Total PAH List</b>	350.7	273.4	204	259	424.7	171.9	frozen	571.9	286.4	746	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

\*\* = Revised NR 140 values effective December 2011.

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-22										NR 140 PAL	NR 140 ES	
	DATE	2/21/13	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	-	2990	4690	2860								NS	NS
Gasoline Range Organics	-	45600	55200	53800								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	-	<b>12800</b>	<b>12300</b>	<b>12800</b>								0.5	<b>5</b>
Toluene	-	<b>10600</b>	<b>13600</b>	<b>13500</b>								160	<b>800</b>
Ethylbenzene	-	<b>2430</b>	<b>2630</b>	<b>2640</b>								140	<b>700</b>
Xylenes	-	<b>8000</b>	<b>9390</b>	<b>10070</b>								400	<b>2,000</b>
Methyl-tert-butyl-ether	-	<b>&lt;98.7</b>	<b>&lt;21.8</b>	<b>&lt;34.8</b>								12	<b>60</b>
Trimethylbenzenes <sup>1</sup>	-	<b>&lt;1700</b>	<b>1632</b>	<b>1754</b>								96	<b>480</b>
1,2-Dichloroethane	-	<b>&lt;95.3</b>	<b>&lt;21.0</b>	<b>&lt;33.6</b>								0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	-	<b>319</b>	NA	NA								10	<b>100</b>
Anthracene	-	<5.8	NA	NA								600	<b>3,000</b>
Benzo(a)Pyrene	-	<9.9	NA	NA								0.02	<b>0.2</b>
Benzo(b)fluoranthene	-	<7.8	NA	NA								0.02	<b>0.2</b>
Chrysene	-	<7.5	NA	NA								0.02	<b>0.2</b>
Fluoranthene	-	<5.4	NA	NA								80	<b>400</b>
Fluorene	-	<6.7	NA	NA								80	<b>400</b>
Pyrene	-	<5.5	NA	NA								50	<b>250</b>
<b>Total PAH List</b>	-	504*	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

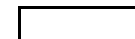
- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES





**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-23										NR 140 PAL	NR 140 ES	
DATE	8/4/15												
<b>PARAMETER</b>													
Diesel Range Organics	82.5											NS	NS
Gasoline Range Organics	<29.6											NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<0.50											0.5	5
Toluene	<0.50											160	800
Ethylbenzene	<0.50											140	700
Xylenes	<1.50											400	2,000
Methyl-tert-butyl-ether	<0.17											12	60
Trimethylbenzenes <sup>1</sup>	<1.0											96	480
1,2-Dichloroethane	<0.17											0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	NA											10	100
Anthracene	NA											600	3,000
Benzo(a)Pyrene	NA											0.02	0.2
Benzo(b)fluoranthene	NA											0.02	0.2
Chrysene	NA											0.02	0.2
Fluoranthene	NA											80	400
Fluorene	NA											80	400
Pyrene	NA											50	250
Total PAH List	NA											NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-24										NR 140 PAL	NR 140 ES	
DATE	7/23/15												
PARAMETER													
Diesel Range Organics	56.1											NS	NS
Gasoline Range Organics	<29.6											NS	NS
VOLATILE ORGANIC COMPOUNDS													
Benzene	<0.50											0.5	5
Toluene	<0.50											160	800
Ethylbenzene	<0.50											140	700
Xylenes	<1.50											400	2,000
Methyl-tert-butyl-ether	<0.17											12	60
Trimethylbenzenes <sup>1</sup>	<1.0											96	480
1,2-Dichloroethane	<0.17											0.5	5
POLYNUCLEAR AROMATIC HYDROCARBONS													
Naphthalene	NA											10	100
Anthracene	NA											600	3,000
Benzo(a)Pyrene	NA											0.02	0.2
Benzo(b)fluoranthene	NA											0.02	0.2
Chrysene	NA											0.02	0.2
Fluoranthene	NA											80	400
Fluorene	NA											80	400
Pyrene	NA											50	250
Total PAH List	NA											NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	MW-25										NR 140 PAL	NR 140 ES	
DATE	7/23/15												
PARAMETER													
Diesel Range Organics	154.0											NS	NS
Gasoline Range Organics	<29.6											NS	NS
VOLATILE ORGANIC COMPOUNDS													
Benzene	<0.50											0.5	5
Toluene	<0.50											160	800
Ethylbenzene	<0.50											140	700
Xylenes	<1.50											400	2,000
Methyl-tert-butyl-ether	<0.17											12	60
Trimethylbenzenes <sup>1</sup>	<1.0											96	480
1,2-Dichloroethane	<0.17											0.5	5
POLYNUCLEAR AROMATIC HYDROCARBONS													
Naphthalene	NA											10	100
Anthracene	NA											600	3,000
Benzo(a)Pyrene	NA											0.02	0.2
Benzo(b)fluoranthene	NA											0.02	0.2
Chrysene	NA											0.02	0.2
Fluoranthene	NA											80	400
Fluorene	NA											80	400
Pyrene	NA											50	250
Total PAH List	NA											NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

1.3 = concentration > PAL

9.9 = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	PZ-10										NR 140 PAL	NR 140 ES
	DATE	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12		
<b>PARAMETER</b>												
Diesel Range Organics	490	130	950	360	817	409	352	91.6	1,590	129	NS	NS
Gasoline Range Organics	85.8	<26.2	201	40.3	125	100	129	74.1	167	165	NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>												
Benzene	<b>11.8</b>	1.1	<b>16.2</b>	<b>5.4</b>	<b>21.3</b>	<b>6.8</b>	<b>14.9</b>	<b>10.3</b>	<b>26.3</b>	<b>22.6</b>	0.5	<b>5</b>
Toluene	1.3	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	160**	<b>800**</b>
Ethylbenzene	1.2	<0.54	2.8	<0.54	<0.54	0.70*	<0.54	<0.54	0.62*	2.0	140	<b>700</b>
Xylenes	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	<2.63	400**	<b>2000**</b>
Methyl-tert-butyl-ether	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	<0.61	12	<b>60</b>
Trimethylbenzenes <sup>1</sup>	<1.80	<1.80	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	96	<b>480</b>
1,2-Dichloroethane	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	<b>5</b>
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>												
Naphthalene	0.14	0.17	0.15	0.089	0.10	0.053	0.2	0.13	0.13	0.41	10	<b>100</b>
Anthracene	0.058	0.011*	<0.0065	0.0095*	0.011*	0.0067*	0.0071*	<0.0058	0.0045*	0.024*	600	<b>3,000</b>
Benzo(a)Pyrene	<0.0054	<0.0054	<0.0054	<0.0030	<0.0029	<0.0029	<0.0029	<0.0029	<0.0042	<0.0051	0.02	<b>0.2</b>
Benzo(b)fluoranthene	<0.0051	0.0059*	<0.0051	<0.0036	<0.0034	<0.0034	<0.0034	<0.0034	<0.0045	0.0096*	0.02	<b>0.2</b>
Chrysene	<0.0070	0.0086*	<0.0070	<0.0037	<0.0035	<0.0035	<0.0035	<0.0035	<0.0046	0.010*	0.02	<b>0.2</b>
Fluoranthene	<0.0053	0.0074*	<0.0053	<0.0047	0.0063*	<0.0044	<0.0044	<0.0044	0.0039*	0.0094*	80	<b>400</b>
Fluorene	0.15	0.17	0.13	0.13	0.16	0.082	0.11	0.1	0.12	0.42	80	<b>400</b>
Pyrene	<0.0068	0.011*	<0.0068	0.0077*	0.0056*	<0.0047	0.0058*	<0.0048	<0.0041	0.011*	50	<b>250</b>
<b>Total PAH List</b>	1.064	0.7195	0.18	0.2362	0.6779	0.2724	0.8301	0.3737	0.5727	1.7464*	NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

\*\* = Revised NR 140 values effective December 2011.

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES



**TABLE A.1. Groundwater Analytical Table(s)  
GROUNDWATER CHEMISTRY  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825**

SAMPLE LOCATION	PZ-10										NR 140 PAL	NR 140 ES	
	DATE	4/24/12	8/22/13	7/9/14	7/23/15								
<b>PARAMETER</b>													
Diesel Range Organics	1,590	184	53.9	203								NS	NS
Gasoline Range Organics	167	63.7	186	147								NS	NS
<b>VOLATILE ORGANIC COMPOUNDS</b>													
Benzene	<b>26.3</b>	<b>15.5</b>	<b>20.7</b>	<b>5.1</b>								0.5	5
Toluene	<0.67	<0.44	<0.50	<0.50								160	800
Ethylbenzene	0.62*	<0.50	1.5	0.68*								140	700
Xylenes	<2.63	<1.32	<1.50	<1.50								400	2,000
Methyl-tert-butyl-ether	<0.61	<0.49	<0.17	<0.17								12	60
Trimethylbenzenes <sup>1</sup>	<1.8	<3.07	<1.0	<1.0								96	480
1,2-Dichloroethane	<0.36	<0.48	0.39*	<0.17								0.5	5
<b>POLYNUCLEAR AROMATIC HYDROCARBONS</b>													
Naphthalene	0.13	0.18	NA	NA								10	100
Anthracene	0.0045*	<0.0060	NA	NA								600	3,000
Benzo(a)Pyrene	<0.0042	<0.010	NA	NA								0.02	0.2
Benzo(b)fluoranthene	<0.0045	<0.0080	NA	NA								0.02	0.2
Chrysene	<0.0046	<0.0077	NA	NA								0.02	0.2
Fluoranthene	0.0039*	<0.0056	NA	NA								80	400
Fluorene	0.12	0.096	NA	NA								80	400
Pyrene	<0.0041	<0.0057	NA	NA								50	250
<b>Total PAH List</b>	0.5727	0.442	NA	NA								NS	NS

All concentrations in ppb (ug/l)

PAL = WDNR Preventative Action Limit

ES = WDNR Enforcement Standard

NS = No applicable standard

<sup>1</sup> = Combined 1,2,4- & 1,3,5- trimethylbenzene compounds

- =Not sampled

< = Parameter was not detected and if present is less than the limit of detection reported

\* = Value is < the laboratory limit of quantitation, but reported per WDNR guidelines (3/1/96)

NA = Parameter was not analyzed

**1.3** = concentration > PAL

**9.9** = concentration > PAL & ES

## **Table A.2.**

# **Soil Analytical Results Table(s)**

**All sample results are in mg/kg, and all samples were collected above the saturated zone.**



**TABLE A.2**  
**Soil Analytical Results Table**  
**ADDITIVE TANK 338 SPILL - JUNCTION CITY FUEL TERMINAL**  
**FLINT HILLS RESOURCES PINE BEND, LLC - JUNCTION CITY, WISCONSIN**  
**TETRA TECH #114-340852**

SOIL SAMPLE ID	S-1	S-2	S-3	S-4	S-5	S-6	S-7	S-8	S-9	S-10	NR 720 Baseline Not- To-Exceed Groundwater Pathway RCLs (mg/kg)	NR 720 Baseline Not- To-Exceed Industrial Direct Contact RCLs (mg/kg)	
DATE	5/29/14												
DEPTH (bls)	- 1 ft.	- 1 ft.	- 1 ft.	-1.5 ft	- 1 ft.	- 1 ft.	- 1 ft.	- 2 ft	-2.5 ft	-1.5 ft			
MATRIX TYPE	sandy clay	sandy clay	sandy clay	sandy clay	sandy clay	sandy clay	sandy clay	sandy clay	sand fill	sandy clay			
PID Measurement	4	37	7	7	6	8	23	20	200+	6			
PARAMETER (mg/kg)													
VOLATILE ORGANIC COMPOUNDS													
Benzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<1.0	<0.025	<b>0.0051</b>	<b>7.41</b>	
Toluene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<1.0	<0.025	<b>1.1072</b>	<b>818</b>	
Ethylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.0386*	<b>35.4</b>	<0.025	<b>1.57</b>	<b>37</b>	
Total Xylenes	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.265	<b>204.5</b>	<0.050	<b>3.94</b>	<b>258</b>	
1,2,4 - TMB	0.0515*	<0.025	<0.025	0.0475*	0.0474*	0.0318*	<0.025	0.437	121.0	<0.025	---	<b>219</b>	
1,3,5 - TMB	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.0593*	16.0	<0.025	---	<b>182</b>	
TMB (Total)	0.0515*	<0.025	<0.025	0.0475*	0.0474*	0.0318*	<0.025	0.4963	<b>137.0</b>	<0.025	<b>1.3793</b>	---	
MTBE	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<1.0	<0.025	<b>0.027</b>	<b>293</b>	
Naphthalene	<0.040	<0.040	<0.040	0.172*	0.0527*	0.0636*	0.0594*	0.522	<b>49.6</b>	<0.040	<b>0.6587</b>	<b>26</b>	
n-Butylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.152	<1.0	<0.025	---	<b>108</b>	
sec-Butylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	2.040*	<0.025	---	<b>145</b>	
Isopropylbenzene (Cumene)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	1.590*	<0.025	---	<b>268</b>	
p-Isopropyltoluene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	1.830*	<0.025	---	<b>162</b>	
n-Propylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	5.8	<0.025	---	<b>264</b>	

SOIL STOCKPILE	#1	#2	Waste Characterization Standards
DATE SAMPLED	5/29/14		
PARAMETER			
TCLP-Benzene (mg/L)	<0.005	<0.005	TCLP- Benzene Limit: 0.5 mg/L
DRO ( mg/kg)	3900	5520	---
GRO (mg/kg)	5270	4390	---
Flash Point	>210 deg F	>210 deg F	Characteristic Hazardous Waste Limit: >140 deg F

bls = below land surface (below original grade)

all values are in mg/kg = milligrams per kilogram (parts-per-million) unless otherwise noted

--- = No standard currently applicable

< = Parameter was not detected and if present, is less than the limit of detection reported

\* = value is between the laboratory limit of detection and limit of quantitation but reported per WDNR guidelines dated 3/1/96

<b>Bold</b>	= concentration > not-to-exceed groundwater pathway soil standard
<b>Bold</b>	= concentration > not-to-exceed direct contact soil standards



**TABLE A.2**  
**Soil Analytical Results Table**  
**ADDITIVE TANK 338 SPILL - JUNCTION CITY FUEL TERMINAL**  
**FLINT HILLS RESOURCES PINE BEND, LLC - JUNCTION CITY, WISCONSIN**  
**TETRA TECH #114-340852**

SOIL SAMPLE ID	S-11	S-12	S-13	S-14	S-15	S-16	S-17	S-18	S-19	S-20	NR 720 Baseline Not- To-Exceed Groundwater Pathway RCLs (mg/kg)	NR 720 Baseline Not- To-Exceed Industrial Direct Contact RCLs (mg/kg)
DATE	5/29/14					7/2/14						
DEPTH (bls)	-1.5 ft	-1.5 ft	- 1 ft	-2.5 ft	-1.5 ft	-2 ft	-2 ft	-2 ft	-2 ft	-2 ft		
MATRIX TYPE	sandy clay	sandy clay	sandy clay	sand fill	sandy clay	sand fill	sandy clay	sandy clay	sandy clay	sandy clay		
PID Measurement	36	7	172	75	8	0.3	0.3	0.4	0.2	0.3		
<b>PARAMETER (mg/kg)</b>												
<b>VOLATILE ORGANIC COMPOUNDS</b>												
<b>Benzene</b>	<0.125	<0.025	<0.50	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>0.0051</b>	<b>7.41</b>
<b>Toluene</b>	<0.125	<0.025	<0.50	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>1.1072</b>	<b>818</b>
<b>Ethylbenzene</b>	0.918	<0.025	<b>11.5</b>	<b>9.5</b>	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>1.57</b>	<b>37</b>
<b>Total Xylenes</b>	<b>6.34</b>	0.2146	<b>228.0</b>	<b>58.3</b>	0.1453*	<0.075	<0.075	<0.075	<0.075	<0.075	<b>3.94</b>	<b>258</b>
<b>1,2,4 - TMB</b>	6.31	0.193	47.5	40.1	0.222	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>219</b>
<b>1,3,5 - TMB</b>	0.834	<0.025	6.24	5.37	0.0458*	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>182</b>
<b>TMB (Total)</b>	<b>7.144</b>	0.193	<b>53.74</b>	<b>45.47</b>	0.2678	<0.050	<0.050	<0.050	<0.050	<0.050	<b>1.3793</b>	---
<b>MTBE</b>	<0.125	<0.025	<0.125	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>0.027</b>	<b>293</b>
<b>Naphthalene</b>	<b>3.20</b>	0.197*	<b>3.2</b>	<b>14.2</b>	0.327	<0.040	<0.040	<0.040	<0.040	<0.040	<b>0.6587</b>	<b>26</b>
<b>n-Butylbenzene</b>	<0.125	<0.025	<0.50	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>108</b>
<b>sec-Butylbenzene</b>	<0.125	<0.025	0.767*	0.728	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>145</b>
<b>Isopropylbenzene (Cumene)</b>	<0.125	<0.025	<0.50	0.489*	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>268</b>
<b>p-Isopropyltoluene</b>	<0.125	<0.025	<0.50	0.638*	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>162</b>
<b>n-Propylbenzene</b>	0.241*	<0.025	2.120	1.760	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>264</b>

bls = below land surface (below original grade)

all values are in mg/kg = milligrams per kilogram (parts-per-million) unless otherwise noted

--- = No standard currently applicable

< = Parameter was not detected and if present, is less than the limit of detection reported

\* = value is between the laboratory limit of detection and limit of quantitation but reported per WDNR guidelines dated 3/1/96

<b>Bold</b>	= concentration > not-to-exceed groundwater pathway soil standard
<b>Bold</b>	= concentration > not-to-exceed direct contact soil standards



**TABLE A.2**  
**SOIL ANALYTICAL RESULTS TABLE (NOT PREVIOUSLY PROVIDED)**  
**ADDITIVE TANK 338 SPILL - JUNCTION CITY FUEL TERMINAL**  
**FLINT HILLS RESOURCES PINE BEND, LLC - JUNCTION CITY, WISCONSIN**  
**TETRA TECH #114-340852**

SOIL SAMPLE ID	S-9R	S-11R	S-13R	S-14R	S-21	S-22	S-23	S-24	NR 720 Baseline Not- To-Exceed Groundwater Pathway RCLs (mg/kg)	NR 720 Baseline Not- To-Exceed Industrial Direct Contact RCLs (mg/kg)
DATE	4/23/15									
DEPTH (bls)	- 3-4 ft.	- 3-4 ft.	- 3-4 ft.	-3-4 ft	- 3-4 ft.	- 3.5-4.5 ft.	- 5-6 ft.	- 3-4 ft		
MATRIX TYPE	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay	Sandy Clay		
PID Measurement	5	0	0	0	8	0	0	0		
PARAMETER (mg/kg)										
VOLATILE ORGANIC COMPOUNDS										
Benzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>0.0051</b>	<b>7.41</b>
Toluene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>1.1072</b>	<b>818</b>
Ethylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>1.57</b>	<b>37</b>
Total Xylenes	<0.075	<0.075	<0.075	<0.075	.517	<0.075	<0.075	<0.075	<b>3.94</b>	<b>258</b>
1,2,4 - TMB	<0.025	<0.025	<0.025	<0.025	.540	<0.025	<0.025	<0.025	---	<b>219</b>
1,3,5 - TMB	<0.025	<0.025	<0.025	<0.025	.078	<0.025	<0.025	<0.025	---	<b>182</b>
TMB (Total)	<0.050	<0.050	<0.050	<0.050	.618	<0.050	<0.025	<0.050	<b>1.3793</b>	---
MTBE	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<b>0.027</b>	<b>293</b>
Naphthalene	<0.040	<0.040	<0.040	<0.040	0.238*	<0.040	<0.040	<0.040	<b>0.6587</b>	<b>26</b>
n-Butylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>108</b>
sec-Butylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>145</b>
Isopropylbenzene (Cumene)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>268</b>
p-Isopropyltoluene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>162</b>
n-Propylbenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	---	<b>264</b>
2-Ethyl Hexyl Nitrate	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	---

bls = below land surface (below original grade)

all values are in mg/kg = milligrams per kilogram (parts-per-million) unless otherwise noted

--- = No standard currently applicable

< = Parameter was not detected and if present, is less than the limit of detection reported

\* = value is between the laboratory limit of detection and limit of quantitation but reported per WDNR guidelines dated 3/1/96

<b>Bold</b>	= > GW RCL
<b>Bold</b>	= > DC RCL



## **Table A.3.**

# **Residual Soil Contamination Table(s)**

**All sample results are in mg/kg, and all samples were collected above the saturated zone.**



**TABLE A.3  
RESIDUAL SOIL CONTAMINATION TABLE  
ADDITIVE TANK 338 SPILL - JUNCTION CITY FUEL TERMINAL  
FLINT HILLS RESOURCES PINE BEND, LLC - JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340852**

SOIL SAMPLE ID	S-11	S-13	S-14	S-9	NR 720 Baseline Not-To-Exceed Groundwater Pathway RCLs (mg/kg)	NR 720 Baseline Not-To-Exceed Industrial Direct Contact RCLs (mg/kg)
DATE	5/29/14					
DEPTH (bls)	-1.5 ft	- 1 ft	-2.5 ft	-2.5 ft		
MATRIX TYPE	sandy clay	sandy clay	sand fill	sand fill		
PID Measurement	36	172	75	200+		
PARAMETER (mg/kg)						
VOLATILE ORGANIC COMPOUNDS						
Benzene	<0.125	<0.50	<0.25	<1.0	<b>0.0051</b>	<b>7.41</b>
Toluene	<0.125	<0.50	<0.25	<1.0	<b>1.1072</b>	<b>818</b>
Ethylbenzene	0.918	<b>11.5</b>	<b>9.5</b>	<b>35.4</b>	<b>1.57</b>	<b>37</b>
Total Xylenes	<b>6.34</b>	<b>228.0</b>	<b>58.3</b>	<b>204.5</b>	<b>3.94</b>	<b>258</b>
1,2,4 - TMB	6.31	47.5	40.1	121.0	---	<b>219</b>
1,3,5 - TMB	0.834	6.24	5.37	16.0	---	<b>182</b>
TMB (Total)	<b>7.144</b>	<b>53.74</b>	<b>45.47</b>	<b>137.0</b>	<b>1.3793</b>	---
MTBE	<0.125	<0.125	<0.25	<1.0	<b>0.027</b>	<b>293</b>
Naphthalene	<b>3.20</b>	<b>3.2</b>	<b>14.2</b>	<b>49.6</b>	<b>0.6587</b>	<b>26</b>
n-Butylbenzene	<0.125	<0.50	<0.25	<1.0	---	<b>108</b>
sec-Butylbenzene	<0.125	0.767*	0.728	2.040*	---	<b>145</b>
Isopropylbenzene (Cumene)	<0.125	<0.50	0.489*	1.590*	---	<b>268</b>
p-Isopropyltoluene	<0.125	<0.50	0.638*	1.830*	---	<b>162</b>
n-Propylbenzene	0.241*	2.120	1.760	5.8	---	<b>264</b>

bls = below land surface (below original grade)

all values are in mg/kg = milligrams per kilogram (parts-per-million) unless otherwise noted

--- = No standard currently applicable

< = Parameter was not detected and if present, is less than the limit of detection reported

\* = value is between the laboratory limit of detection and limit of quantitation but reported per WDNR guidelines dated 3/1/96

**Bold** = concentration > not-to-exceed groundwater pathway soil standard  
**Bold** = concentration > not-to-exceed direct contact soil standards

## Table A.4.

### Vapor Analytical Table(s)

**Not Applicable,** Vapor was not addressed because the office is not within the area of the spill



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**Table A.5.**  
**Other Media of Concern**  
**(e.g. Sediment or Surface Water)**

**Not Applicable.** Surface water and sediment is not a receptor of concern



# **Table A.6.**

## **Water Level Elevations**





**TABLE A.6  
WATER LEVEL ELEVATIONS  
FLINT HILLS RESOURCES PINE BEND, LLC  
JUNCTION CITY, WISCONSIN  
TETRA TECH #114-340825.400**

Location	Reference Elevation (toc)	Well Depth (ft bls)	5/1/08	12/23/08	5/19/09	12/1/09	5/27/10	11/24/10	2/17/11	8/24/11	4/24/12	12/4/12	2/21/13	8/22/13	7/9/14	7/23/15	8/4/15
MW-1	1123.10	18.0	1115.77	1111.52	1114.00	1113.73	1113.05	1114.20	1113.31	1113.42	1114.25	1113.19	1111.97	1113.19	1113.39	1114.09	---
MW-3	1132.68	13.5	1128.74	1124.76	1127.20	1126.72	1125.76	1127.58	1123.50	1125.51	1127.36	1125.93	1124.93	1125.37	1125.93	1126.42	---
MW-4	1127.74	18.0	1117.50	1113.19	1115.79	1115.52	1115.41	1110.09	1114.94	1115.89	1115.61	1114.02	1113.56	1115.22	1115.56	1116.09	---
MW-5	1128.52	13.0	1125.08	1122.97	1124.07	1124.69	1124.37	1124.92	1124.82	1124.54	1125.02	1125.02	FROZEN	1124.07	1124.66	1123.96	---
MW-6	1128.82	13.0	1125.62	1123.07	1123.39	1124.02	1122.41	1124.22	1123.52	1122.80	1123.92	1123.98	1122.91	1123.06	1123.32	1122.67	---
MW-9	1124.48	13.0	1120.44	1116.63	1120.13	1120.81	1118.78	1120.48	FROZEN	1118.20	1120.56	1119.91	FROZEN	1118.26	1118.33	1118.63	---
MW-10	1117.81	13.0	1112.61	1107.66	1111.51	1106.65	1111.06	1112.01	1111.42	1109.86	1112.02	1109.87	1110.06	1109.11	1110.31	1110.81	---
MW-14	1127.68	13.0	1123.20	1119.96	1122.60	1122.76	1123.03	1124.48	FROZEN	1122.03	1124.11	1122.42	FROZEN	1121.93	1122.19	1122.29	---
MW-19	1123.41	14.0	1119.25	1118.11	1118.34	1118.94	1117.84	1119.34	1119.79	1118.36	1118.59	1118.75	1118.39	1117.98	1118.60	1118.15	---
MW-20	1121.86	14.0	1116.14	1112.41	1114.43	1115.01	1114.15	1113.91	1115.20	1114.48	1115.56	1113.38	1112.13	1112.52	1113.64	1113.95	---
MW-21	1115.79	14.0	1111.86	1108.26	1110.53	1110.90	1109.53	1111.37	1110.04	1109.93	1110.89	1107.64	1110.19	1107.11	1108.16	1110.34	---
MW-22	1124.42	12.0	1120.25	1118.27	1120.02	1120.40	1120.36	1120.97	FROZEN	1119.78	1120.27	1119.81	FROZEN	1117.58	1116.50	1119.23	---
MW-23	1128.90	8.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1123.35
MW-24	1136.64	12.1	---	---	---	---	---	---	---	---	---	---	---	---	---	1131.33	---
MW-25	1138.17	7.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1130.6	---
PZ-10	1121.94	30.0	1116.12	1112.80	1114.73	1114.98	1114.15	1115.64	1115.14	1114.69	1115.67	1117.25	1113.09	1117.09	1116.73	1114.83	---

Elevations are expressed in feet above Mean Sea Level

toc = top of casing

ft bls = feet below land surface

## **Table A.7.**

### **Other**

- **NA, No engineered remedial system was installed as part of this spill clean up.**



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# **Maps, Figures and Photos (Attachment B)**



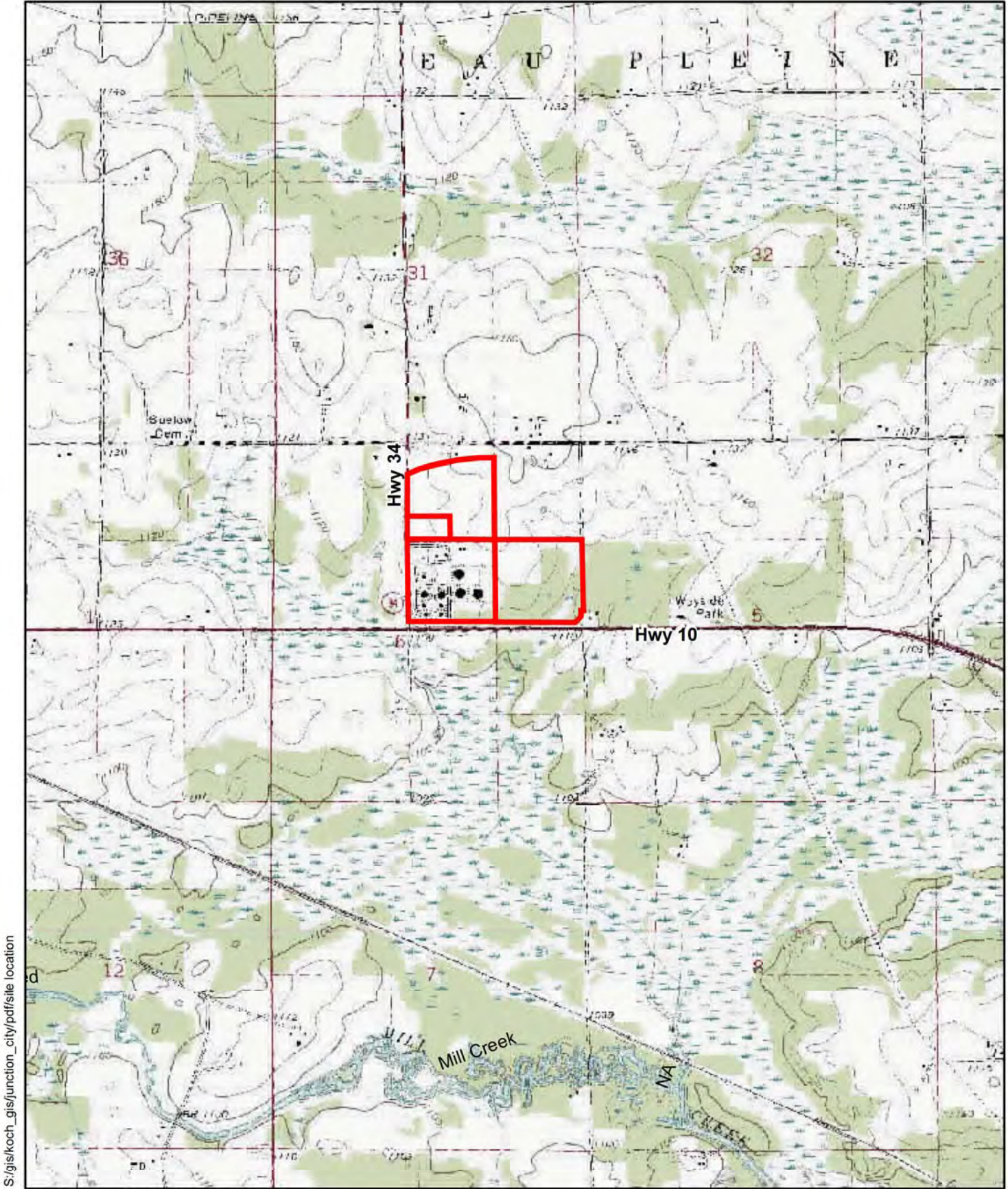
TETRA TECH, INC.

# **B.1. Location Maps**



# **Figure B.1.a.**

## **Location Map**



S:\gis\koch\_gis\junction\_cty\pdf\site location

Tetra Tech Project No. 340852

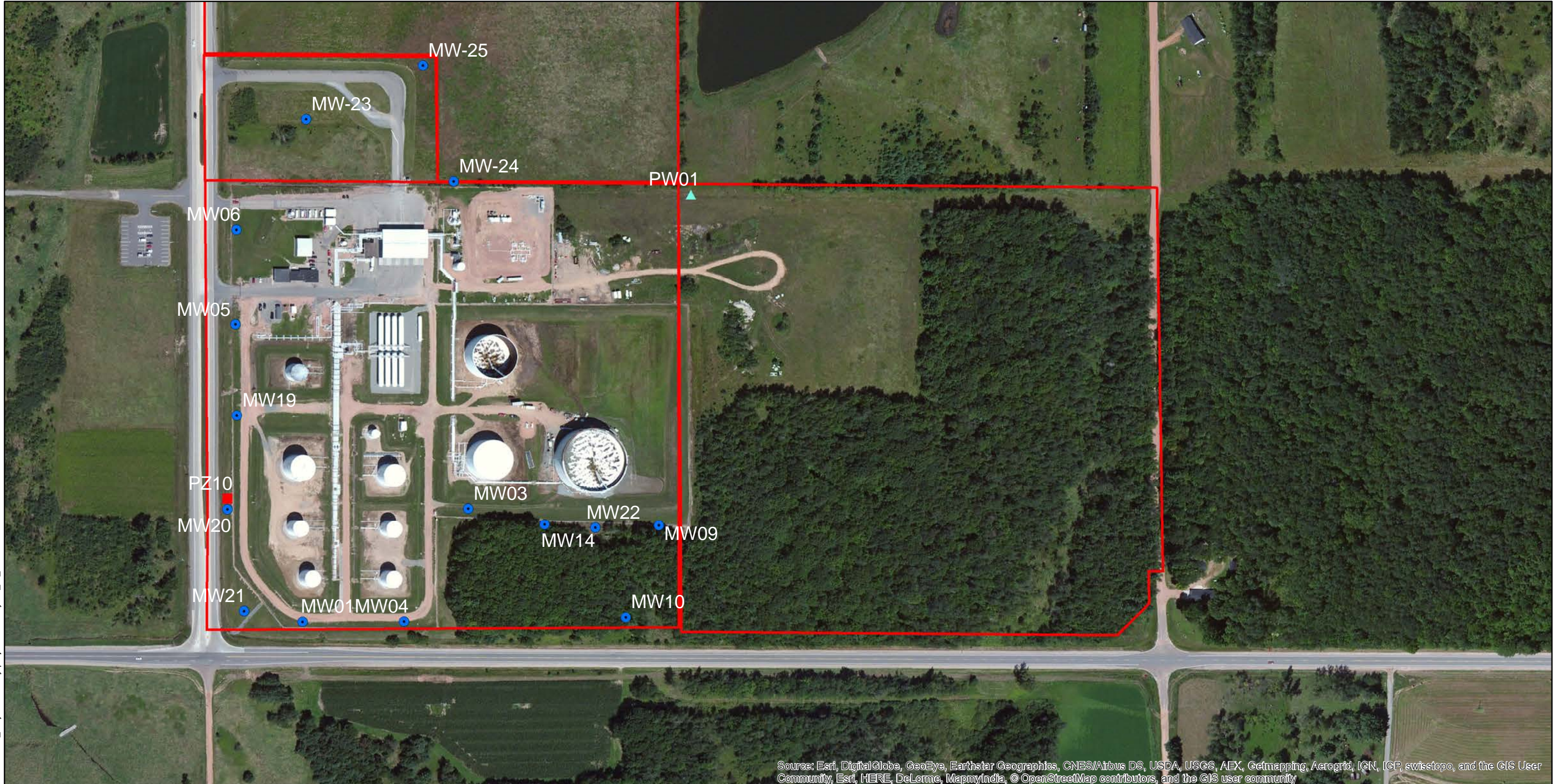
August 2015



**Figure B.1.a**  
**Site Location Map**  
**Junction City Bulk Fuel Terminal**  
**Flint Hills Resources Pine Bend, LLC**  
**2267 County Highway HH**  
**Junction City, WI 54443**

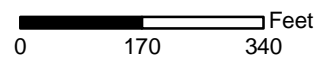


**Figure B.1.b.**  
**Detailed Site Map**



S:\env\koch\_fhr\junction city\projects\site layout\_Tt\_2011

August 2015



- Legend**
- Active Monitoring Well
  - Active Piezometer
  - ▲ Potable Well
  - ▭ Property Boundary

**Figure B.1.b**  
**Detailed Site Map**  
**Junction City Fuel Terminal**  
**Flint Hills Resources Pine Bend, LLC**  
**Portage County, Wisconsin**

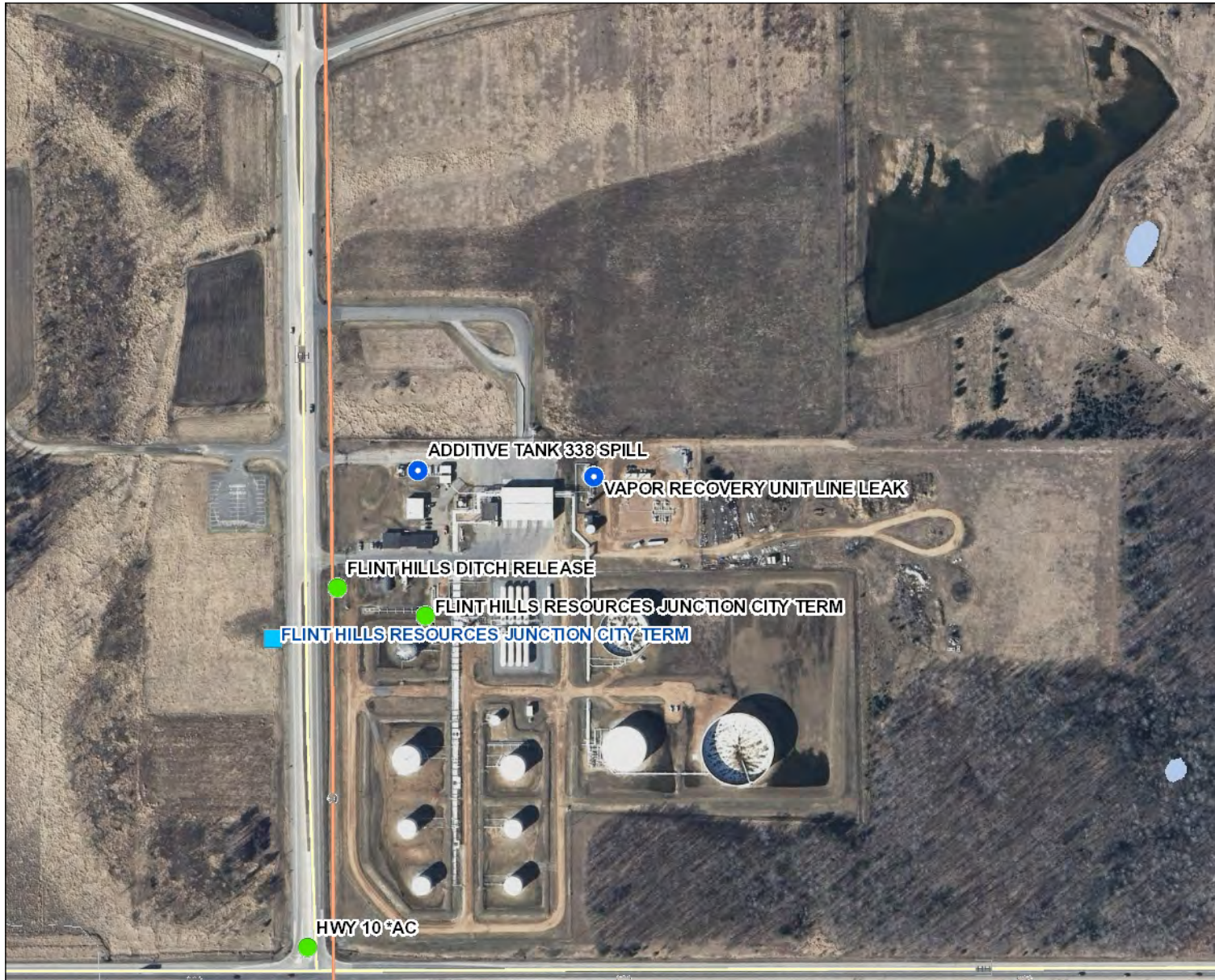




# **Figure B.1.c.**

## **RR Site Map**

# Figure B.1.c RR Site Map



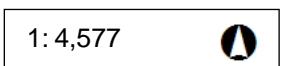
### Legend

- Open Site (ongoing cleanup)
- Open Site Boundary
- Closed Site (completed cleanup)
- Closed Site Boundary
- Groundwater Contamination
- Soil Contamination
- Groundwater and Soil Contamination
- Contamination From Another Property
- 📍 Dryclean Environmental Response Fund (DERF)
- 📍 Green Space Grant (2004-2009)
- 📍 Ready for Reuse
- 📍 Site Assessment Grant (2001-2009)
- 📍 State Funded Response
- 📍 Sustainable Urban Development Zone (SUDZ)
- 📍 General Liability Clarification Letters
- 📍 Superfund NPL
- 📍 Voluntary Party Liability Exemption
- Rivers and Streams
- Open Water



NAD\_1983\_HARN\_Wisconsin\_TM

© Latitude Geographics Group Ltd.



DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/org/legal/>

**Note: Not all sites are mapped.**





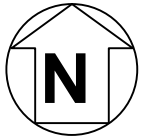
TETRA TECH, INC.

## **B.2. Soil Figures**



# **Figure B.2.a.**

## **Soil Contamination**



WDOT PROPERTY

FLINT HILLS RESOURCES PINE BEND, LLC PROPERTY

PROPERTY BOUNDARY

WDOT RIGHT-OF-WAY BOUNDARIES

MW-18

MW-15

MW-16

PZ-8

PZ-9

MW-17

PIPELINE VALVE

PIPELINE

TRUCK ENTRANCE

MW-25

MW-23

FENCE

MW-7

PZ-2

ENTRANCE

MW-6

PZ-1

OFFICE

MW-2

PZ-4

MW-24

MW-8

PZ-5

BOOSTER PUMPS

NEW POTABLE WELL

EXIT

MW-5

PZ-3

CAT-1

MW-19

PZ-10

MW-20

MW-12

MW-13

MW-11

MW-3

MW-14

MW-22

MW-9

MW-21

MW-1

PZ-6

MW-4

COUNTY HWY HH (former State Hwy 34)

COUNTY HWY HH (former State Hwy 10)

RESIDUAL PETROLEUM-IMPACTED SOIL














-  = Filter Spill (April 2000)
-  = Tank 323 Release (discovered October 2000)
-  = Additive Tank Area (1996, July 2001, September 2001)
-  = Loading Rack Drain Upgrade (October / November 2004) (July / August 2006)
-  = Tank 306 Valve Leak (discovered July 2005)
-  = Tank 321 C Seal Leak (October 27, 2006)
-  = VRU Leak (March 2011)
-  = Additive Tank 338 Release (May 2014)
-  = Soil Deed Restriction Area
-   = Abandoned Monitoring Well/Piezometer
-   = Existing Monitoring Well/Piezometer

FIGURE B.2.a  
 SOIL CONTAMINATION  
 FLINT HILLS RESOURCES PINE BEND, LLC  
 JUNCTION CITY TERMINAL  
 JUNCTION CITY, WI

PROJECT #: 340852  
 DATE: 1/19/16  
 DRAWN BY: MAM/MMZ  
 REVIEWED BY: GMA  
 SCALE: Relative  
 FILE: S:\ENV\KCOCH\_FHR\JUNCTION CITY\VRU Return Line Leak\2016- No Further Action



TETRA TECH, INC.  
 Wausau, Wisconsin



Google 2014

Project No. 114-340852



**LEGEND**

- = Excavation Boundary
- S-1 = Soil Sample Location
- (HA) = Hand Auger Location
- (GP) = Geo Probe Location
- = Elevated Conduit & Concrete Supports  
Structural Impediment
- = >NR720 GW RCL
- = >NR720 DC RCL
- = Buried Communications

**Figure B.2.a**  
**Soil Contamination**  
**Additive Tk 338 Release**  
**FHR Pine Bend, LLC Fuel Terminal**  
**2267 County Highway HH, Junction City, WI**



**Figure B.2.b.**  
**Residual Soil Contamination**



Google 2014

Project No. 114-340852



**LEGEND**

- = Excavation Boundary
- S-1 = Soil Sample Location
- (HA) = Hand Auger Location
- (GP) = Geo Probe Location
- = Elevated Conduit & Concrete Supports  
Structural Impediment
- = >NR720 GW RCL
- = >NR720 DC RCL
- = Buried Communications

**Figure B.2.a /B.2.b.**

**Soil Contamination**

**Additive Tk 338 Release**

**FHR Pine Bend, LLC Fuel Terminal**

**2267 County Highway HH, Junction City, WI**





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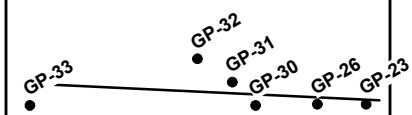
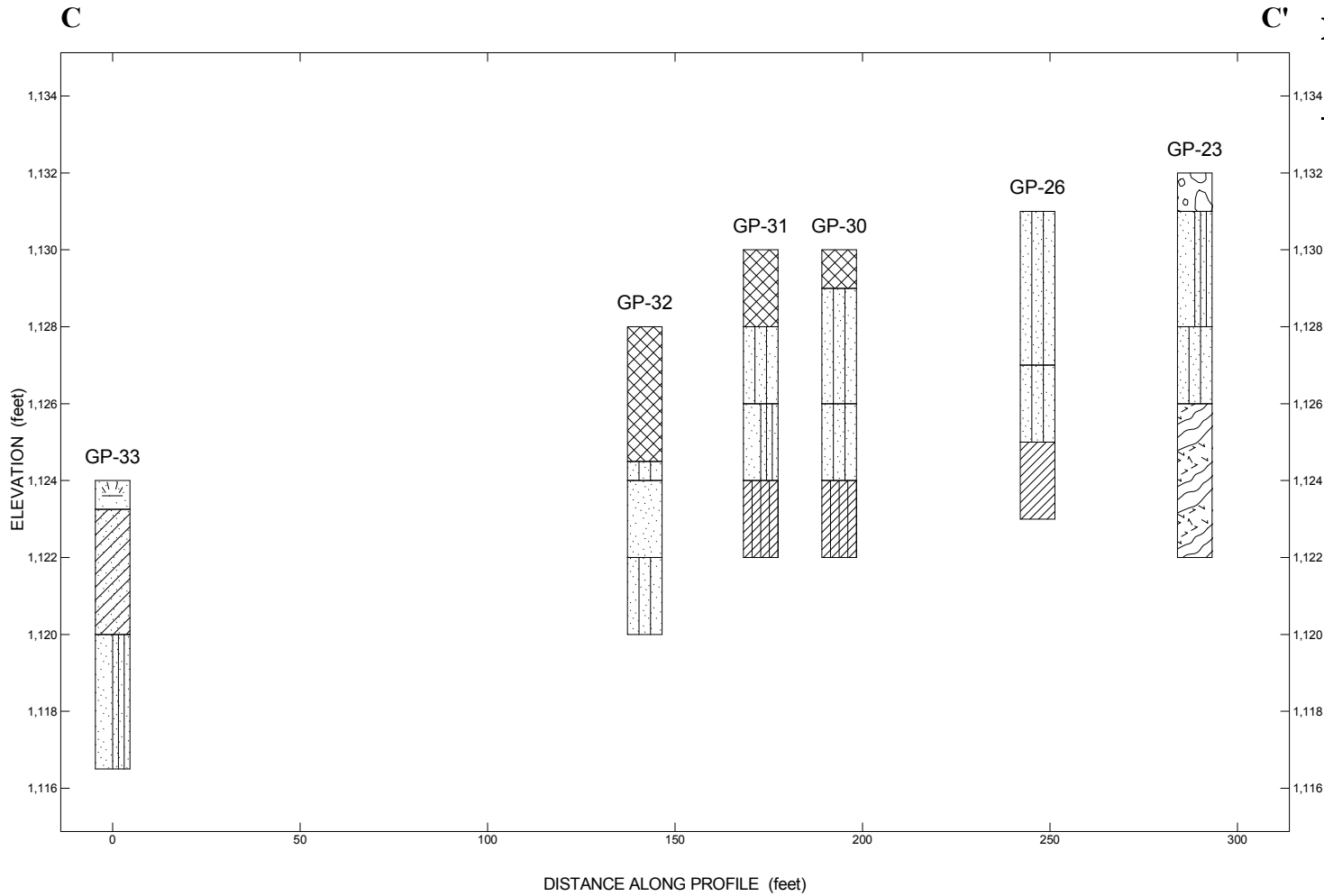
# **B.3. Groundwater Figures**



## **Figure B.3.a.**

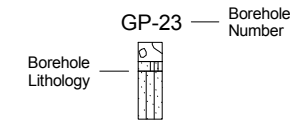
# **Geologic Cross-Section Figure(s)**

- Source location depicted
- Surface elevation changes depicted
- Cross-section figure displayed



Site Map not to Scale

**Explanation**



- Water Level Reading at time of drilling.
- Water Level Reading after drilling.



Horizontal Scale (feet)  
Vertical Exaggeration: 10.5x

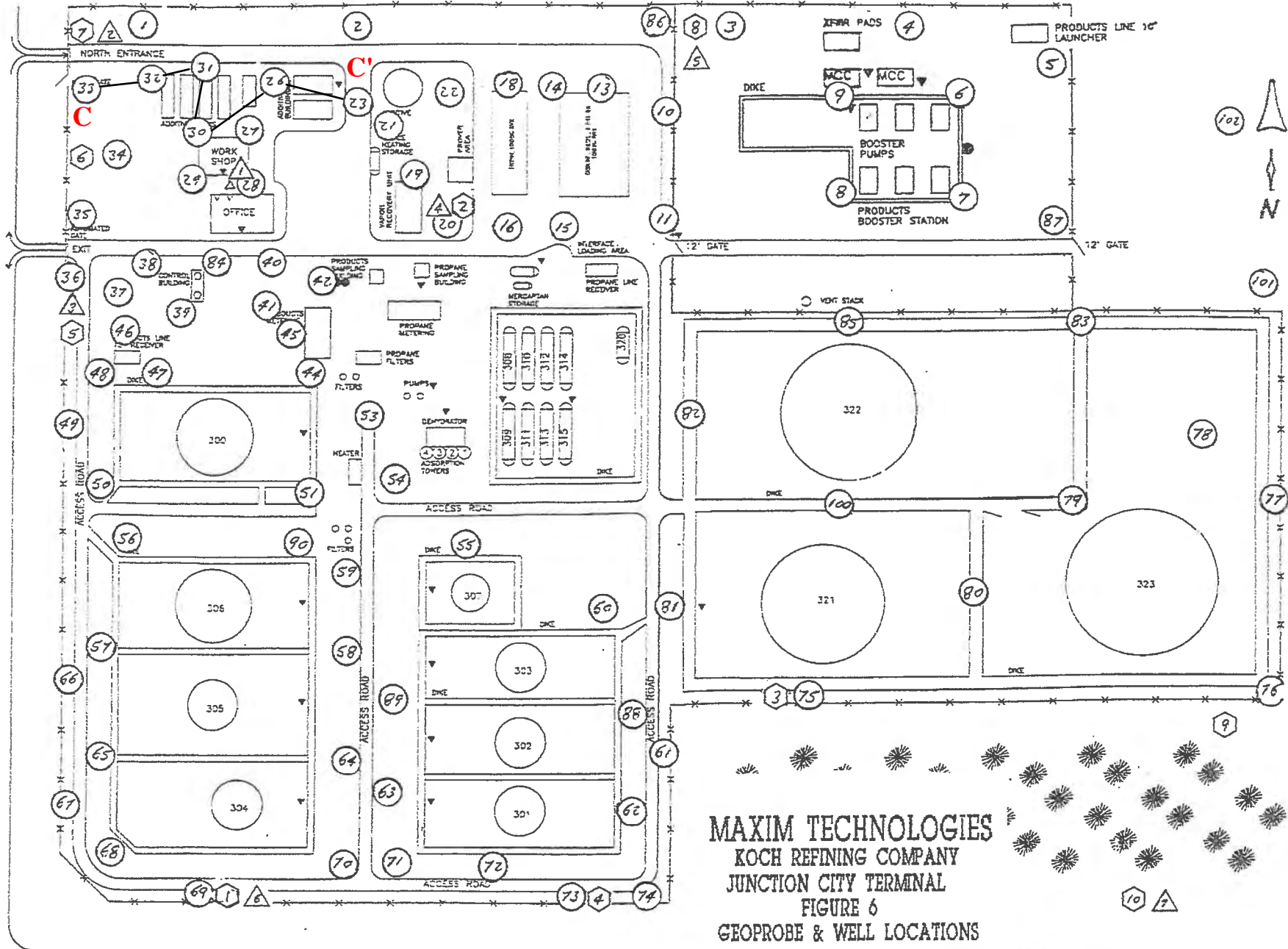
**Lithology Graphics**

USCS Poorly-graded Gravel	USCS Poorly-graded Sand with Silt	USCS Silty Sand	Quartzofeldspathic Gneiss (made up by MAT)
USCS Low Plasticity Clay	Fill (made ground)	USCS Low Plasticity Silty Clay	USCS Poorly-graded Sand
Topsoil	USCS Clayey Sand		

**Tetra Tech**  
5404 Alderson St., Suite 1  
Wausau, WI 54403

**Figure B.3.a Geologic Cross Section C-C'**  
**FHR - Junction City**





MAXIM TECHNOLOGIES  
 KOCH REFINING COMPANY  
 JUNCTION CITY TERMINAL  
 FIGURE 6  
 GEOPROBE & WELL LOCATIONS

① GEOPROBE ② MONITORING WELL ③ PIEZOMETER

STATE HIGHWAY 34

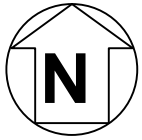
STATE HIGHWAY 10



⑩ ⑦













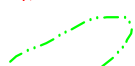





**Figure B.3.b.**  
**Groundwater Isoconcentration Figure**



**RESIDUAL PETROLEUM-IMPACTED SOIL**

**LEGEND: GROUNDWATER/SOIL GIS**

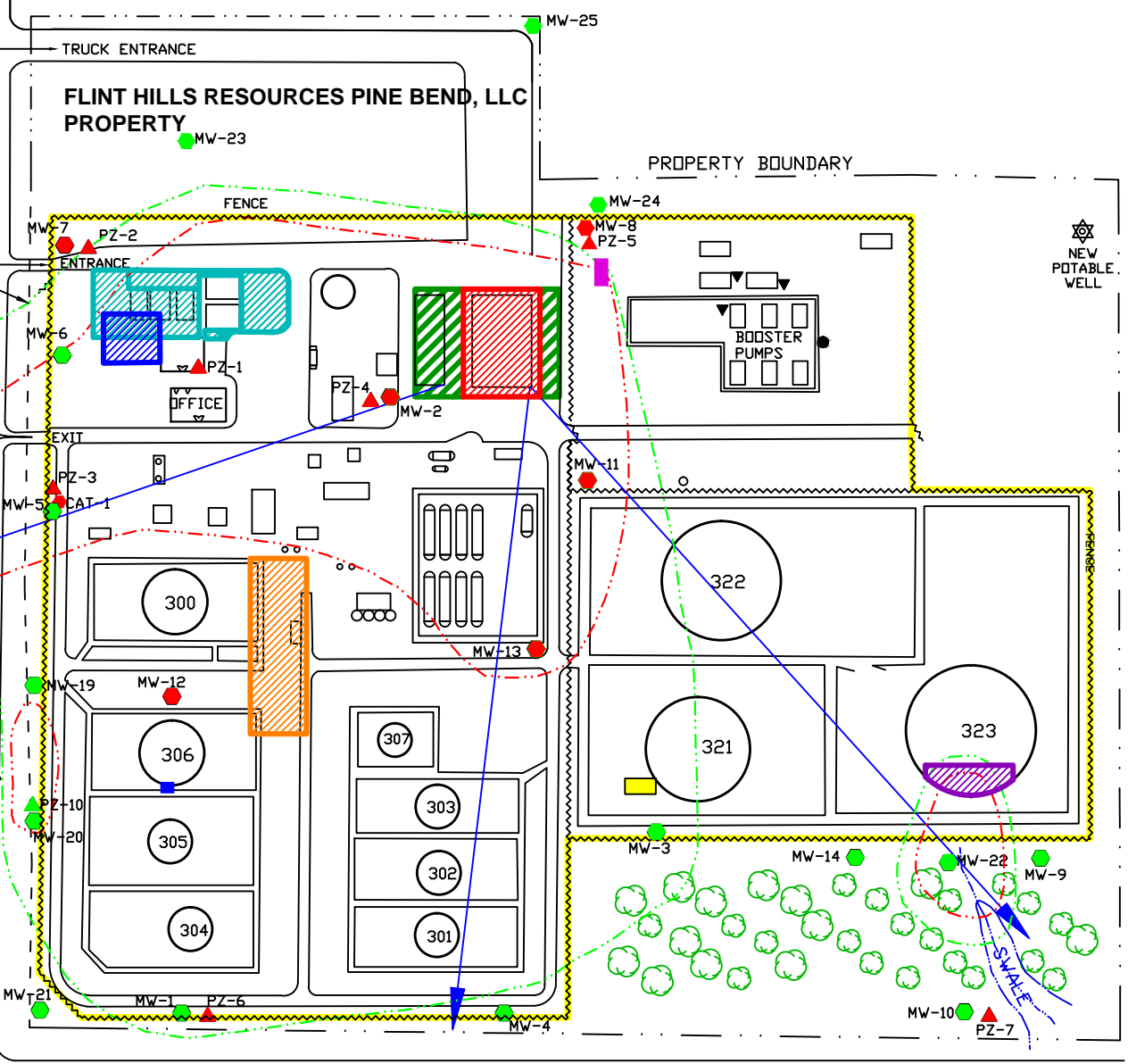
-  = Filter Spill (April 2000)
-  = Tank 323 Release (discovered October 2000)
-  = Additive Tank Area (1996, July 2001, September 2001)
-  = Loading Rack Drain Upgrade (October / November 2004) (July / August 2006)
-  = Tank 306 Valve Leak (discovered July 2005)
-  = Tank 321 C Seal Leak (October 27, 2006)
-  = VRU Leak (March 2011)
-  = Tank 338 Release (May 2014)

-  = Groundwater Flow Direction (12/08/04)
-  = Inferred Extent of Groundwater Contamination > NR 140 ES (12/08/04, 3/31/05, 5/18/05, 6/3/14)
-  = Inferred Extent of Groundwater Contamination > NR 140 PAL (12/08/04, 3/31/05, 5/18/05, 6/3/14)
-  = Soil Deed Restriction Area
-  MW-16  PZ-9 = Abandoned Monitoring Well/Piezometer
-  MW-21  PZ-10 = Existing Monitoring Well/Piezometer



PIPELINE

WDOT PROPERTY  
WDOT RIGHT-OF-WAY BOUNDARIES



COUNTY HWY HH (former State Hwy 34)

COUNTY HWY HH (Former State HWY 10)



**TETRA TECH, INC.**  
Wausau, Wisconsin

**FIGURE B.3.b**  
**GROUNDWATER ISOCONCENTRATION OF ON-SITE GIS REGISTRATION**  
 FLINT HILLS RESOURCES PINE BEND, LLC  
 JUNCTION CITY TERMINAL; JUNCTION CITY, WI

PROJECT #: 340852  
 DATE: 1/19/16  
 DRAWN BY: MAM/MMZ  
 REVIEWED BY: GMA  
 SCALE: Relative  
 FILE: S:\ENV\KCOCH\_FHR\JUNCTION CITY\2015\Additive Spill Closure

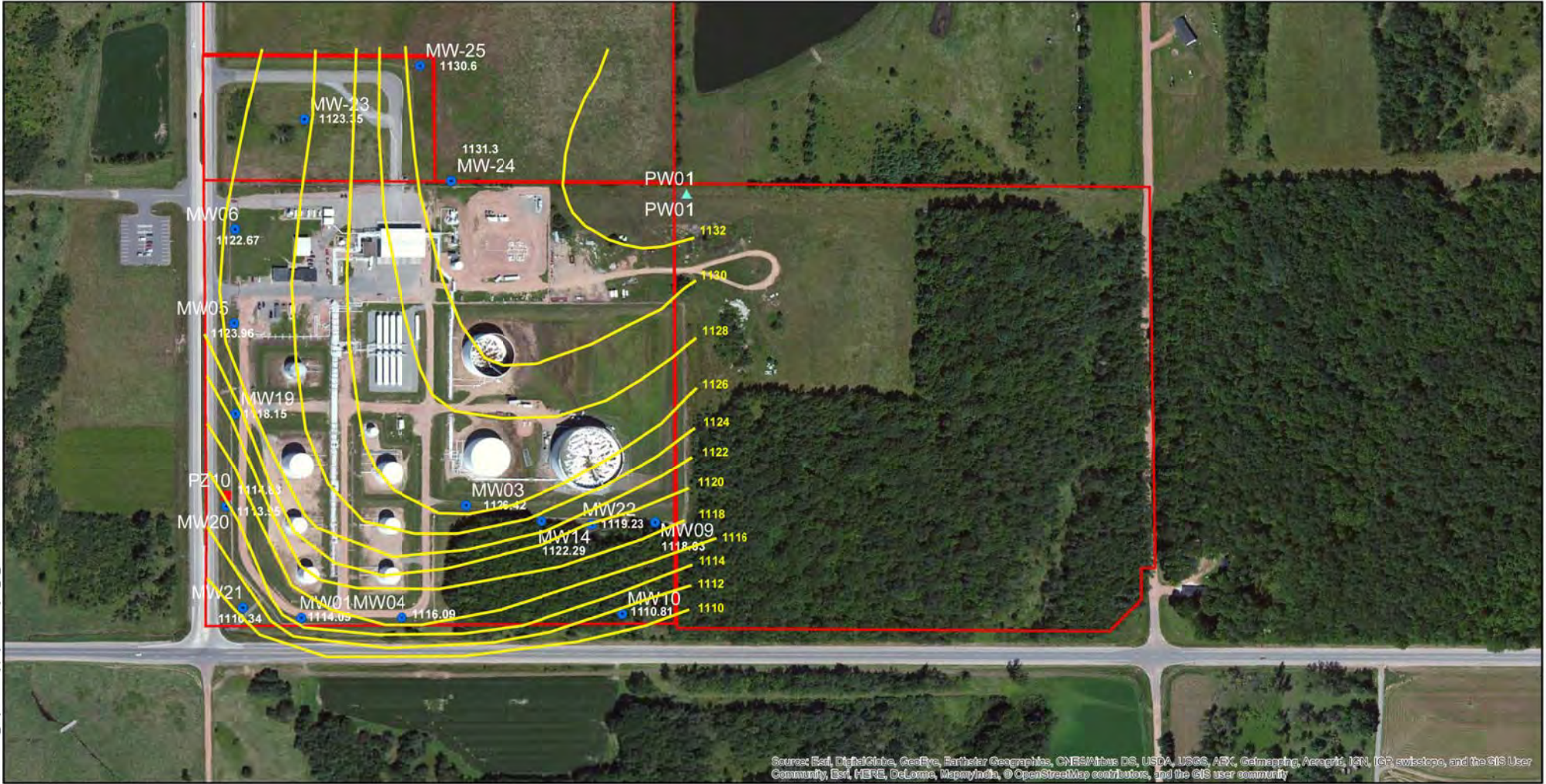


TETRA TECH, INC.

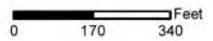
## **Figure B.3.c. Groundwater Flow Direction**

Figure B.3.c. depicts the groundwater flow direction on 7/23/15.

S:\env\tech\_flintjunction city\projects\site layout\_TL\_2011



August 2015



**Legend**

- Active Monitoring Well
- Active Piezometer
- ▲ Potable Well
- ▭ Property Boundary

**Figure B.3.c**  
**Groundwater Flow Direction**  
**Junction City Fuel Terminal**  
**Flint Hills Resources Pine Bend, LLC**  
**Portage County, Wisconsin**



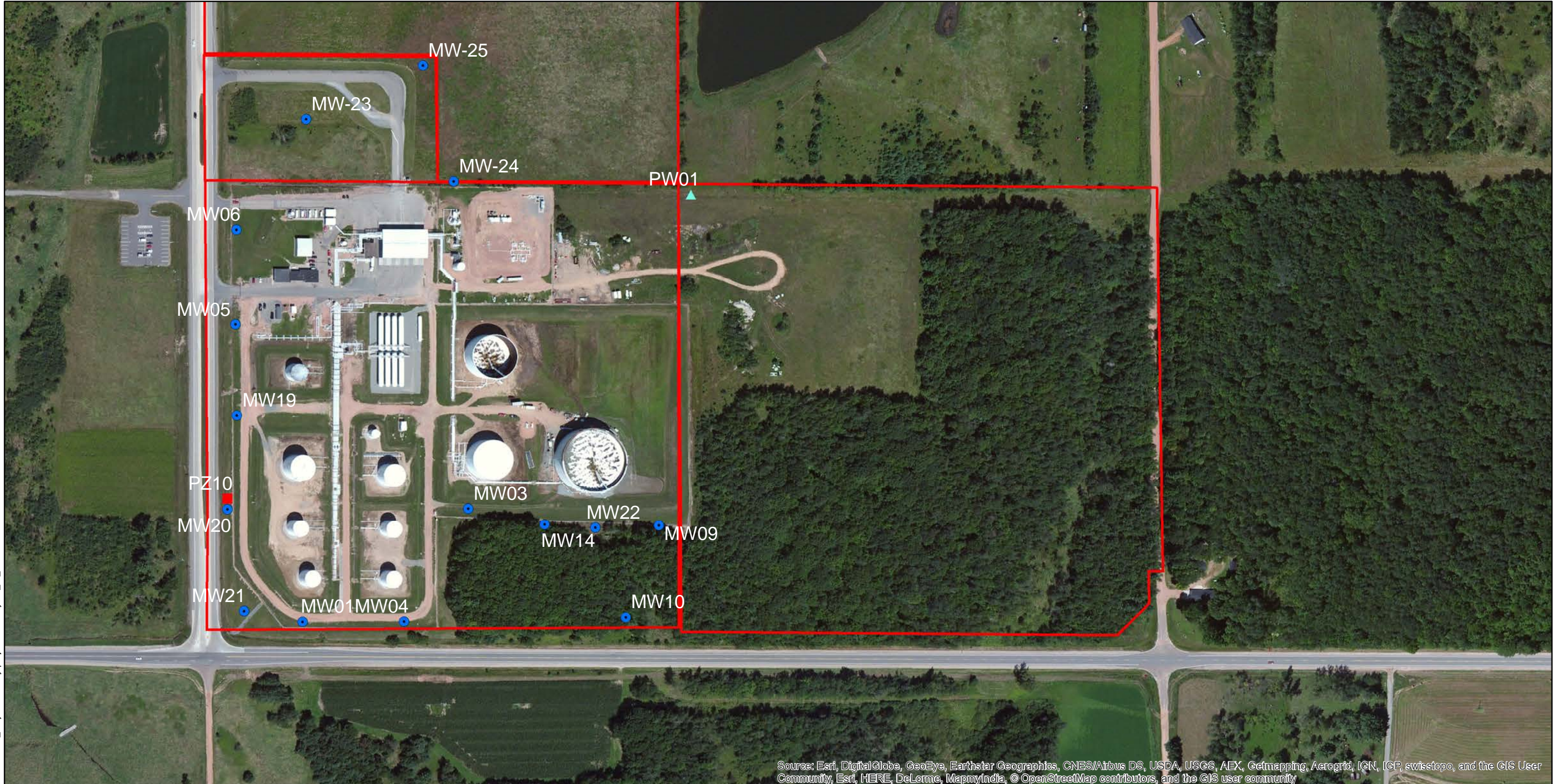


## **Figure B.3.d.**

# **Monitoring Wells**

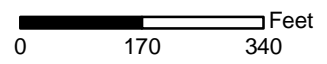
### **Refer to Figure B.1.b**

- All wells are being retained for voluntary annual groundwater sampling.
- All wells can be located.



S:\env\koch\_fhr\junction city\projects\site layout\_Tt\_2011

August 2015



- Legend**
- Active Monitoring Well
  - Active Piezometer
  - ▲ Potable Well
  - ▭ Property Boundary

**Figure B.1.b**  
**Detailed Site Map**  
**Junction City Fuel Terminal**  
**Flint Hills Resources Pine Bend, LLC**  
**Portage County, Wisconsin**

## **B.4. Vapor Maps and Other Media**

### **B.4.a. Vapor Intrusion Map**

Not Applicable; Refer to Section 3.D.i.

### **B.4.b. Other Media of Concern**

Not Applicable; Refer to Section 3.E.i.

### **B.4.c. Other**

This section is intentionally left blank.



## **B.5.**

# **Structural Impediment Photos**



Point of spill, note secondary containment structure impedes further excavation.



## Documentation of Remedial Action (Attachment C)

# DISCLAIMER

Documents contained in Attachment C of the Case Closure – GIS Registry (Form 4400-202) are not included in the electronic version (GIS Registry Packet) available on RR Sites Map to limit file size.

For information on how to obtain a copy or to review the file, please contact the Remediation & Redevelopment (RR) Environmental Program Associate (EPA) at <http://dnr.wi.gov/topic/Brownfields/Contact.html>



## **Flint Hills Resources Pine Bend, LLC – Junction City, WI**

### **ADDITIONAL AREAS MAINTENANCE PLAN**

**October 29, 2007 (original), July 21, 2016 (revised)**

This plan was prepared in accordance with the Wisconsin Department of Natural Resources' (WDNR) September 27, 2007 conditional case closure decision letter and NR724.13 (2) Wisconsin Administrative Code requirements, and subsequently revised in accordance with the WDNR July 8, 2016 remaining actions letter in conjunction with the Tank 338 additive release project.

#### **PURPOSE OF PLAN:**

As a condition of site closure, the caps covering the Additional Areas (as indicated on Figure 2, attached), must be maintained to minimize direct contact with residual impacted soil and minimize potential impacts to groundwater. Caps consist of structures (Tank 323 & the fuel loading rack), asphalt (the fuel loading rack & the additive tank area), and soil (additive tank 338 area). The additive tank 338 cap area is located on level ground and consists of a minimum of 2-feet of soil, revegetated with grass, therefore it meets the cover design goals in the WDNR Guidance for Cover Systems as Soil Performance Standard Remedies (RR-709).

#### **MAINTENANCE PLAN IMPLEMENTATION:**

The maintenance plan includes visual inspection of the caps covering the Additional Areas, and maintenance will be performed as necessary. Visual inspections of the vegetated area and the concrete dike walls on the south side of the additive tanks area includes verifying that the grass is maintained and actively growing during the growing season, and verifying that dike walls remain competent with no cracking, heaving, and/or deterioration. However, should deficiencies or damage be noted, adequate soil amendment and repair to the grass cover will be completed as needed, and/or concrete repair will be completed with suitable materials, or concrete removal and replacement will be completed, if warranted.

Visual inspections of concrete / asphalt covered areas will include checking for:

- Individual Cracks
- General Disintegration

If significant cracking or disintegration is noted, substantially similar materials will be used to repair noted areas. For the Additional Area covered by Tank 323, no inspections will be required unless the tank is removed. For the Additional Area near additive Tank 338, the soil cover will be maintained

The following activities are prohibited on the cap covering the Additional Areas, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources or its successor or assign: (1) Replacement with another barrier; (2) Excavating or grading of the land surface; (3) Filling on capped or paved areas; (4) Plowing for agricultural cultivation; and (5) Construction or placement of a building or other structure in an area where pavement, a building foundation or another barrier is required. However, prior written approval is not required for emergency situations, maintenance activities, or replacement of existing barriers with substantially similar material. However, documentation of these activities is required for the life of the terminal.

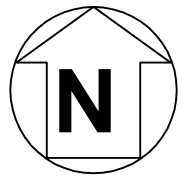
Should the petroleum impacted soil that remains below the cap covering any of the Additional Areas be excavated in the future, sampling and analysis will be conducted to appropriately characterize the soil for proper handling and disposal in accordance with all applicable statutes and rules. Results of the sampling and analysis along with documentation of proper disposal will be provided to the WDNR.

**MAINTENANCE SCHEDULE:**

The Additional Areas will be visually inspected to evaluate conditions on a semi-annual basis. Records of these visual inspections will be maintained at FHR's Junction City, WI terminal.

GMAMAM:rk\pfm\mam  
S:\ENV\Koch\FHR\JUNCTION CITY\2015\Additive Spill Closure\draft\_Additional Areas Maintenance Plan\_Rev 7-2016.doc





WDOT  
PROPERTY

FLINT HILLS RESOURCES PROPERTY

PROPERTY BOUNDARY

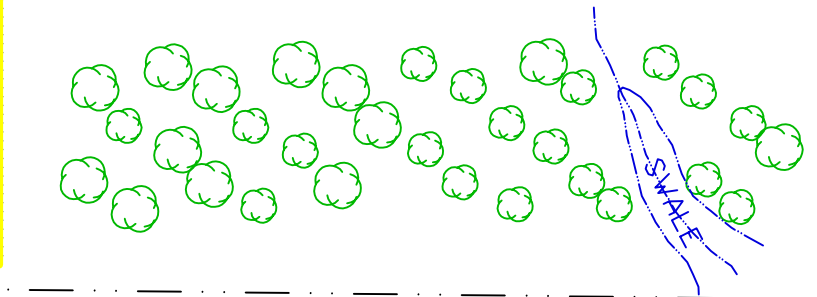
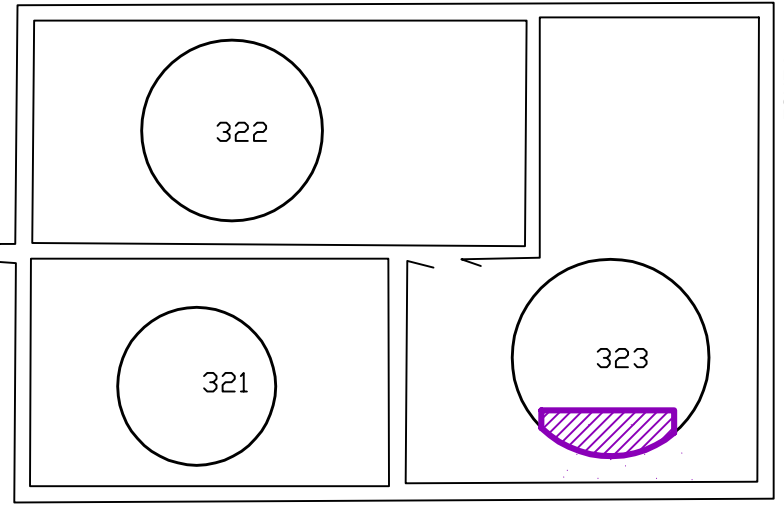
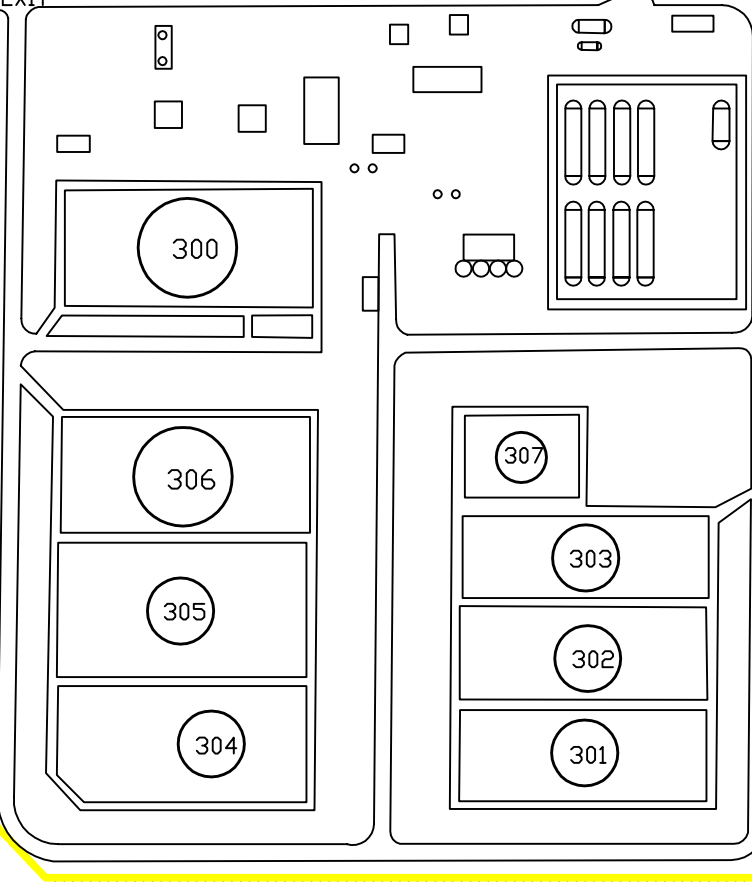
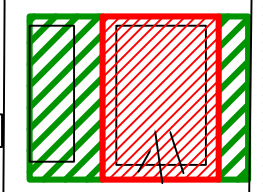
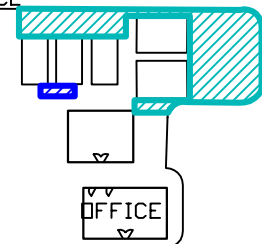
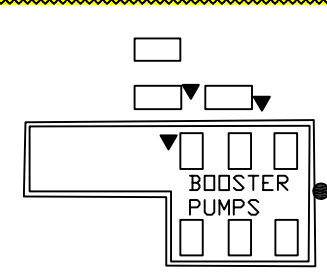
WDOT  
RIGHT-OF-WAY  
BOUNDARIES

TRUCK ENTRANCE




ENTRANCE

EXIT

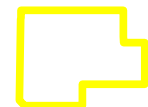
NEW  
POTABLE  
WELL




LEGEND: CAPPED ADDITIONAL AREAS

-  = Loading Rack Drain Upgrade & Expansion (October/November 2004) (July/August 2006)
-  = Tank 323 Release (discovered October 2000)
-  = Additive Tank 338 Release (May 2014)

LEGEND: DEED REGISTRATION

-  = Soil Deed Restriction Area

LEGEND: CAPPED ASPHALTIC COVERED AREAS

-  = Additive Tank Area (July 2001, September 2001)



Wausau, Wisconsin

FIGURE 2  
CAPPED AREA LOCATIONS  
JUNCTION CITY TERMINAL  
FLINT HILLS RESOURCES, LP  
JUNCTION CITY WI

PROJECT #: 5340048 & 340852  
DATE: 01/02/07 & 07/22/16  
DRAWN BY: ALT/TT  
REVIEWED BY: GMA  
SCALE: RELATIVE

FILE: S:\autocad\koch\junction\acad2000\GIS Registration\Capped Areas.dwg



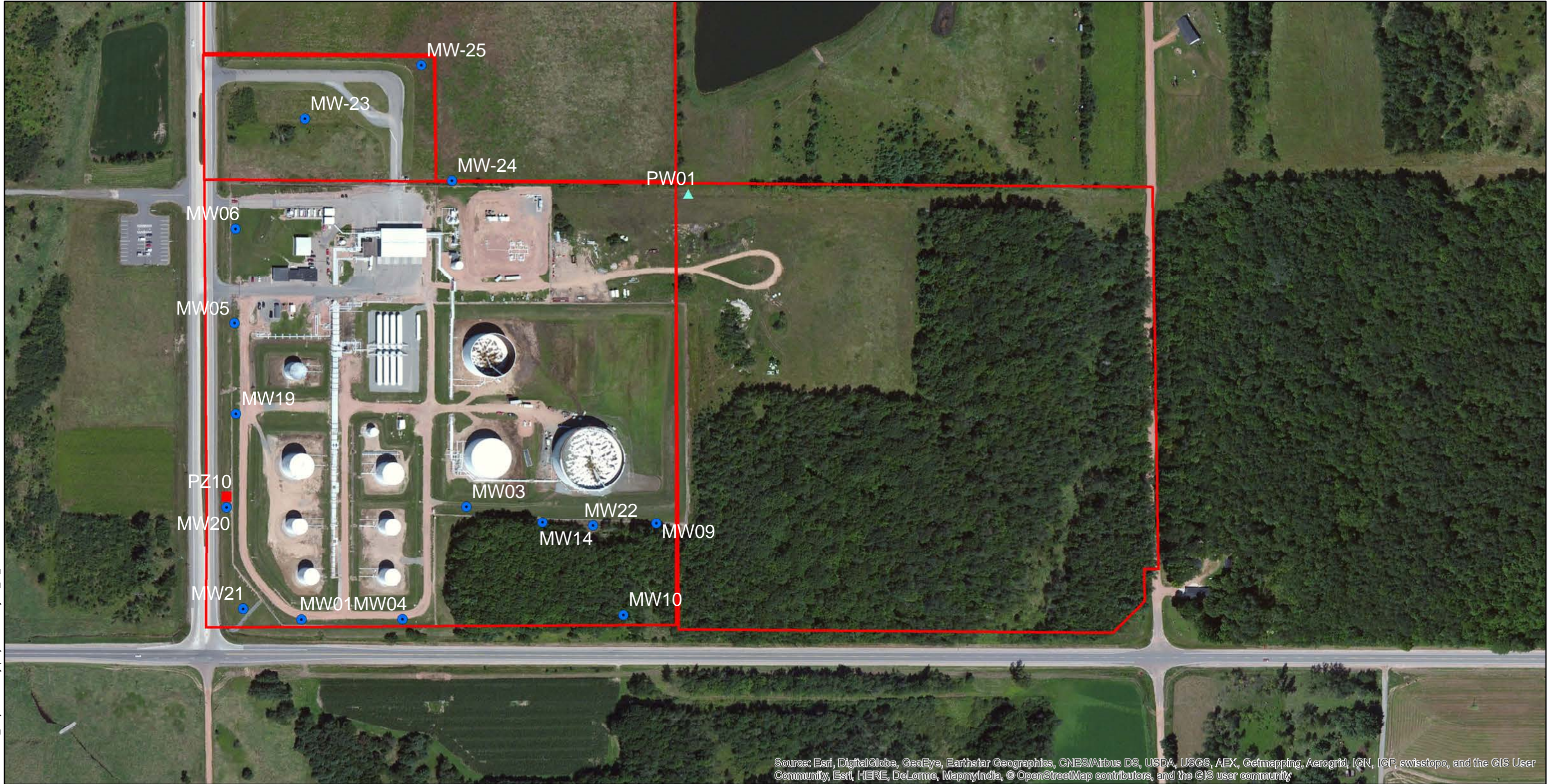
TETRA TECH, INC.

# Monitoring Well Information (Attachment E)

- See 2015 Annual Groundwater Sampling Report
- All monitoring wells shown on Figure B.1.b are being retained for voluntary annual groundwater monitoring. Per NR 141 guidelines, these wells will be visually inspected during sampling.

All monitoring wells are from a previous closure at this location and were not installed for this investigation.

S:\env\koch\_fhr\junction city\projects\site layout\_Tt\_2011



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

August 2015



0 170 340 Feet



- Legend**
- Active Monitoring Well
  - Active Piezometer
  - ▲ Potable Well
  - ▭ Property Boundary

**Figure B.1.b**  
**Detailed Site Map**  
**Junction City Fuel Terminal**  
**Flint Hills Resources Pine Bend, LLC**  
**Portage County, Wisconsin**



TETRA TECH, INC.

# **Source Legal Documents (Attachment F)**



## **F.1. Deed**

- **Source Property**

709528



CYNTHIA A WISINSKI  
PORTAGE COUNTY REGISTER OF DEEDS  
RECEIVED FOR RECORD  
OCT. 03, 2007 AT 01:30PM

**RECORDING REQUESTED BY:**  
**Flint Hills Resources, LP**  
**4111 East 37<sup>th</sup> Street North**  
**Wichita, Kansas 67220**  
**WHEN RECORDED, MAIL TO:**  
**Same as above**  
**Att'n: Allen Olson**

CYNTHIA A WISINSKI, REGISTER OF DEEDS  
Fee Amount: \$17.00  
Transfer Fee: \$195.00

**SPACE ABOVE FOR RECORDER'S USE**

WARRANTY DEED

STATE OF WISCONSIN     )  
  ) **KNOW ALL PERSONS BY THESE PRESENTS:**  
COUNTY OF PORTAGE     )

THAT Margaret A. Zorn and Allen D. Zorn, wife and husband, and Arthur J. Zorn (hereinafter collectively referred to as "Owners"), for and in consideration of the sum of TEN DOLLARS and other good and valuable consideration paid by FHR (as defined below), the receipt and sufficiency of which are acknowledged by Owners, has GRANTED, SOLD, and CONVEYED, and by these presents does GRANT, SELL, and CONVEY to Flint Hills Resources, Limited Partnership ("FHR"), a Delaware limited partnership, having a place of business at 4111 East 37th Street North, Wichita, Kansas 67220, the property and premises described on Exhibit 1 (which Exhibit is attached hereto and made a part hereof), including any appurtenances and fixtures (if any) located thereon at the time of the sale hereunder, such property and premises being located in Portage County, Wisconsin,

SUBJECT TO THE FOLLOWING EXCEPTIONS AND RESERVATIONS: (1.) All easements, restrictions, and reservations of record; (2.) All matters apparent from a visual inspection of said real property; and (3.) All logos, emblems, signs, trademarks, trade names, and service marks that are the property of Owners.

Such above-described property (subject to the exceptions and reservations stated or referred to above) together with all and singular the rights and appurtenances belonging in any way to such property, shall hereinafter collectively be referred to as the "Property".

TO HAVE AND TO HOLD the Property, subject to the provisions contained in this Warranty Deed and that certain Purchase and Sale Agreement ("P&S Agreement") by and between Owners and FHR dated August 25, 2007, to FHR, its successors and assigns forever, and Owners binds themselves and their successors and assigns to warrant and forever defend all and singular the Property to FHR and its successors and assigns against every person lawfully claiming or to claim all or any part of the Property, subject to the provisions stated above.



State of Wisconsin )  
 ) ss.  
County of Pondage )

This instrument was acknowledged before me on 10-3-07, 2007 by Alvin Zorn, an individual, for Arthur J. Zorn, an individual, pursuant to Power of Attorney.

[Signature]  
Notary Public

My Commission expires: 9/17/2009.

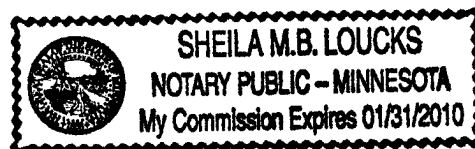
State of Minnesota )  
 ) ss.  
County of DAKOTA )

This instrument was acknowledged before me on October 1, 2007 by Randy D. Lenz of Flint Hills Resources, Limited Partnership, a Delaware limited partnership, on behalf of said limited partnership.

[Signature]  
Notary Public

My Commission expires: 01/31/2010.

Instrument drafted by:  
Allen Olson, Attorney  
Flint Hills Resources, Limited Partnership Legal Department  
4111 East 37<sup>th</sup> Street North  
Wichita, Kansas 67220



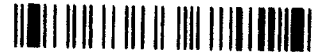


**DOC# 709528**

**Exhibit 1**

**Lot 1 of Portage County Certified Survey Map No. 9406-40-36 as recorded in Volume 40 of surveys, page 36 and being located in part of the fractional Northwest 1/4 of the Northeast 1/4 of Section 6, Township 24 North, Range 7 East, Town of Carson, Portage County, Wisconsin.**

646692



CYNTHIA A WISINSKI  
PORTAGE COUNTY REGISTER OF DEEDS  
RECEIVED FOR RECORD  
OCT. 23, 2003 AT 01:45PM

Document Number

Document Title

*Cynthia A Wisinski*

CYNTHIA A WISINSKI, REGISTER OF DEEDS  
Fee Amount: \$21.00  
Transfer Fee: \$29.10

Recording Area

Name and Return Address

*Flint Hills Resources, LP  
PO Box 67  
Cottage Grove, MN 55016*

Parcel Identification Number (PIN)

This information must be completed by submitter: document title, name & return address, and PIN (if required). Other information such as the granting clauses, legal description, etc. may be placed on this first page of the document or may be placed on additional pages of the document.  
**Note:** Use of this cover page adds one page to your document and \$2.00 to the recording fee. Wisconsin Statutes, 59.43(2m) WRDA 2/99

**RECORDING REQUESTED BY:**

Flint Hills Resources, LP

P.O. Box 67COTTAGE GROVE, MN 55016**WHEN RECORDED, MAIL TO:**

Same as above

Att'n: Marvin DeJear**SPACE ABOVE FOR RECORDER'S USE**WARRANTY DEED

STATE OF WISCONSIN )

) **KNOW ALL PERSONS BY THESE PRESENTS:**

COUNTY OF MILWAUKEE )

THAT Margaret A. Zorn and Allen D. Zorn, wife and husband and Arthur J. Zorn and Florence Zorn, husband and wife (hereinafter collectively referred to as "Owners"), for and in consideration of the sum of TEN DOLLARS and other good and valuable consideration paid by FHR (as defined below), the receipt and sufficiency of which are acknowledged by Owners, has GRANTED, SOLD, and CONVEYED, and by these presents does GRANT, SELL, and CONVEY to Flint Hills Resources, LP ("FHR"), a Delaware limited partnership, having a place of business at 4111 East 37th Street North, Wichita, Kansas 67220, the property and premises described on Exhibit 1 (which Exhibit is attached hereto and made a part hereof), including any appurtenances and fixtures (if any) located thereon at the time of the sale hereunder, such property and premises being located in Portage County, Wisconsin,

SUBJECT TO THE FOLLOWING EXCEPTIONS AND RESERVATIONS: (1.) All easements, restrictions, and reservations of record; (2.) All matters apparent from a visual inspection of said real property; and (3.) All logos, emblems, signs, trademarks, trade names, and service marks that are the property of Owners.

Such above-described property (subject to the exceptions and reservations stated or referred to above) together with all and singular the rights and appurtenances belonging in any way to such property, shall hereinafter collectively be referred to as the "Property".

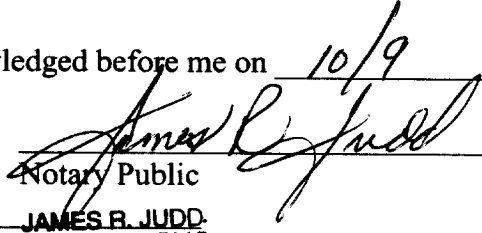
TO HAVE AND TO HOLD the Property, subject to the provisions contained in this Warranty Deed and that certain Purchase and Sale Agreement ("P&S Agreement") by and between Owners and FHR dated September 10, 2003, to FHR, its successors and assigns forever, and Owners binds themselves and their successors and assigns to warrant and forever defend all and singular the Property to FHR and its successors and assigns against every person lawfully claiming or to claim all or any part of the Property, subject to the provisions stated above.

This Special Warranty Deed and Bill of Sale is executed, delivered, and accepted pursuant to the P&S Agreement and the provisions of such P&S Agreement shall survive the execution, deliverance, and



State of WI )  
County of Portage ) ss.

This instrument was acknowledged before me on 10/9, 2003 by Arthur J. Zorn, an individual.

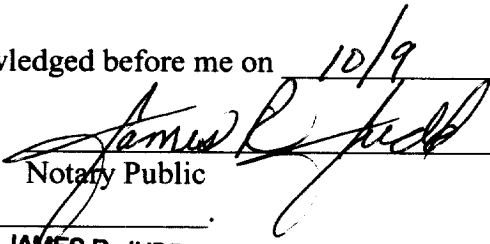
  
Notary Public

My Commission expires: \_\_\_\_\_

**JAMES R. JUDD  
NOTARY PUBLIC  
STATE OF WISCONSIN  
COMM. EXPIRES 10/02/2005**

State of WI )  
County of Portage ) ss.

This instrument was acknowledged before me on 10/9, 2003 by Florence Zorn, an individual.

  
Notary Public

My Commission expires: \_\_\_\_\_

**JAMES R. JUDD  
NOTARY PUBLIC  
STATE OF WISCONSIN  
COMM. EXPIRES 10/02/2005**

Instrument drafted by:  
Allen Olson, Attorney  
Flint Hills Resources, LP Legal Department  
4111 East 37<sup>th</sup> Street North  
Wichita, Kansas 67220

Exhibit 1  
(Page 1 of 2)

Description of Property being conveyed by Allen D. and Margaret A. Zorn and Author J. and Florence Zorn ("Owners") to Flint Hills Resources, LP-

*ma. z.*

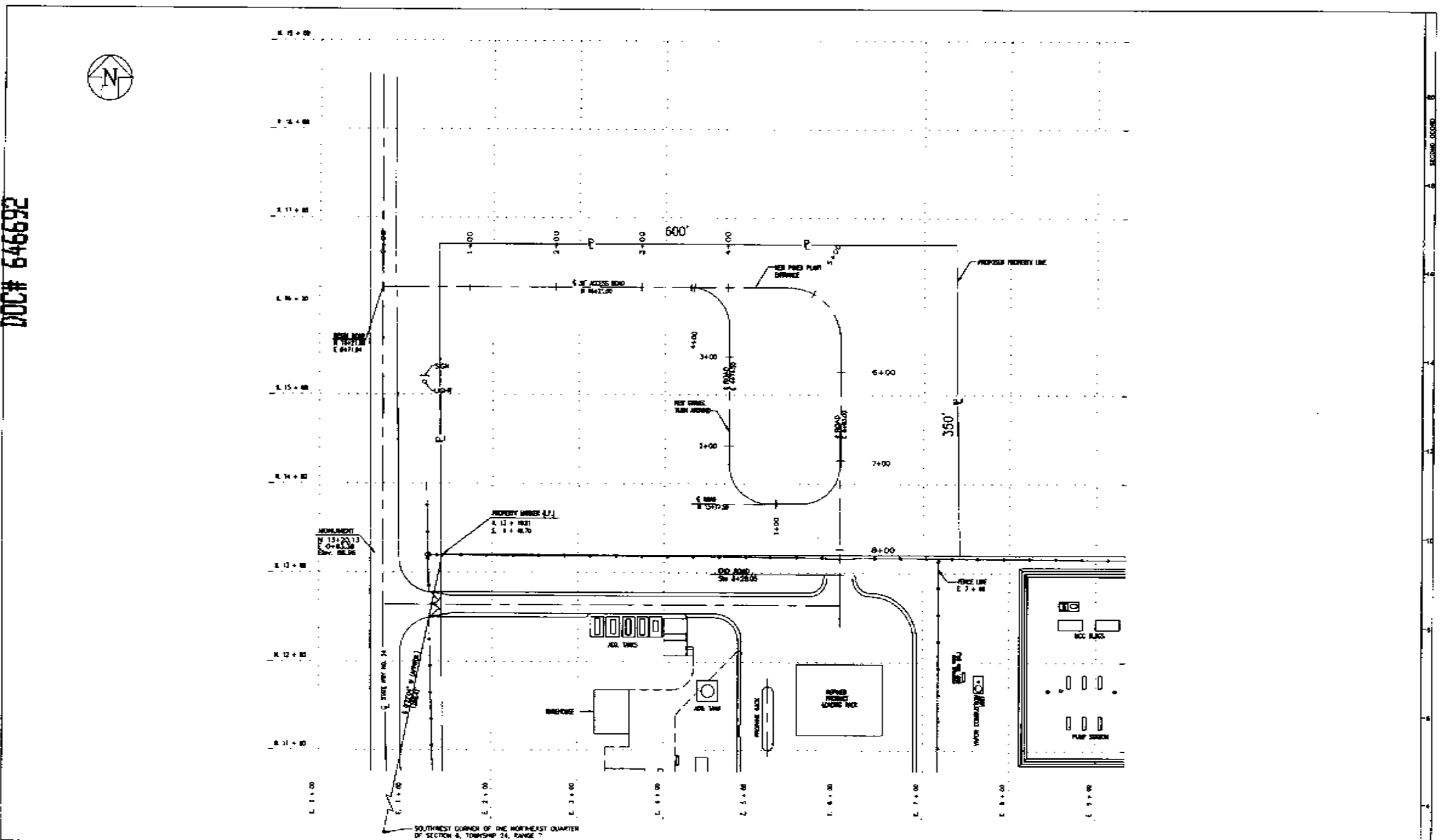
*a. d. z.*

The South 350 feet of the West 600 feet (4.82 acres) of Owner's property located in the Northwest Quarter of the Northeast Quarter of Section 6, Township 24 North, Range 7 East, Portage County, Wisconsin, as shown on the map attached hereto.

*f. z.*

*agz*

DOC# 646692




NO.	DATE	REVISIONS	BY	AP	NO.	DATE	REVISIONS	BY	AP

**NOTICE**

This drawing has not been released and is the sole property of KOCH REFINING COMPANY. It is not to be used, copied, or reproduced in any form without the written consent of KOCH REFINING COMPANY. It is the responsibility of the user to ensure that this drawing is used only for the purposes intended and that it is not used for any other purpose without the express written consent of KOCH REFINING COMPANY.

DWG NO

REFERENCE DRAWINGS



**KOCH**  
REFINING COMPANY

ACCESS ROAD PROPERTY EXHIBIT  
JUNCTION CITY TERMINAL, JUNCTION CITY, WI

REV. 01	JOB NO.	DATE 07-10-13
REV. 02	S. S.	DWG. NO.
REV. 03	SCALE 1" = 50'-0"	NO. 51234-1016-005, 0

No. 8-3, Warranty Deed - Short Form (Sec. 224-16, Wis. Statutes)

STATE OF WISCONSIN Form No. 8

Published by Eau Claire Book & Stationery Co.

*junction C. 14*

265 PAGE 233

This Indenture, Made by Pipe Line Technologists, Inc., a Delaware corporation

Grantor of Harris Texas and warrants to Great Northern Oil Company, a Delaware corporation County, ~~Wisconsin~~ hereby conveys

grantee of the sum of One Dollar (\$1.00) and other good and valuable consideration Minnesota the following tract of land in Dakota Portage County, Wisconsin for Portage County, State of Wisconsin:

The Southeast Quarter (SE $\frac{1}{4}$ ) of the Northeast Quarter (NE $\frac{1}{4}$ ) of Section Six (6), Township Twenty-four (24) North, Range Seven (7) East, except such portions thereof as have been previously conveyed for highway purposes.

Subject to real estate taxes.

207974

PORTAGE COUNTY, WIS.

Received for Record this 2nd day of February

A. D. 19 68 at 9:00 o'clock A. M. and

Recorded in Vol. 265 of Rec. on page 233

Lillian A. Haka Register of Deeds

*Lillian A. Haka*

In Witness Whereof, the said grantor has hereunto set its hand and seal this 17th day of February, A. D. 19 68

Signed and Sealed in Presence of

PIPE LINE TECHNOLOGISTS, INC. (SEAL)

By: *James R. Whitley* (SEAL)

And: *William J. Ryan* (SEAL)

*William J. Ryan* (SEAL)

*William J. Ryan* (SEAL)

*William J. Ryan* (SEAL)

*William J. Ryan* (SEAL)

*Dianna Braden*

Texas State of ~~Wisconsin~~ Harris County, Tex.

Personally came before me, this 17th day of February, A. D. 19 68

to me known to be the person who executed the foregoing instrument and acknowledged the same

Notary Public, My commission expires County, Wis. A. D. 19

Drafted by Thomas A. Keller, III, Lawyer

(N.B. - Ch. 89 Wis. Stat. provides that all instruments to be recorded shall have plainly printed or typewritten thereon the names of the grantor.



No. 267974

Pipe Line Technologists,  
Inc.

To

Great Northern Oil Co.

**WARRANTY DEED**

REGISTER'S OFFICE,  
State of Wisconsin

Portage County

Received for Record this 2nd day of  
February, A. D., 19 60

at 9:00 o'clock A. M., and recorded in  
Records  
Vol. 265 of Book on page 233

Louise G. Hake  
Register of Deeds.

Deputy.

O'Connor, Green, Attys.  
845 Northwestern Bank Bldg  
Minn. Minn. Pd. \$2.00

# 5/ 7  
:651-480-3827

06-28-05:03:07PM

265 PAGE 234

This Indenture, Made by Pipe Line Technologists, Inc., a Delaware corporation

grantor, of Harris County, Texas and warrants to Great Northern Oil Company, a Delaware corporation

grantee, of the sum of One Dollar (\$1.00) and other good and valuable consideration the following tract of land in Dakota County, Minnesota; Portage County, State of Wisconsin;

The Southwest Quarter (SW 1/4) of the Northeast Quarter (NE 1/4) of Section Six (6), Township Twenty-four (24) North, Range Seven (7) East, except such portions thereof as have been previously conveyed for highway purposes.

Subject to real estate taxes.

267975

PORTAGE COUNTY, WIS.

Received for Record this 2nd day of February

A. D. 1968 at 9:00 o'clock A. M. and

Recorded in Vol 265 of Rec. on page 234

Lillian A. Flaka Register of Deeds

Lillian A. Flaka

In Witness Whereof, the said grantor has hereunto set its hand and seal this 7th day of February, A. D. 1968

Signed and Sealed in Presence of

Dianna Braden

PIPE LINE TECHNOLOGISTS, INC.

By: (SEAL)

And: (SEAL)

(SEAL)

(SEAL)

State of Wisconsin, Portage County, ss.

Personally came before me, this 7th day of February, A. D. 1968 to me known to be the person who executed the foregoing instrument and acknowledged the same.

Notary Public, My commission expires

County, Wis. A. D. 19

Drafted by Thomas A. Keller, III, Lawyer

(N.B. - Ch. 55, Wis. Statutes provides that all instruments to be recorded shall have plainly printed or typewritten thereon the names of the grantors.)

No. 267975

Pipe Line Technologists,  
Inc.

To

Great Northern Oil Co.

**WARRANTY DEED**

REGISTER'S OFFICE,  
State of Wisconsin

Portage County.

Received for Record this 2nd day of  
February, A. D. 1968

at 9:00 o'clock A. M., and recorded in

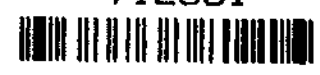
Vol. 265 of Records  
of Deeds on page 237

Laura A. Hoba  
Register of Deeds.

Deputy.

O'Connor, Green, Attys.  
845 Northwestern Bank Bldg.  
Minn. Minn. Pd. \$2.00

712361



CYNTHIA A WISINSKI  
PORTAGE COUNTY REGISTER OF DEEDS  
RECEIVED FOR RECORD  
DEC. 27, 2007 AT 09:30AM

CYNTHIA A WISINSKI, REGISTER OF DEEDS  
Fee Amount: \$119.00

Document Number

DEED RESTRICTION

Declaration of Restrictions

In Re:

A parcel of land located in the Southwest Quarter (SW¼) of the Northeast Quarter (NE¼) of Section Six (6), Township Twenty-Four (24) North, Range Seven (7) East, in Portage County, Wisconsin, except such portions thereof as have been previously conveyed for highway purposes. (Vol. 265, Page 234).

STATE OF WISCONSIN

COUNTY OF Portage

} ss

WHEREAS, Flint Hills Resources, LP (f/k/a Koch Refining Company, LP) are the owners of the above described property.

WHEREAS, one or more petroleum discharges have occurred on this property. Petroleum-impacted soil and groundwater remains on this property at the following location(s):

**SOILS**

Soils that may exceed NR 720 and may exceed NR 746 direct contact residual contaminant values, that could not be excavated during various remedial activities completed to date due to structural impediments, remain on the site and are located:

Within the fenced, gated & locked area of the Junction City Terminal property in the area defined by MW-7/PZ-2 in the northwest corner, MW-8 to the north, and the western, southern, and eastern property fenced areas (Figure 1).

**GROUNDWATER**

Depth to groundwater is approximately 2- to 8-feet below land surface and monitoring points exhibiting one or more petroleum constituent concentrations in excess of associated NR 140 Preventive Action Limits and Enforcement Standards as of May 2005 are located:

**NR 140 Preventive Action Limits:**

Within the Junction City Terminal property, State Highway 34 ROW, and the property located to the west of State Highway 34, defined by MW-16/PZ-9, PZ-1, MW-11, MW-3, PZ-6, MW-19, and within the Junction City Terminal property defined by MW-22 (Figure 1).

**NR 140 Enforcement Standards:**

Within the Junction City Terminal property, State Highway 34 ROW, and the property located to the west of State Highway 34, defined by MW-16/PZ-9, PZ-1, MW-11, MW-13, MW-5, and within the Junction City Terminal property area defined by PZ-10 and MW-22 (Figure 1).

Recording Area

Name and Return Address

Flint Hills Resources, LP  
4111 East 37<sup>th</sup> Street North  
Wichita, KS 67201

012240706-04

Parcel Identification Number (PIN)

WHEREAS, it is the desire and intention of the property owner to impose on the property restrictions which will make it unnecessary to conduct further soil and/or groundwater remediation or monitoring activities on the property at the present time.

NOW THEREFORE, the owner hereby declares that all of the property described above is held and shall be held, conveyed or encumbered, leased, rented, used, occupied and improved subject to the following limitation and restrictions:

Structural impediments existing at the time of cleanup (See Figure 1), made complete investigation and/or remediation of the soil contamination on this property impracticable. If any structural impediments on this property that prevented the complete removal and/or investigation of petroleum-impacted soil are removed, the property owner shall conduct an investigation of the degree and extent of the petroleum-impacted soil. To the extent that petroleum contamination is found at that time, the Wisconsin Department of Natural Resources shall be immediately notified and the contamination shall be properly remediated in accordance with applicable statutes and rules. Should the currently inaccessible petroleum-impacted soil that remains on the property be excavated in the future, sampling and analysis will be conducted to appropriately characterize the soil for proper handling and disposal in accordance with all applicable statutes and rules.

The pavement or other impervious cap that existed on the above-described property in the locations shown on the attached map, labeled Figure 2 on the date that this restriction was signed shall be maintained in compliance with the 1) Asphaltic Cover Maintenance Plan dated October 23, 1996 that was submitted to the Wisconsin Department of Natural Resources by TetraTech (f/k/a Maxim Technologies, Inc.), as required by section NR 724.13 (2), Wis. Adm. Code (October 1999) and 2) and the Additional Areas Maintenance Plan dated October 29, 2007. A copy of these plans can be found at the Junction City Terminal. This pavement or other impervious cap must be maintained in order to minimize the infiltration of water and prevent additional 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 that remains on the property in the location or locations described above where there is residual contamination is excavated in the future, the soil must be sampled and analyzed, may be considered solid or hazardous waste if residual contamination remains and must be stored, treated and disposed in compliance with applicable statutes and rules.

In addition, the following activities are prohibited on the portion of the above-described property where pavement or other barriers is required, as shown on Figure 2, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources or its successor or assign: (1) Replacement with another barrier; (2) Excavating or grading of the land surface; (3) Filling on capped or paved areas; (4) Plowing for agricultural cultivation; and (5) Construction or placement of a building or other structure in an area where pavement, a building foundation or another barrier is required. Prior written approval is not required for emergency situations, maintenance activities, or replacement of existing barriers with substantially similar material for the areas shown on Figure 2.

This restriction is hereby declared to be a covenant running with the land and shall be fully binding upon all persons acquiring the above-described property whether by descent, devise, purchase or otherwise. This restriction inures to the benefit of and is enforceable by the Wisconsin Department of Natural Resources, its successors or assigns. The Department, its successors or assigns, may initiate proceedings at law or in equity against any person or persons who violate or are proposing to violate this covenant, to prevent the proposed violation or to recover damages for such violation.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Natural Resources or its successor issue a determination that one or more of the restrictions set forth in this covenant is no longer required. Upon the receipt of such a request, the Wisconsin Department of Natural Resources shall determine whether or not the restrictions contained herein can be extinguished. If the Department determines that the restrictions can be extinguished, an affidavit, attached to a copy of the Department's written determination, may be recorded by the property owner or other interested party to give notice that this deed restriction, or portions of this deed restriction, are no longer binding.

IN WITNESS WHEREOF, the owners of the property have executed this Declaration of Restrictions, this 20 day of December, 2007.

Flint Hills Resources, LP

By: [Signature] AFD

Printed Name: Randy D. Lenz

Title: V.P. Terminal Operations

Subscribed and sworn to before me this 20<sup>th</sup> day of December, 2007

[Signature]

Notary Public, State of Minnesota

My commission 01/31/2010

This document was drafted by Tetra Tech, Inc., with assistance from the Wisconsin Department of Natural Resources.

[S:\FINAL\_JCT Deed Restriction.doc]











## F.2. Certified Survey Map

- Attached is the certified survey for the parcel located in the fractional NW quarter of the NE quarter of Section 6, Township 24 North, Range 7 East. The other property parcels do not have a certified survey referenced in the Deed.

707245



CYNTHIA A WISINSKI  
PORTAGE COUNTY REGISTER OF DEEDS  
RECEIVED FOR RECORD  
AUG. 10, 2007 AT 08:10AM

GSM#9406-40-36

*Cynthia A. Wisinski*

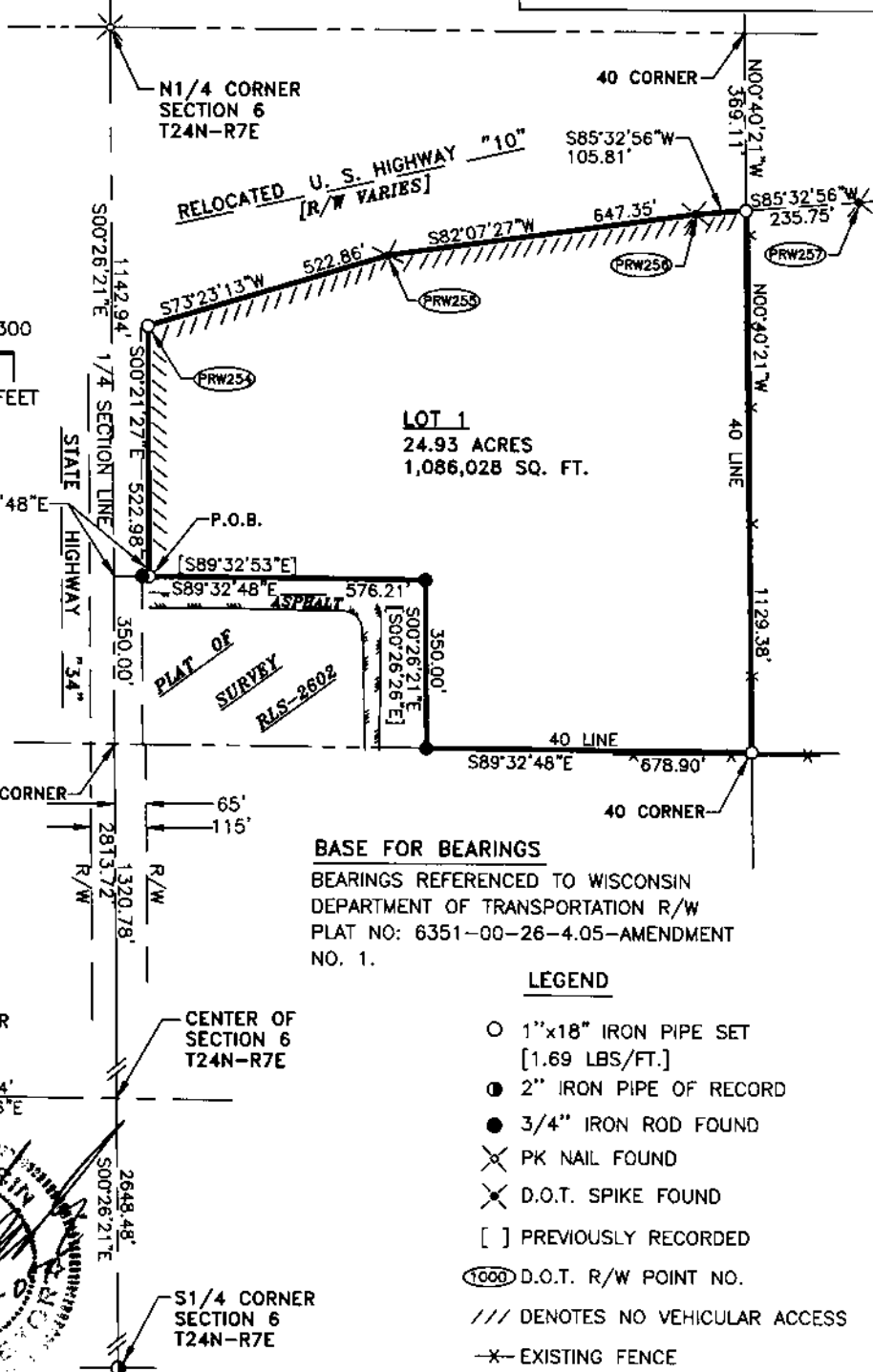
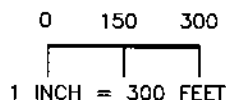
CYNTHIA A WISINSKI, REGISTER OF DEEDS  
Fee Amount: \$13.00

### CERTIFIED SURVEY MAP NO.

LOCATED IN PART OF THE FRACTIONAL NORTHWEST 1/4 OF  
THE NORTHEAST 1/4 OF SECTION 6, TOWN 24 NORTH, RANGE  
7 EAST, TOWN OF CARSON, PORTAGE COUNTY, WISCONSIN



SCALE



**LOT 1**  
24.93 ACRES  
1,086,028 SQ. FT.

#### BASE FOR BEARINGS

BEARINGS REFERENCED TO WISCONSIN  
DEPARTMENT OF TRANSPORTATION R/W  
PLAT NO: 6351-00-26-4.05-AMENDMENT  
NO. 1.

#### LEGEND

- 1"x18" IRON PIPE SET [1.69 LBS/FT.]
- 2" IRON PIPE OF RECORD
- 3/4" IRON ROD FOUND
- ✕ PK NAIL FOUND
- ✕ D.O.T. SPIKE FOUND
- [ ] PREVIOUSLY RECORDED
- ⊙ D.O.T. R/W POINT NO.
- /// DENOTES NO VEHICULAR ACCESS
- x- EXISTING FENCE



THIS INSTRUMENT DRAFTED BY: DALE D. ROSICKY  
GLODOWSKI ROSICKY LAND SURVEYING, INC.

2925 POST ROAD  
STEVENS POINT, WI 54481  
715-342-9649

VOL.  
PAGE

SURVEYOR'S CERTIFICATE

I, JOSEPH S. GLODOWSKI, REGISTERED LAND SURVEYOR, DO HEREBY CERTIFY:

THAT I HAVE SURVEYED, DIVIDED, AND MAPPED THIS CERTIFIED SURVEY LOCATED IN PART OF THE FRACTIONAL NORTHWEST 1/4 OF THE NORTHEAST 1/4, SECTION 6, TOWN 24 NORTH, RANGE 7 EAST, TOWN OF CARSON, PORTAGE COUNTY, WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS.

COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 6, THENCE S00°26'21"E, 1,142.94 FEET, THENCE S89°32'48"E, 73.79 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION;  
THENCE CONTINUE S89°32'48"E, 576.21 FEET;  
THENCE S00°26'21"E, 350.00 FEET;  
THENCE S89°32'48"E, 678.90 FEET;  
THENCE N00°40'21"W, 1,129.38 FEET;  
THENCE S85°32'56"W, 105.81 FEET;  
THENCE S82°07'27"W, 647.35 FEET;  
THENCE S73°23'13"W, 522.86 FEET;  
THENCE S00°21'27"E, 522.98 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION CONTAINING 24.93 ACRES, (1,086,028 SQUARE FEET), AND SUBJECT TO RESTRICTIONS, RESERVATIONS, RIGHTS-OF-WAY AND EASEMENTS OF RECORD.

THAT I HAVE MADE SUCH SURVEY AND MAP AT THE DIRECTION OF MARVIN L. DEJEAR, AGENT FOR KOCH PIPELINE. THAT SAID MAP IS A TRUE AND CORRECT REPRESENTATION OF ALL THE EXTERIOR BOUNDARIES OF THE LAND SURVEYED, AND THAT I HAVE COMPLIED WITH ALL THE PROVISIONS OF CHAPTER 236.34 OF THE WISCONSIN STATUTES IN SURVEYING AND MAPPING THE SAME.

AUGUST 6, 2007



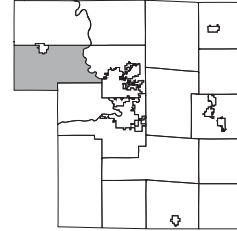
*Joseph S. Glodowski*  
JOSEPH S. GLODOWSKI  
REGISTERED LAND SURVEYOR #1333



## **F.3. Verification of Zoning**

# Town of Carson Zoning

Portage County, Wisconsin



## Portage County Zoning Districts

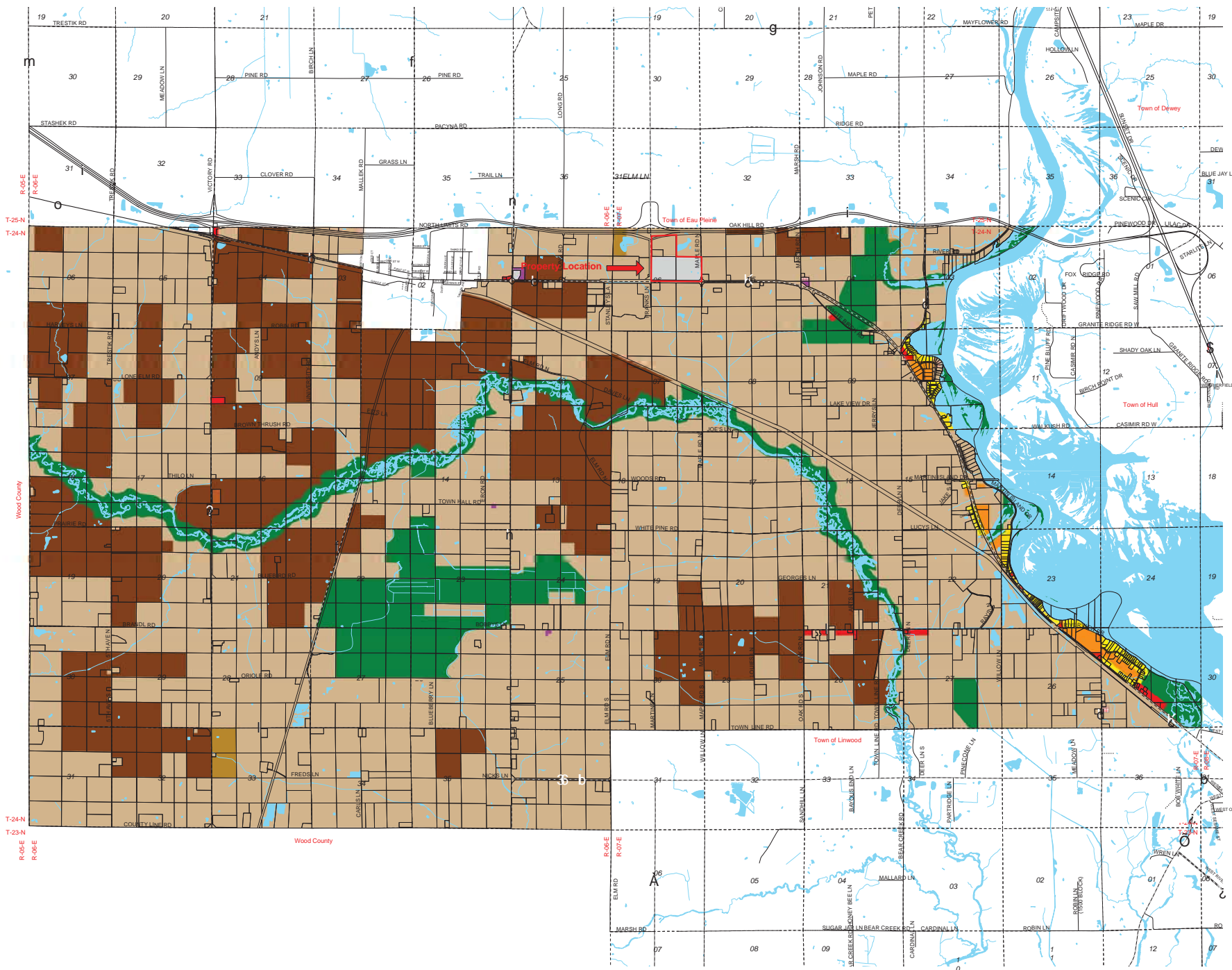
- R1 Rural and Urban Fringe Residence
- R2 Single Family Residence
- R3 One & Two Family Residence
- R4 Multiple Family Residence
- R5 Waterfront Residence
- RL Rural Limited
- CON Conservancy
- A1 Exclusive Agricultural
- A20 Primary Agricultural
- A2 Agricultural Transition
- A3 Low Density Agricultural
- A4 General Agricultural
- REC Recreational
- C1 Neighborhood Commercial
- C2 Marina
- C3 Commercial
- C4 Highway Commercial
- IND Industrial

- Interstate or U.S. Highway
- State Highway or County Road
- Local Road
- Private Road
- Section Lines
- Water Bodies (Conservancy unless otherwise noted)

## Notes

Original Adoption: March 19, 1969  
 Major Update: August 28, 1989  
 Map Updated: October 26, 2007

This zoning map is for illustrative purposes only.  
 For specific zoning questions, please consult  
 Portage County Planning and Zoning Staff.  
 Telephone: (715) 346-1334.





TETRA TECH, INC.

## **F.4. Signed Statement**



TETRA TECH, INC.

"I believe that the attached legal description of the Junction City, Wisconsin fuel terminal property, owned and operated by Flint Hills Resources, is the only property within the petroleum-impacted soil in excess of ch. NR 720 generic soil cleanup standards and/or ch. NR 746 direct contact or risk screening standards.

I also believe that the attached legal description of the Junction City, Wisconsin fuel terminal property is the only property that exhibits residual petroleum-impacted groundwater in excess of ch. NR 140 enforcement standards or preventative action limits at the current time."

Signed: \_\_\_\_\_

A handwritten signature in black ink, appearing to read "Jim Polum", written over a horizontal line.

Dated: \_\_\_\_\_

4.25.16

Jim Polum  
Junction City Terminal Manager  
Flint Hills Resources Pine Bend, LLC  
2267 County Highway HH  
Junction City, WI 54443



# **Notification to Owners of Affected Properties (Attachment G)**

- **No off-site impact associated with this release.**