

Technical Memorandum

To: Alex Smith, Enbridge Energy
From: Ryan Erickson
Subject: 2014 Superior Terminal Hydrant Replacement Project
Date: November 24, 2014
Project: 49161253.16

This memo summarizes the field screening and waste management assistance conducted by Barr Engineering (Barr) at the request of Enbridge Energy (Enbridge) in response to the discovery of historical, crude oil contaminated soil encountered in a fire hydrant replacement excavation located southeast of Tank 13 at the Enbridge Superior Terminal in Superior, Wisconsin (Figure 1) in 2014.

Background

During the summer and fall of 2014, Enbridge contractors replaced fire hydrant infrastructure at 13 locations at the Superior Terminal. Project tasks included excavating soil around the existing hydrant, replacing the hydrant and associated piping, and backfilling the excavation. Crude oil contaminated soil was encountered in one excavation southeast of Tank 13 (Figure 2). The Enbridge Environment department was contacted when the contaminated soil was encountered. Excavated contaminated material was managed in the Superior Terminal soil management area (SMA) (Figure 2) until off-site disposal could be coordinated.

Enbridge requested that Barr complete the following actions:

- review historical release information for this location
- assess the environmental site conditions
- document the environmental conditions present in the final excavation
- assist with the off-site disposal coordination of contaminated soil
- prepare a memorandum summarizing the extent of impacts and response actions completed.

Enbridge indicated that the crude oil contamination encountered in the hydrant replacement excavation near Tank 13 was likely historical based on the location and characteristics of the contaminated soil. Barr reviewed the Wisconsin Department of Natural Resources (WDNR) Bureau of Remediation and Redevelopment Tracking System (BRRTS) database for nearby release sites. Barr's findings are included in the *Results* section of this memo and historical WDNR release documents are included in Attachment A.

Field Methods

Barr was onsite at the Tank 13 hydrant excavation on September 19, 2014 (Photo 1) to document environmental site conditions encountered in the project's utility-locate hydrovac boring and assist with

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the contaminated soil management. Barr returned to the site on September 25, 2014 (Photos 2 and 3) to document the condition of the final excavation sidewalls and bottom through field screening and analytical sampling, if necessary.

The final excavation sidewalls and bottom were field screened by Barr for the presence of organic vapors using a photoionization detector (PID) and for the presence of other potential indicators of crude oil impacts such as odor, discoloration and sheen (Attachment B). As discussed in the pending WDNR Enbridge Superior Terminal *Site Investigation and Response Action Plan* (SIRAP) (2014), if soil was encountered in the final excavation extents with PID headspace readings greater than 10 parts per million (ppm), and that soil could not be excavated due to the presence of terminal infrastructure, the soil would be considered contaminated and an analytical sample would be collected from that location to document contaminant concentrations in the soil. Collected analytical samples are submitted to a laboratory for analysis of petroleum volatile organic compounds (PVOC) and naphthalene. Excavated soil with no evidence of contamination is used to backfill the excavation.

Results

Crude oil contaminated soil with a petroleum odor, staining and sheen was observed by the Tank 13 hydrant excavation contractors primarily in the vicinity of the vertical hydrant water pipeline. The final excavation was approximately 30 feet long by 20 feet wide by 10 feet deep (Photos 2 and 3; Figure 2; Attachment B). Soil in the excavation sidewalls and bottom consisted of fat clay.

Barr collected six soil field screening samples from the sidewalls and bottom of the final excavation extent and no residual contamination was identified. No analytical samples were collected from the excavation because no residual contamination was identified in the excavation sidewalls and bottom. The excavation was backfilled with clean soil after the completion of the hydrant maintenance activity.

Barr searched the WDNR BRRTS database for historical releases in this area and identified a 2003 4,500-barrel crude oil release (BRRTS# 0216513788) approximately 80 feet to the southwest of hydrant excavation ("Enbridge Energy-Nemadji River"). A 2003 Nemadji River release WDNR GIS registry figure (Attachment A) indicates that free-product was present in the same stormwater ditch and location as the 2014 Tank 13 hydrant excavation.

Waste Disposal Coordination and Documentation

Barr collected one waste characterization analytical sample from the excavated petroleum impacted soil stockpile (*2014 Hydrant-Stockpile-1*) for laboratory analysis at Legend Technical Services (Attachment D). The samples were analyzed for diesel range organics (DRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX). A waste profile application with the laboratory results was submitted to the Shamrock Landfill located in Cloquet, Minnesota and soil was accepted under waste profile #CL14-0051. A total of 89.72 tons of petroleum impacted soil and wood pellets was hauled to the landfill in October of 2014. The

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waste profile documents, the waste characterization laboratory report, and the landfill summary report are included in Attachment C.

Conclusions

Crude oil contaminated soil encountered in the hydrant replacement excavation southeast of Tank 13 was removed during the maintenance excavation activities. Contaminated material was properly disposed of at an off-site facility. No residual contamination was identified and the excavation was backfilled with clean fill material. Barr believes that no further response action or documentation beyond this report will be required by the WDNR.

Attachments:

Site Photos 1 through 3
Figure 1 Site Location
Figure 2 Site Layout – Hydrant Replacement
Attachment A WDNR Historical Release Documents
Attachment B Site Investigation Field Sampling and Screening Log
Attachment C Waste Management Documentation

SITE PHOTOS



Photo 1



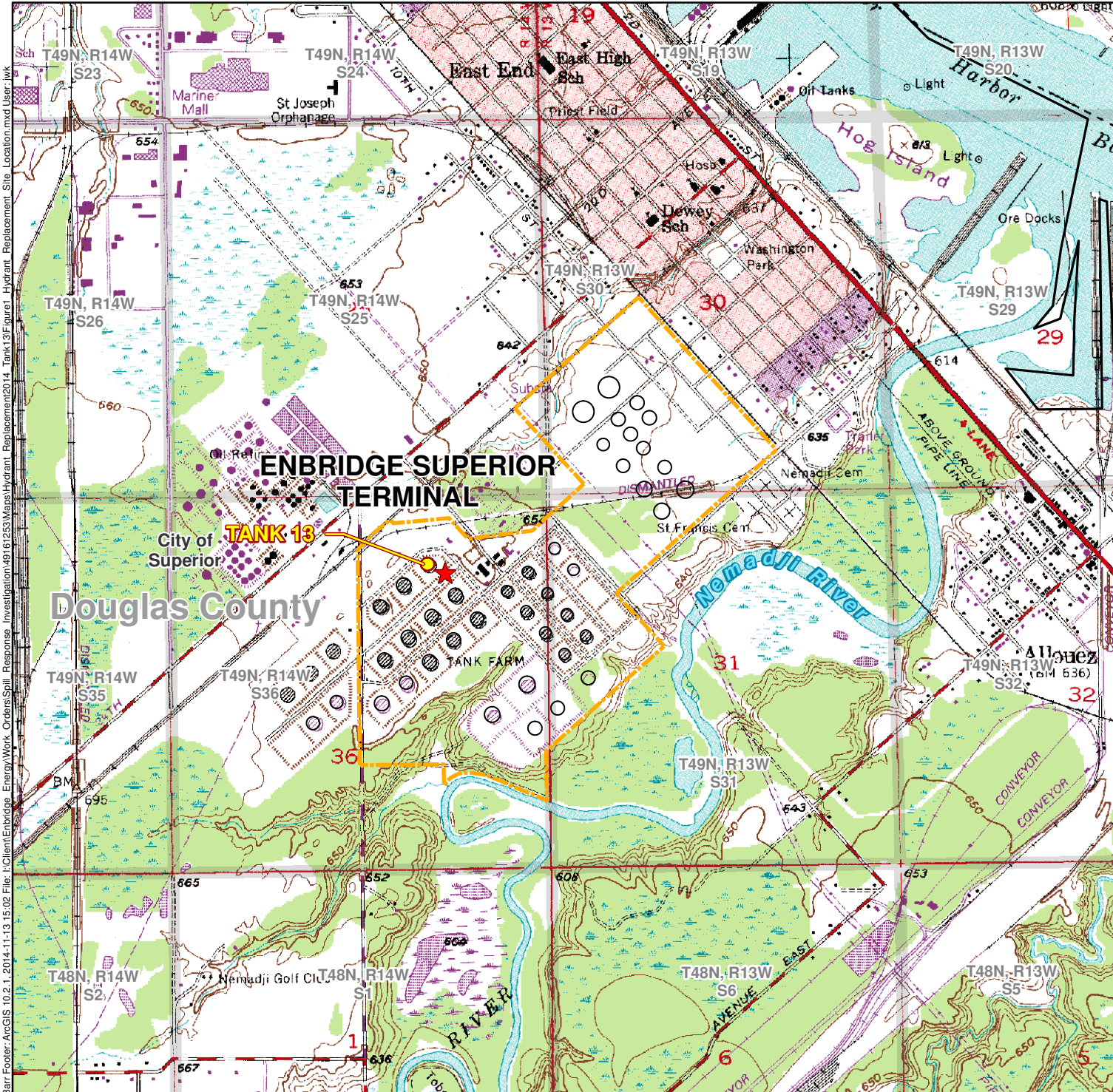
Photo 2

Photo 1: Location of contaminated pre-work utility locate pothole near the Tank13 hydrant replacement. Tank 13 is visible in the photo background. Photo taken facing west on September 19, 2014.

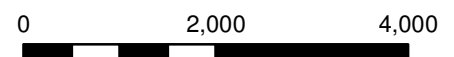
Photo 2: Final Tank 13 hydrant excavation. The hydrant water line is visible (black) in the bottom of the excavation. Photo taken facing west on September 25, 2014.



Photo 3: Final Tank 13 hydrant excavation. The hydrant water line is visible (black) in the bottom of the excavation. Photo taken facing northeast on September 25, 2014.



- ★ Site Location
- Tank 13
- Terminal Property Boundary



Feet
1 Inch = 2,000 Feet

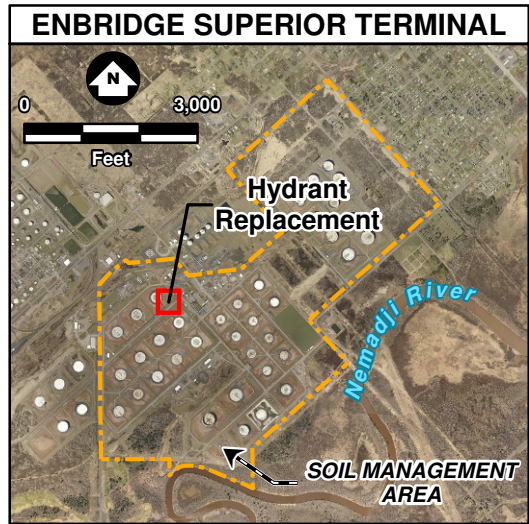
Figure 1






SITE LOCATION
HYDRANT REPLACEMENT
SUPERIOR TERMINAL
 Enbridge Energy, L.P.
 Superior, Wisconsin

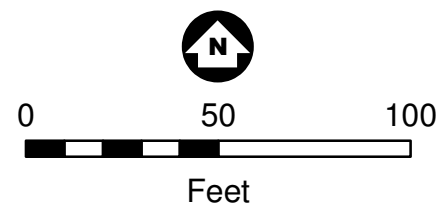


Barr Footer: ArcGIS 10.2.1, 2014-11-13 15:02 File: I:\Client\Enbridge_Energy\Works_Orders\Spill_Response_Investigation\4916152\Maps\Hydrant_Replacement2014_Tank13\Figure1_Hydrant_Replacement_Site_Location.mxd User: jwk

Tank 13



-  Replaced Hydrant
-  Sample Locations
-  Excavation Extent
-  Pipeline Infrastructure
-  Terminal Property Boundary



1 Inch = 50 Feet
 Douglas County Imagery Circa Spring, 2013
 Figure 2

**SITE LAYOUT
 HYDRANT REPLACEMENT
 SUPERIOR TERMINAL**
 Enbridge Energy, L.P.
 Superior, Wisconsin



Attachment A

WDNR Historical Release Documents

GIS REGISTRY

Cover Sheet

July, 2008
(RR 5367)

Source Property Information

BRRTS #:

ACTIVITY NAME:

PROPERTY ADDRESS:

MUNICIPALITY:

PARCEL ID #:

CLOSURE DATE:

FID #:

DATCP #:

COMM #:

*WTM COORDINATES:

X: Y:

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

WTM COORDINATES REPRESENT:

- Approximate Center Of Contaminant Source
- Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

Contaminated Media:

Groundwater Contamination > ES (236)

Contamination in ROW

Off-Source Contamination

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

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

Contamination in ROW

Off-Source Contamination

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

Land Use Controls:

Soil: maintain industrial zoning (220)

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

Structural Impediment (224)

Site Specific Condition (228)

Cover or Barrier (222)

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

Vapor Mitigation (226)

Maintain Liability Exemption (230)

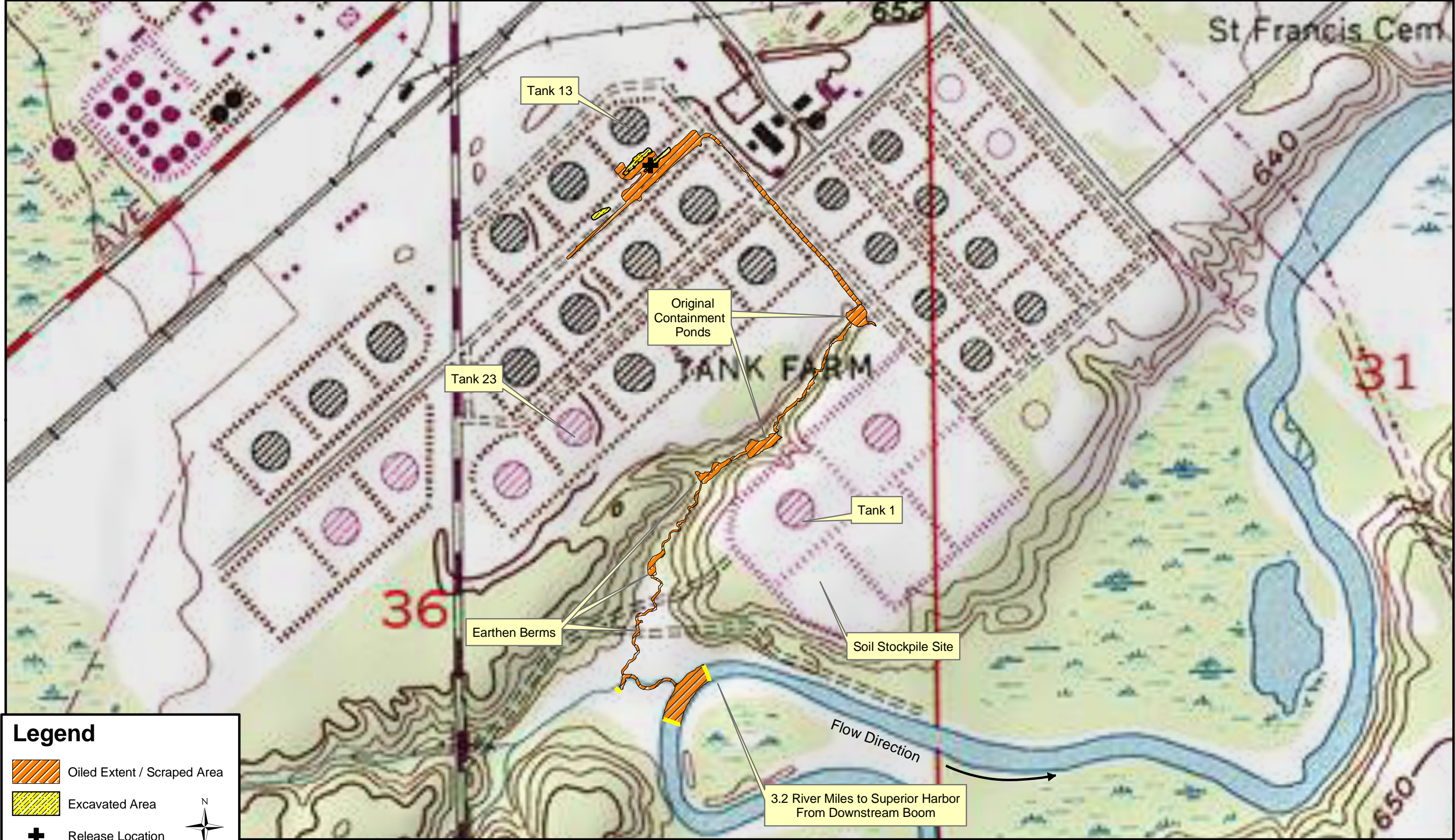
*(note: local government or economic
development corporation)*

Monitoring wells properly abandoned? (234)





Yes No N/A


** Residual Contaminant Level*

***Site Specific Residual Contaminant Level*



Legend


-  Oiled Extent / Scraped Area
-  Excavated Area
-  Release Location
-  Sorbent Booms & Hay Bales

N


Enbridge Energy, Limited Partnership

Figure 2 : Superior Terminal Nemadji Release - Site Map



DATE ISSUED: 1/26/2003	
DATE REVISED: 12/12/03	
SCALE: 1:6,011	
DRAWN BY: JAS Z:\Enbridge\Leaks, Remediation, Compliance, Operations\Superior Terminal\Superior-Nemadji_Jan24,2003\maps	
SERIES: Douglas County	715-395-5680



Attachment B

Site Investigation Field Sampling and Screening Log

Attachment C

Waste Management Documentation

P.O. Number	Customer Code	SKB Representative	CL
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I. Generator Information

Generator Name: Enbridge Pipelines Limited Partnership, LLC		Generator EPA ID Number	SIC Code
Generator Location: Enbridge Superior Terminal - 2014 Hydrant Excavations	County: Douglas	Generator Contact: Alex Smith	
		Phone: 715-398-4795	Fax: 832-325-5511
Generator Mailing Address (if different: 1320 Grand Ave, Superior, WI 54880		Generator Email Address: alex.smith@enbridge.com	
Bill To Name & Address: Enbridge Energy, 1100 Louisiana Ave, STE. 3300, Houston, TX 77002	Bill To #:	Billing Contact: Alex Smith	
		Phone: 715-398-4795	Fax: 832-325-5511
		Billing Email Address: alex.smith@enbridge.com	
Invoice Contact:			

II. Waste Generation Information

Waste Name: Crude contaminated soil - Hydrant Excavations	Estimated rate of waste generation: 100 <input type="checkbox"/> Lbs. <input type="checkbox"/> tons <input checked="" type="checkbox"/> cy <input type="checkbox"/> drums	<input checked="" type="checkbox"/> one time <input type="checkbox"/> yearly
Generator Facility Operations and/or Site History: Enbridge Pipeline Terminal		
Describe the generating process or source of contaminated soil/debris and/or waste: Pipeline Terminal Activities		

III. Waste Composition and Constituents (list all known)

	Actual Range	
	%	ppm
Crude contaminated soil	100	

IV. Waste Properties

Physical state: <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Sludge <input type="checkbox"/> Gas	Free Liquids: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Content _____ %	pH Range: <input type="checkbox"/> <2 <input type="checkbox"/> 2-4 <input type="checkbox"/> 5-8 <input type="checkbox"/> 8-12.4 <input type="checkbox"/> >12.5	Flash point: <input type="checkbox"/> ≤ 140°F <input type="checkbox"/> > 140°F to < 200°F <input type="checkbox"/> > 200°F	Color: Brown	Odor (describe): petroleum odor
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V. Waste Classification

Waste stream properties (answer ALL questions)	Does this waste contain absorbents? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does this waste stream contain any D, F, K, U or P listed as hazardous waste, either in pure form, as a mixture, or treatment residue? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this waste lethal (by Minn. Rules 7045.0131 Subp. 6)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does this waste stream contain PCB material If yes, concentration: _____ ppm <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this waste recyclable? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does this waste stream contain fuming acids? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this waste explosive? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does this waste contain asbestos? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this waste infectious? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does this waste contain oxidizers? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this putrescible waste? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does this waste contain radioactive material? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this waste demolition debris? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Is this waste sewer sludge? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Please attach any available information or analytical test results that have previously been performed on this waste that substantiates these determinations. Include MSDS's and any information from other agencies (i.e., MPCA, USEPA)	

VI. Shipping Information

Proper DOT Shipping Name (per CFR 172.101) where applicable			
Reportable Quantity	DOT Hazard Class	UN/NA Number	Packing Group
Method of packaging: <input type="checkbox"/> drums (size _____) <input checked="" type="checkbox"/> Bulk Solids <input type="checkbox"/> boxes (size _____)		Method of shipment <input type="checkbox"/> Roll-off <input checked="" type="checkbox"/> End dump <input type="checkbox"/> Rail <input type="checkbox"/> Other (Specify) _____	

VII. Certification of Non Hazardous Waste & Approval Conditions

I hereby certify and warrant, on behalf of the generator and myself that, to the best of my knowledge and belief, the information contained herein is accurate, and true and that the waste is nonhazardous as defined in Title 42, Unites States Code Section 6903, Minnesota Statute Section 116.06, Subdivision 13, and/or any rules adopted by the Minnesota Pollution Control Agency under Minnesota Statute Section 116.07.

I understand that any approval is no longer valid if there are any changes in the process generating the waste or there have been changes in the composition of the waste. Therefore, if the composition of the waste stream changes or potentially changes, I or someone representing the generator, will immediately notify SKB Environmental. I, on behalf of the generator, hereby agree to fully indemnify SKB Environmental for any damages and/or costs incurred as a result of this certification being inaccurate or untrue.

	Alex Smith	Environmental Analyst	10-1-14
Signature	Printed Name	Title	Date



88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

September 30, 2014

Ms. Andrea Nord
Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Work Order Number: 1404351
RE: 49161253

Enclosed are the results of analyses for samples received by the laboratory on 09/24/14. If you have any questions concerning this report, please feel free to contact me.

Results are not blank corrected unless noted within the report. Additionally, all QC results meet requirements unless noted.

All samples will be retained by Legend Technical Services, Inc., unless consumed in the analysis, at ambient conditions for 30 days from the date of this report and then discarded unless other arrangements are made. All samples were received in acceptable condition unless otherwise noted.

WI Accreditation #998022410

Prepared by,
LEGEND TECHNICAL SERVICES, INC

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

Bach Pham
Client Manager II
bpham@legend-group.com

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2014 Hydrant-Stockpile-1	1404351-01	Soil	09/19/14 10:45	09/24/14 09:00

Shipping Container Information

Default Cooler	Temperature (°C): 2.3	
Received on ice: Yes	Temperature blank was present	Received on ice pack: No
Received on melt water: No	Ambient: No	Acceptable (IH/ISO only): No
Custody seals: No		

Case Narrative:

The dry weight correction and dilution applies to the sample result, MDL, and RL.

Ethylbenzene was present in the method blank between the MDL and RL for the BTEX analysis.

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2014 Hydrant-Stockpile-1 (1404351-01) Soil Sampled: 09/19/14 10:45 Received: 09/24/14 9:00										
Diesel Range Organics	<10	10	1.6	mg/kg dry	1	B4I2404	09/24/14	09/25/14	WI(95) DRO	
Surrogate: Triacontane (C-30)	85.2			70-130 %		"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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WI(95) GRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2014 Hydrant-Stockpile-1 (1404351-01) Soil Sampled: 09/19/14 10:45 Received: 09/24/14 9:00										
Benzene	0.011	0.039	0.0045	mg/kg dry	1	B4I2605	09/26/14	09/27/14	WI(95) GRO	J
Ethylbenzene	0.033	0.039	0.010	mg/kg dry	1	"	"	"	"	B-01, J
Toluene	<0.0064	0.039	0.0064	mg/kg dry	1	"	"	"	"	
Xylenes (total)	0.083	0.12	0.022	mg/kg dry	1	"	"	"	"	J
Surrogate: 4-Fluorochlorobenzene	100			80-150 %		"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2014 Hydrant-Stockpile-1 (1404351-01) Soil Sampled: 09/19/14 10:45 Received: 09/24/14 9:00										
% Solids	64			%	1	B4I2505	09/25/14	09/25/14	% calculation	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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DRO/8015D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B4I2404 - Sonication (Wisc DRO)											
Blank (B4I2404-BLK1)											
						Prepared & Analyzed: 09/24/14					
Diesel Range Organics	< 8.0	8.0	1.3	mg/kg wet							
Surrogate: <i>Triacontane (C-30)</i>	13.2			mg/kg wet	16.0		82.6	70-130			
LCS (B4I2404-BS1)											
						Prepared & Analyzed: 09/24/14					
Diesel Range Organics	59.9	8.0	1.3	mg/kg wet	64.0		93.7	70-120			
Surrogate: <i>Triacontane (C-30)</i>	12.4			mg/kg wet	16.0		77.5	70-130			
LCS Dup (B4I2404-BSD1)											
						Prepared: 09/24/14 Analyzed: 09/25/14					
Diesel Range Organics	61.2	8.0	1.3	mg/kg wet	64.0		95.6	70-120	2.06	20	
Surrogate: <i>Triacontane (C-30)</i>	13.1			mg/kg wet	16.0		81.7	70-130			

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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WI(95) GRO/8015D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B4I2605 - EPA 5035 Soil (Purge and Trap)											
Blank (B4I2605-BLK1)						Prepared & Analyzed: 09/26/14					
Benzene	< 0.0029	0.025	0.0029	mg/kg wet							
Ethylbenzene	0.00773	0.025	0.0064	mg/kg wet							J
Toluene	< 0.0041	0.025	0.0041	mg/kg wet							
Xylenes (total)	< 0.014	0.075	0.014	mg/kg wet							
Surrogate: 4-Fluorochlorobenzene	23.5			ug/L	25.0		94.1	80-150			
LCS (B4I2605-BS1)						Prepared & Analyzed: 09/26/14					
Benzene	96.0			ug/L	100		96.0	80-120			
Ethylbenzene	95.4			ug/L	100		95.4	80-120			
Toluene	95.8			ug/L	100		95.8	80-120			
Xylenes (total)	278			ug/L	300		92.7	80-120			
Surrogate: 4-Fluorochlorobenzene	24.0			ug/L	25.0		95.9	80-150			
LCS Dup (B4I2605-BSD1)						Prepared: 09/26/14 Analyzed: 09/27/14					
Benzene	97.8			ug/L	100		97.8	80-120	1.91	20	
Ethylbenzene	95.6			ug/L	100		95.6	80-120	0.300	20	
Toluene	96.2			ug/L	100		96.2	80-120	0.342	20	
Xylenes (total)	283			ug/L	300		94.4	80-120	1.84	20	
Surrogate: 4-Fluorochlorobenzene	23.5			ug/L	25.0		94.1	80-150			
Matrix Spike (B4I2605-MS1)						Source: 1404348-02 Prepared: 09/26/14 Analyzed: 09/27/14					
Benzene	101			ug/L	100	<	101	80-120			
Ethylbenzene	98.7			ug/L	100	0.255	98.4	80-120			
Toluene	98.3			ug/L	100	<	98.3	80-120			
Xylenes (total)	292			ug/L	300	0.354	97.1	80-120			
Surrogate: 4-Fluorochlorobenzene	25.2			ug/L	25.0		101	80-150			

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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PERCENT SOLIDS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B4I2505 - General Preparation											
Duplicate (B4I2505-DUP1)											
Source: 1404351-01 Prepared & Analyzed: 09/25/14											
% Solids	66.0			%		64.0			3.08	20	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 49161253 Project Number: 49161253.16 Project Manager: Ms. Andrea Nord	Work Order #: 1404351 Date Reported: 09/30/14
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Notes and Definitions

J	Parameter was present between the MDL and RL and should be considered an estimated value
B-01	Analyte was present in the method blank. Sample result is less than or equal to 10 times the blank concentration.
<	Less than value listed
dry	Sample results reported on a dry weight basis
NA	Not applicable. The %RPD is not calculated from values less than the reporting limit.
MDL	Method Detection Limit
RL	Reporting Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Spike = Blank Spike (BS) = Laboratory Fortified Blank (LFB)
MS	Matrix Spike = Laboratory Fortified Matrix (LFM)

LEGEND

Technical Services, Inc.

www.legend-group.com

88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Chain of Custody
4700 West 77th Street
Minneapolis, MN 55435-4803
(952) 832-2600

BARR

Project Number: 49101233.10 per REC 9/24/14 KR
Project Name: Embrose Hydrant Replacement
Sample Origination State: WI (use two letter postal state abbreviation)

COC Number: **No 43502**

Location	Start Depth	Stop Depth	Depth Unit (m, ft, or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix			Collection Time (hh:mm)	Type
						Water	Soil	Grab		
1. 2014 Hydrant - 40446.1				9/19/16	1045	X	X	X		
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

COC 1 of 1

Project Manager: REC

Project QC Contact: NET

Sampled by: REC

Laboratory: Legend

020, BTEX, O, PP

ASAP TAT

Number of Containers/Preservative

Water	Soil	Total Number Of Containers
VOCs (HCl) #1		
VOCs (unpreserved) #2		
Dissolved Metals (HNO ₃)		
Total Metals (HNO ₃)		
General (unpreserved) #3		
Diesel Range Organics (HCl)		
Nutrients (H ₂ SO ₄) #4		
VOCs (unpreserved) #1		
VOCs (unpreserved) #2		
Metals (unpreserved)		
SVOCs (unpreserved) #2		
% Solids (plastic vial, unpres.)		

Relinquished By: Bob Sers Date: 9/24/14 Time: 1050

Relinquished By: MM Date: 9/24/14 Time: 1400

Samples Shipped VIA: Air Freight Federal Express Sampler

Air Bill Number: 230

Common Parameter/Container - Preservation Key

#1 - Volatile Organics = BTEX, GRQ TPH, 8260 Full List
#2 - Semivolatile Organics = PAHs, PCP, Dioxins, 8270 Full List, Herbicide/Pesticide/PCBs
#3 - General = pH, Chloride, Fluoride, Alkalinity, TSS, TDS, TS, Sulfate
#4 - Nutrients = COD, TOC, Phenols, Ammonia Nitrogen, TKN

H:\PLS\STDF\ORMS\Chain of Custody Form 2008_RLG_Max_0901108

Distribution: White-Original Accompanies Shipment to Lab; Yellow - Field Copy; Pink - Lab Coordinator

Notification of Waste Acceptance

10/1/2014

CUSTOMER INFORMATION

EPA ID#:
Enbridge Superior Terminal
2014 Hydrant Excavations

Enbridge Pipelines Superior Terminal
1320 Grand Ave
Superior, WI 55720
Contact: Alex Smith
Phone: (715) 398-4795

Profile Sheet #:
Waste Stream #: CL14-0051
Waste Name: crude contaminated soil Hydrant Excavations

INVOICE INFORMATION

Bill #: 2133
Enbridge Pipelines Limited Partnership,
Accounts Payable

1100 Louisiana Ave, Ste 3300
Houston, TX 77002
Contact: Alex Smith
Phone: (715) 398-4795

Thank you for selecting SHAMROCK LANDFILL for your waste management requirements. Your waste stream has been reviewed and is acceptable for management at our facility based on the information provided in the profile sheet number listed above and conditions below. Our facility has the necessary permits to allow the storage, treatment, or disposal of this waste. The above referenced acceptance number should be listed on all shipping documents and correspondence. Please retain these documents for your records and future reference.

To schedule a shipment, or should you have any questions, please contact the facility at (218) 878-0112.

ACCEPTANCE INFORMATION

The waste stream identified by the reference above is acceptable for disposal.
The anticipated frequency of shipment is 100 YARDS / ONE TIME ONLY

This waste is acceptable for delivery beginning on 10/1/2014 thru 10/1/2018 at which time the material will need to be reanalyzed and recertified.

PCB Statement: The Minnesota Pollution Control Agency encourages generators of non-hazardous PCB waste to voluntarily manage the waste as hazardous waste or to seek an alternative to land disposal such as incineration

Spill Reporting Reminder: Proper County and MPCA spill reporting procedures must be followed.

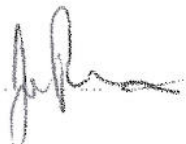
Empty Container Statement: Each shipment containing empty containers must be accompanied with a completed 'EMPTY CONTAINER CERTIFICATION FORM'.

Free Liquid Statement: Free liquids will not be placed in cells at Shamrock Landfill. Free liquids must be solidified either prior to shipment to Shamrock Landfill or at Shamrock Landfill.

Shipping Requirements A NON-HAZARDOUS certificate is required to be on file, certifying the waste is non-hazardous as specified per 40 CFR 261.4. The shipment must be accompanied with an Shamrock Landfill manifest.

AUTHORIZATION

Approval: _____



Date: 10/1/14

October 01, 2014

Alex Smith
Enbridge Pipelines Limited Partnership, LLC
Accounts Payable
1100 Louisiana Ave, Ste 3300
Houston, TX 77002

RE: CL14-0051 crude contaminated soil Hydrant Excavations

Dear Mr. Smith,

This agreement will confirm the price and length of service for disposal and /or transportation of your non-hazardous industrial material at our facility. This agreement is for the term of the Waste Approval granted by Shamrock Landfill and is for all services ordered and performance initiated within such period and does include the disposal surcharge fees which you are obligated to pay as of the date of this agreement. Shamrock Landfill may incur additional costs including but not limited to increases in state and local taxes. Shamrock Landfill may pass these costs on to the customer only after notification to the Customer. This agreement grants Shamrock Landfill the exclusive right to dispose of the referenced waste for the term of this agreement. This agreement shall automatically renew thereafter for an additional term of 24 months "Renewal Term" unless either party gives the other party written notification of termination at least 90 days prior to the termination of the then-existing term. Shamrock Landfill will notify the customer prior to the expiration of the agreement of any rate changes prior to the start of the Renewal Term.

Payment and terms are net thirty (30) days. Interest will be charged at a rate of 1 ½% per month (18% annually) on any unpaid balance 30 days after the date of the invoice. In the event Customer terminates this Agreement prior to its expiration other than as a result of a breach by Shamrock Landfill or Shamrock Landfill terminates this agreement for Customer's breach (including nonpayment) Customer agrees to pay to Shamrock Landfill as liquidated damages a sum calculated as follows: (1) if the remaining term under this agreement is six or more months Customer shall pay its average monthly charges multiplied by six: or (2) if the remaining term under this agreement is less than six months Customer shall pay its average monthly charge multiplied by the number of months remaining in the term. Customer expressly acknowledges that in the event of an unauthorized termination of this agreement the anticipated loss to Shamrock Landfill in such event is estimated to be the amount set forth in the foregoing liquidated damages provision and such estimated value is reasonable and is not imposed as a penalty.

These prices are based on an approved waste stream composition. In the event that a non-conforming waste is received, you will be notified of additional charges, when applicable.

To accept this agreement, please sign one copy and return it to our St. Paul, MN office at Shamrock Landfill, 251 Starkey St., St. Paul, MN 55107 or Via Fax at 651-223-8197 or email to jonp@shamrocklandfill.com.

Shamrock Landfill


Jon Penheiter

Customer ACCEPTED BY: (name, position) Alex Smith Euv Analyst

DATE: 10-2-14

WASTE APPROVAL Period: 10/1/2014 to 10/1/2018

Bill To Customer

Enbridge Pipelines Limited Partnership, LLC
Accounts Payable
1100 Louisiana Ave, Ste 3300
Houston, TX 77002

Service For Generator

Enbridge Superior Terminal
Enbridge Pipelines Superior Terminal
1320 Grand Ave
Superior, WI 55720

Disposal

Waste Description: crude contaminated soil Hydrant Excavations

Estimated Volume: 100 YARDS / ONE TIME ONLY

Disposal Method: Secure Non-Hazardous Landfill

Treatment Method: None Expected For Conforming Waste

Pricing

Disposal	\$16.00	Per Ton	crude contaminated soil Hydrant Excavations
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LOGO

REPORT NAME: **Tons Each Load By WSID**
 DESCRIPTION: **Tonnage for EACH LOAD, grouped by customer**
 DATE RANGE: **10/01/2014 to 11/11/2014**
 PRINTED ON (DATE): **Tuesday, November 11, 2014**

ENB18

Enbridge Superior Terminal
 Enbridge Pipelines Superior Terminal
 Superior WI 55720

LOAD #	MANIFEST	ARRIVED	WASTE STREAM	WASTE NAME	CELL	SPOT.	LIFT	TONS
24228 (A)	52042	10/2/2014	CL14-0051	crude contaminated soil Hydrant Exc	2A	P44	1190	21.22
24381 (A)	52465	10/7/2014	CL14-0051	crude contaminated soil Hydrant Exc	2A	P44	1190	17.33
24393 (A)	52468	10/7/2014	CL14-0051	crude contaminated soil Hydrant Exc	2A	P44	1190	20.39
24403 (A)	52469	10/7/2014	CL14-0051	crude contaminated soil Hydrant Exc	2A	P44	1190	18.84
24418 (A)	52470	10/8/2014	CL14-0051	crude contaminated soil Hydrant Exc	2A	P44	1190	11.94

Total # of Loads: 5 **Total Tons: 89.72**

Grand Total (Tons): 89.72
Grand Total (Loads): 5