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BARR

Technical Memorandum

To: Karl Beaster, Enbridge Energy
From: Ryan Erickson
Subject: Enbridge Superior Terminal Tank 10 Contractor Pump Release
Date: September 19, 2013
Project: 49161227

This memorandum summarizes the response actions conducted by Barr Engineering (Barr), at the request of Enbridge Energy (Enbridge), following two crude oil releases near Tank 10 at the Enbridge Superior Terminal in Superior, Wisconsin (Figure 1).

Background

In the spring of 2013, an Enbridge maintenance contractor had two separate pump hose failures which resulted in crude oil releases to the ground surface near the southeast side of Tank 10 (Figure 2). The pump was located on the gravel ring road surrounding the tank and was being used to transfer crude oil from Tank 11 to Tank 10 during routine tank maintenance activities.

The first release occurred on May 19, 2013 when a pump hose ruptured. According to Enbridge personnel, approximately 10 to 15 gallons of crude oil was released onto the ground surface. The second release occurred on June 11, 2013 when a pump hose was removed from the pump by the contractor. The contractor reported to Enbridge personnel that approximately one quart of crude oil sprayed onto the ground surface. Additional crude oil was released and captured in the pumps secondary containment.

Enbridge reported both releases to the Wisconsin Department of Natural Resources (WDNR) after they occurred. Enbridge requested that Barr assist with the initial site assessment, remedial excavation oversight and waste disposal coordination for both release events.

Release Response

Enbridge personnel and the maintenance contractors immediately responded to each release. Response efforts included using a vacuum truck and oil absorbent pads to remove free product from the ground surface and the secondary containment (Photo 6) and the use of hand tools to excavate crude impacted

gravel and soil (Photo 7). Crude oil recovered with the vacuum truck was injected back into the pipeline system. The crude oil impacted gravel that was excavated was stockpiled in the terminal soil management area (SMA) (Photo 4; Figure 2) until offsite disposal could be coordinated.

Barr was onsite on May 20 and June 11, 2013 to field screen the initial response remedial excavations to determine whether residual crude oil impacts were still present and to assist with the waste disposal process. Barr field screened gravel and soil from the excavations for the presence of organic vapors with a photoionization detector (PID) and evidence of crude oil impacts such as odor, visual discoloration and sheen were also noted (Attachment A). Barr observed that the initial Enbridge release response actions removed the majority of the crude oil impacted soil; however, gravel and soil with residual crude oil impacts remained (Attachment A). Additional remedial excavation activities would be required to remove the remaining impacts. The additional remedial excavation work could not be completed immediately after the releases due to weather conditions and excavation safety requirements. To prevent potential residual contaminant migration caused by rain water, Enbridge covered the impacted area with plastic and placed oil absorbent booms around the perimeter (Photo 1).

Remedial Excavations

The follow up remedial excavations for the two releases occurred on June 3, 2013 and on July 11, 2013, respectively. Barr field screened the extents of both excavations, and the gravel and soil with evidence of crude oil impacts such as headspace greater than ten parts per million (ppm), petroleum odor, visual discoloration and sheen were noted and removed. In both remedial excavations, the crude oil impacts were limited to the tank ring road material which consisted of approximately 1 to 1.5 feet of gravel roadbed fill overlying red clay soil/fill. The crude oil impacted gravel and soil that was excavated was stockpiled in the terminal SMA until offsite disposal could be coordinated (Photo 4; Figure 2). Analytical soil samples were also collected from each excavation. Additional details about each remedial excavation are summarized below.

June 3, 2013 Remedial Excavation

On June 3, 2013, gravel and soil that was impacted from the May 19 pump release were excavated by an Enbridge contractor. Based on Barr field screening results, an area approximately 24 feet long by 5-15 feet wide by 1.5 feet deep was excavated as shown in Photos 2 and 3, Figures 2 and 3 and Attachment A.

Field screening results from the final excavation extent identified no soil with a headspace greater than ten ppm, a petroleum odor or staining (Attachment A). A total of approximately 15 tons of crude oil impacted gravel and soil was excavated and temporarily stockpiled at the terminal SMA until it could be approved for offsite disposal (Photo 4).

Five analytical soil samples (TK10-Scrap-1 through TK10-Scrape-5) were collected from the excavation bottom (Figure 3; Attachment A) on June 3, 2013 and were submitted to Pace Analytical Services in Minneapolis, Minnesota for analysis of diesel range organics (DRO) and petroleum volatile organic compounds (PVOC). Only three low level DRO detections (<20 mg/kg) were reported above method detection limits. These results are summarized in Table 1 and the laboratory report is provided in Attachment B. No sidewall samples were collected due to the shallow nature of the remedial excavation/scrape (the maximum depth of the excavation was approximately 1.5 feet bgs).

The excavation was backfilled with clean material after the completion of field screening and sampling (Photo 5).

July 11, 2013 Remedial Excavation

On July 11, 2013, impacted gravel and soil from the June 11 pump release (Photo 8) was excavated by an Enbridge contractor. Based on Barr field screening results, an area approximately 5 feet long x 4 feet wide x 1.75 feet deep was excavated as shown in Photo 9, Figures 2 and 3 and Attachment A. Field screening results from the final excavation extent identified no soil with a headspace greater than ten ppm, a petroleum odor or staining (Attachment A). Approximately five tons of crude oil impacted gravel and soil was excavated and temporarily stockpiled at the terminal SMA until it could be approved for offsite disposal.

Analytical soil sample TK10-Scrape-6 was collected from the excavation bottom (Figure 3; Attachment A) on July 11, 2013 and was submitted to Pace Analytical Services for analysis of petroleum volatile organic compounds (PVOC). There were no PVOCs detected above method detection limits. The results are summarized on Table 1 and the laboratory report is provided in Attachment B.

The excavation was backfilled with clean material after the completion of field screening and sampling (Photo 10).

Waste Disposal Coordination

One representative soil sample was collected from the contaminated stockpile (Photo 4) by Barr on June 3, 2013 for waste characterization profiling. The sample was submitted to Legend Technical Services in St. Paul, Minnesota for laboratory analysis of diesel range organics (DRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX). Upon receipt of the analytical results, the laboratory report was submitted to the Shamrock Landfill in Cloquet, Minnesota as part of the waste profile application (Attachment C) and the waste profile was accepted (profile #CL13-0025). Soil impacted in the June 11, 2013 release was included in the CL13-0025 profile based on generator knowledge. A total of 20.24 tons of contaminated soil was hauled to the landfill between June and August of 2013 (Attachment C).

Conclusions

The gravel and soil that had been impacted during the two separate Tank 10 pump release events was excavated and disposed of at an approved landfill facility. Residual soil impacts were not identified in the final excavation extents through field screening and the analytical soil samples did not result in PVOC concentrations above laboratory detection limits. Based on this information it appears that the response to the crude oil release sufficiently addressed the impacted soil and no further action is recommended.

Attachments:

Site Photos: 1-10
Figure 1: Tank 10 Site Location
Figure 2: Tank 10 Release Location Map
Figure 3: Tank 10 Site Layout Map
Table 1: Soil Analytical Data Summary - Tank 10 Excavation Samples
Attachment A: Enbridge Site Investigation Field Sampling and Screening Log
Attachment B: Pace Laboratory Report for the Excavation Extent Analytical Samples
Attachment C: Waste Disposal Documentation

SITE PHOTOS:

May 19, 2013 release response and remediation

Photo 1: Plastic sheeting and absorbent boom installed to prevent contaminant migration (May 20, 2013).

Photo 2 Photo 3

Photos 2 and 3: Remedial excavation activities at Tank 10 (June 3, 2013).

Photo 4 Photo 5

Photo 4: Approximately 5 cubic yards of Tank 10 crude oil impacted gravel and soil (June 3, 2013).
Photo 5: The backfilled Tank 10 release site (June 3, 2013).

June 11, 2013 release response and remediation


Photo 6


Photo 7

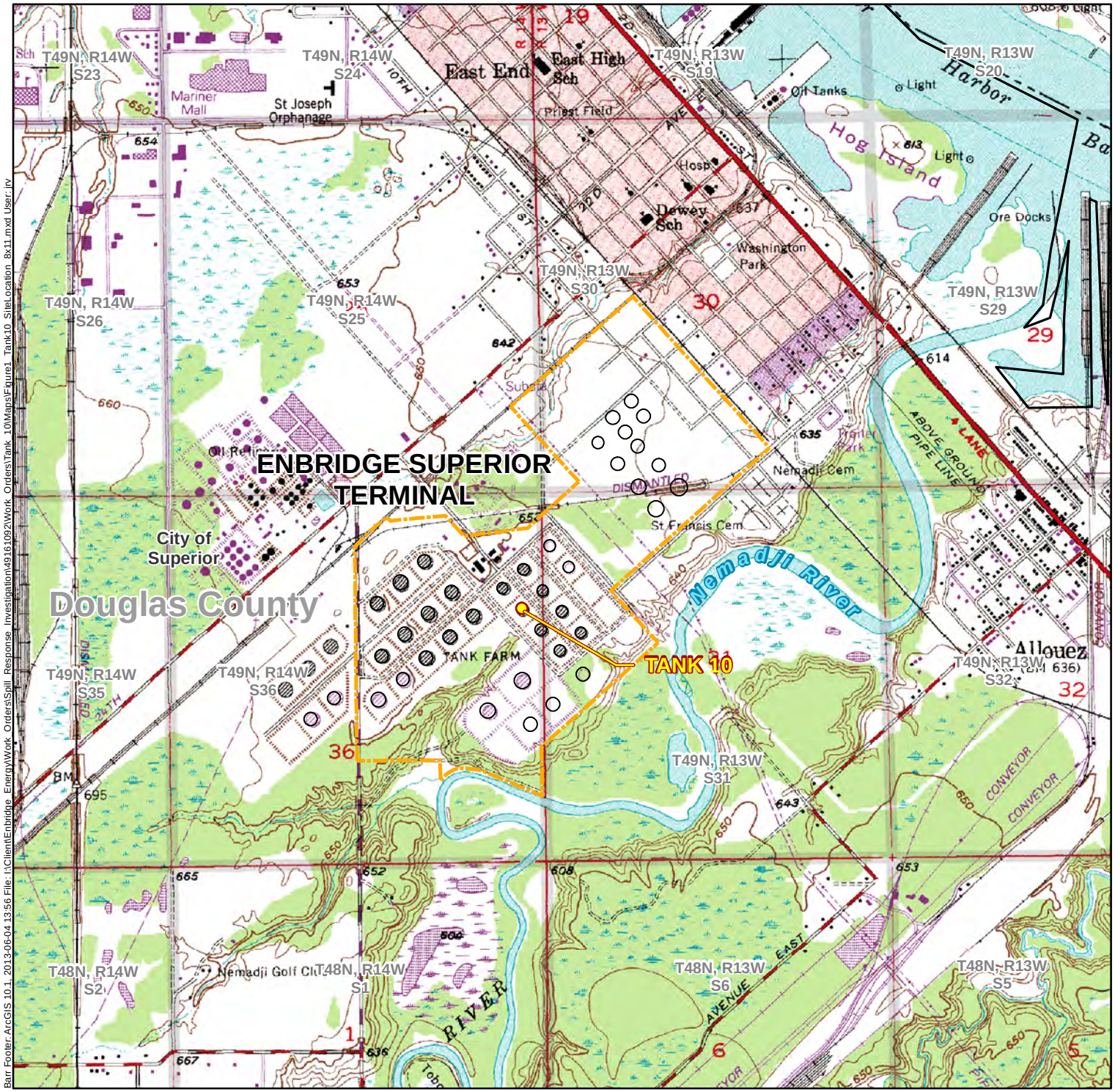
Photo 6: Contractor pump release response activities. The pump, oil absorbent pads and a vacuum truck are shown (June 11, 2013).
Photo 7: Hand tool excavation of crude oil impacted soil during the release response (June 11, 2013).


Photo 8


Photo 9

Photo 8: Crude oil stained ground prior to remedial excavation work (July 11, 2013).
Photo 9: The Tank 10 remedial excavation (July 11, 2013).

Photo 10: The backfilled Tank 10 release site (July 11, 2013).



Tank 10

Terminal Property Boundary

N

0 2,000 4,000

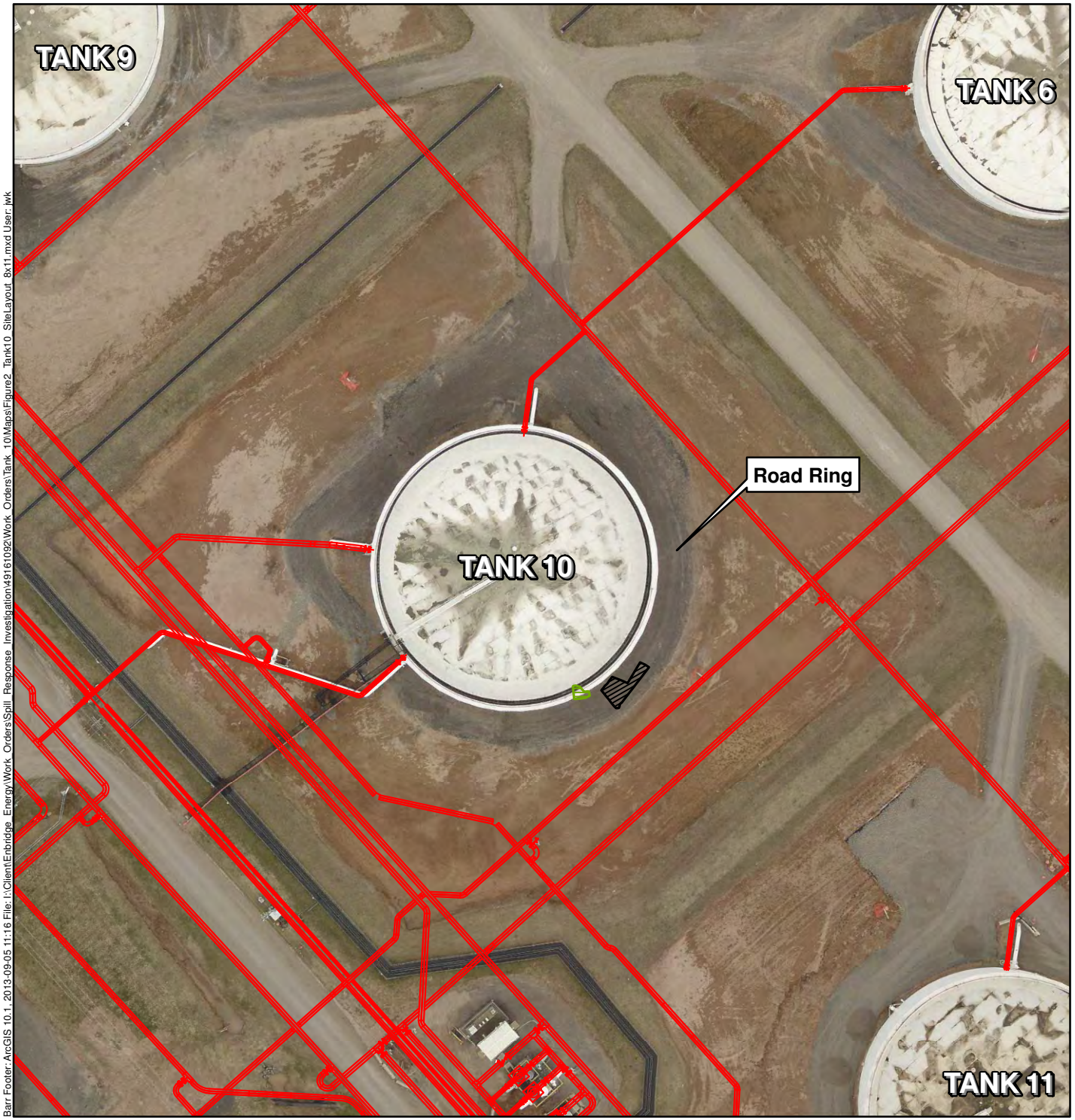
Feet

1 Inch = 2,000 Feet

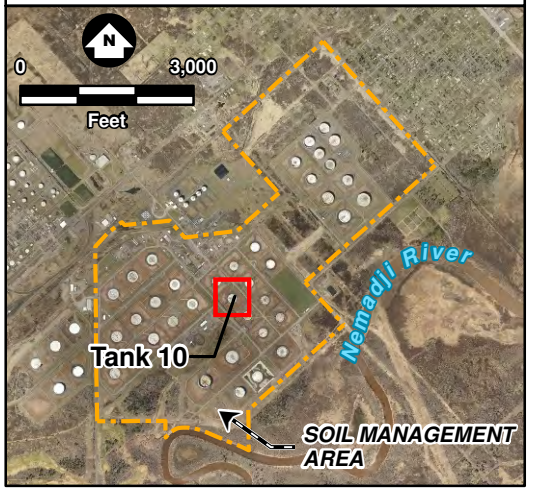
Figure 1

TANK 10 SITE LOCATION
SUPERIOR TERMINAL
Enbridge Energy, L.P.
Superior, Wisconsin

ENBRIDGE



ENBRIDGE SUPERIOR TERMINAL



- 05/19/13 Release Remedial Excavation
- 06/11/13 Release Remedial Excavation
- Pipeline Infrastructure
- Terminal Property Boundary

N

0 80 160

Feet

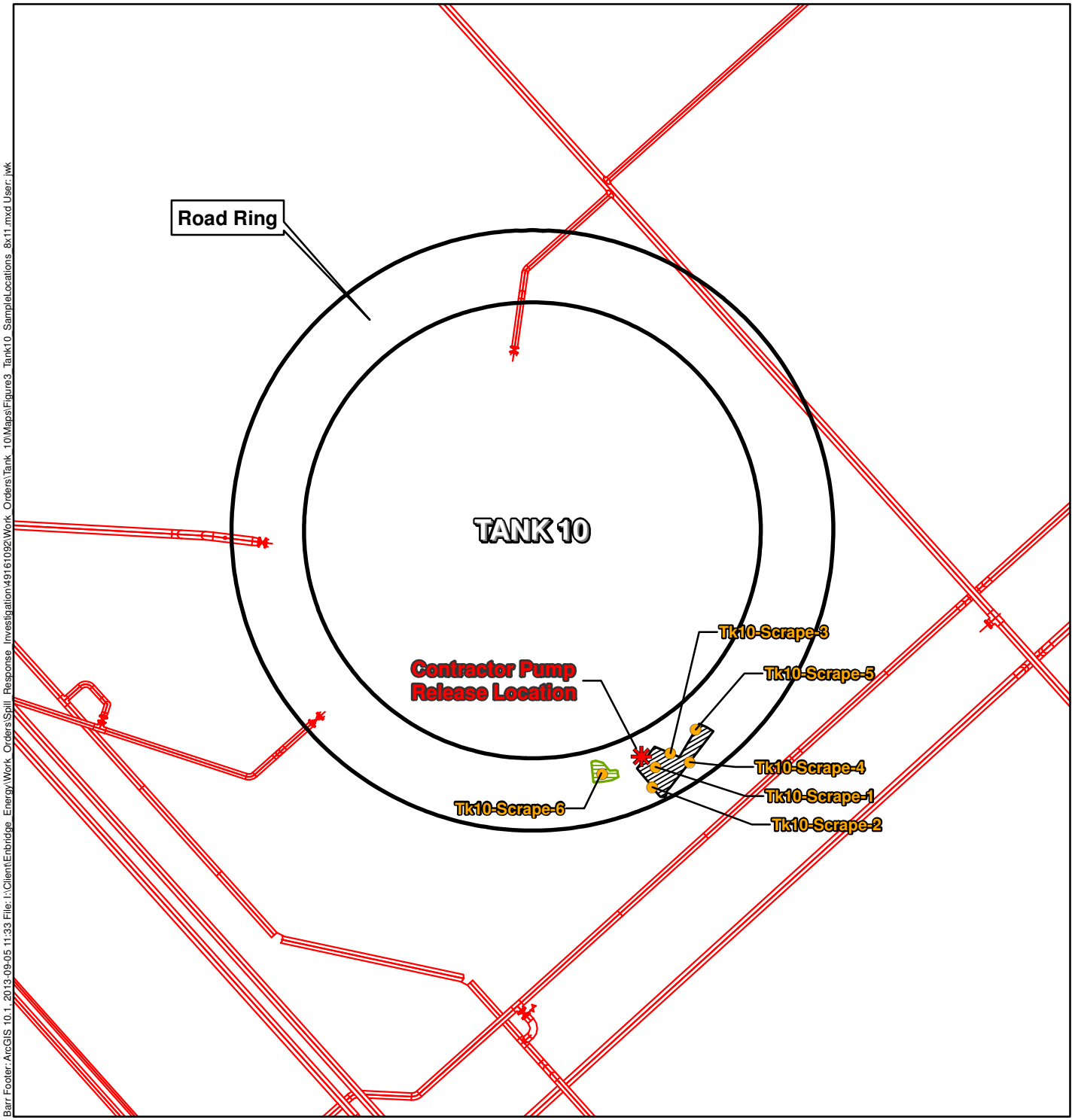
1 Inch = 80 Feet

Douglas County Aerial Photography Circa April/May, 2013

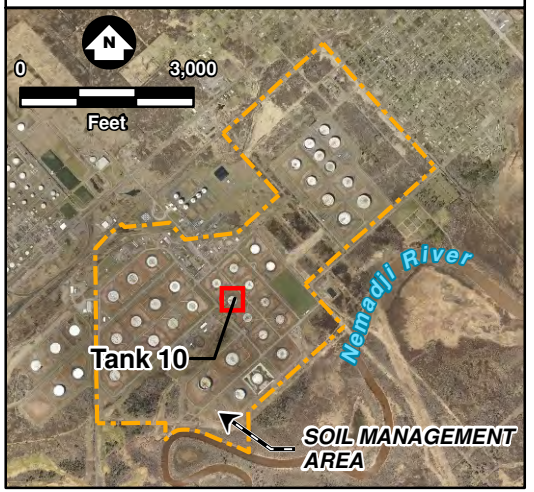
Figure 2

TANK 10 SITE LAYOUT MAP
SUPERIOR TERMINAL
Enbridge Energy, L.P.
Superior, Wisconsin

ENBRIDGE



ENBRIDGE SUPERIOR TERMINAL



- Release Location
- Analytical Sample Locations
- 05/19/13 Release Remedial Excavation
- 06/11/13 Release Remedial Excavation
- Road Ring Boundary
- Pipeline Infrastructure
- Terminal Property Boundary

N

0 50 100

Feet

1 Inch = 50 Feet

Douglas County Aerial Photography Circa April/May, 2013

Figure 3

TANK 10 SAMPLE LOCATIONS
SUPERIOR TERMINAL
Enbridge Energy, L.P.
Superior, Wisconsin

ENBRIDGE

Table 1
Soil Analytical Data Summary
Tank 10 Excavation Samples
Enbridge Superior Terminal, Superior, WI
Units, mg/kg (unless otherwise noted)

		Chemical Name	Moisture	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl benzene	Toluene	Xylene, total	Diesel Range Organics
	Effective Date	Exceedance Key								
Wisconsin Direct Contact Levels NR 746.06	9/1/2007	No Exceed				1.10				
Wisconsin Generic Residual Contaminant Levels NR 720.09	4/1/1997	No Exceed				0.0055	2.9	1.5	4.1	250 (1)
Location	**Date**	**Depth (ft)**								
TK10-Scrape-1	6/03/2013	1.5	15.0 %	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.20	< 12.4
TK10-Scrape-2	6/03/2013	1.5	14.5 %	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.18	12.7
TK10-Scrape-3	6/03/2013	1.5	14.0 %	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.20	17.3
TK10-Scrape-4	6/03/2013	1.5	21.3 %	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.20	14.2
TK10-Scrape-5	6/03/2013	1.5	20.4 %	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.22	< 13.0
TK10-Scrape-6	7/12/2013	1.75	8.6 %	< 0.055	< 0.055	< 0.055	< 0.055	< 0.055	< 0.16	--

-- Not analyzed/not available.

Attachment A

Enbridge Site Investigation Field Sampling and Screening Log

ENBRIDGE SITE INVESTIGATION FIELD SAMPLING AND SCREENING LOG

Date: 5/20/13

Location: *Milepost or Facility* Superior Terminal Tank 10

Sampler: CJC + 2

Equipment used: Photo *-ionization detector with* 10.6 *eV lamp* RAE 3000 Background Headspace: 0.5 (0.1) ppm

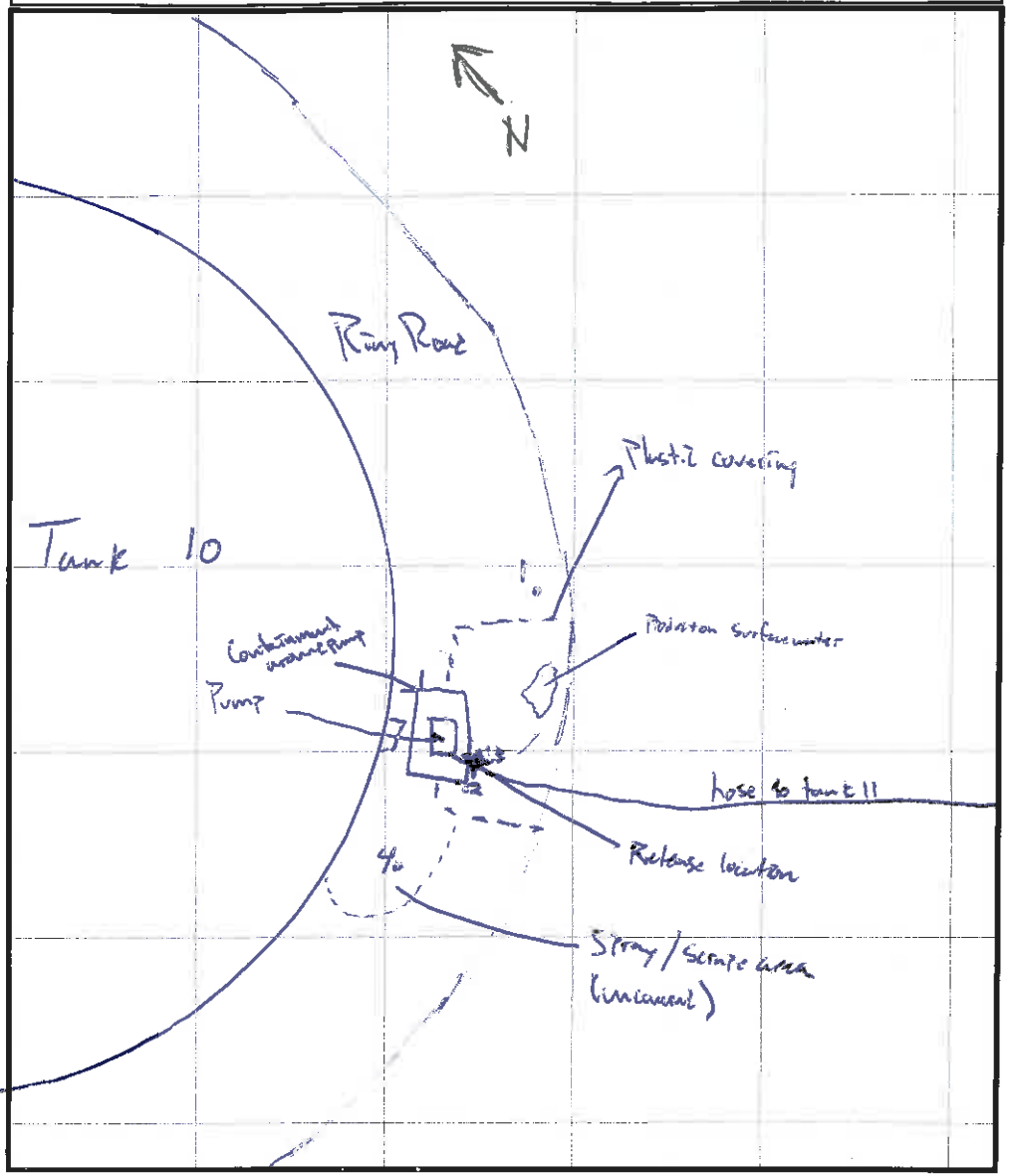
Calibration Time: 8:20

Sample Nomenclature *(Location - sample type - #)*: _____

Soil Sample Types: **R** = *Removed Sample* ; **S** = *Sidewall Sample* ; **B** = *Bottom Sample* ; **Stockpile** = *Stockpile Sample*

Sample ID	Depth (ft)	Time (military)	Soil Type (USCS)	Color/ Discolor	Odor/ Sheen	Headspace Reading (ppm)
Example R-1	4	16.30	CL	Reddish brown	Petroleum/ Rainbow	275
1	0.5	950	GP/SM	Grey/black	no/no	0.1
2	1.0	955	GP	Grey	Yes/yes(Rainbow)	37.5
3	2.0	955	SM	Grey	Yes/yes(Rainbow)	158.7
4	0.5	1000	GP	Grey	no/slight sheen	7.4

SITE SKETCH: *north is up; excavation extents and depths, sample locations, structures, utilities, boring locations, wells, natural features...* ***1 inch/grid =*** 30 ***FEET***



ENBRIDGE SITE INVESTIGATION FIELD SAMPLING AND SCREENING LOG

Location: *Milepost or Facility* Superior Terminal Tank 10 container Release

Equipment used: Photo *-ionization detector with* 10.6 *eV lamp* Background Headspace: 0.0 ppm

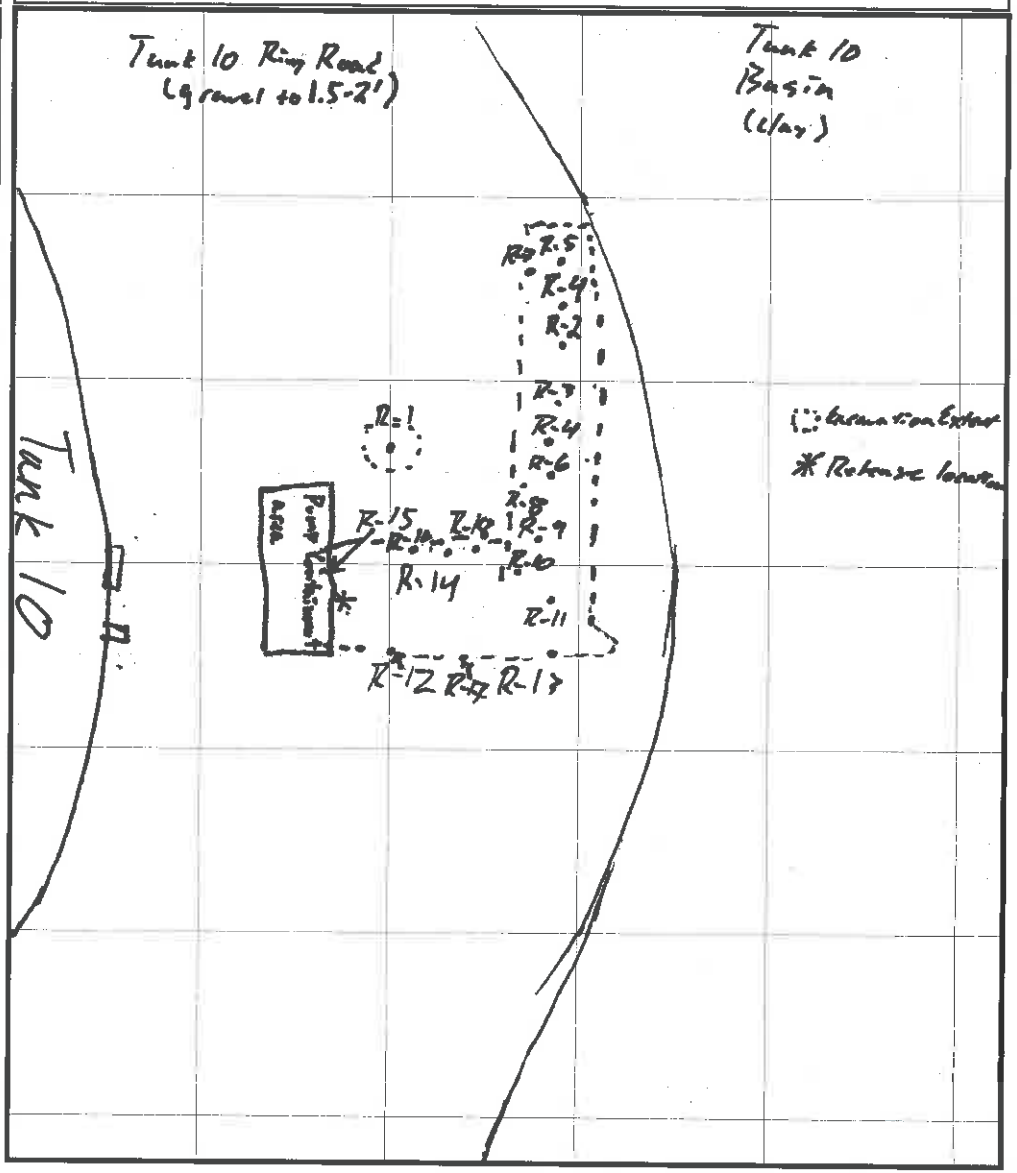
Date: 6/3/13
Sampler: CJOZ
Calibration Time: 730

Sample Nomenclature *(Location - sample type - #)*: _____

Soil Sample Types: **R** = *Removed Sample* ; **S** = *Sidewall Sample* ; **B** = *Bottom Sample* ; **Stockpile** = *Stockpile Sample*

Sample ID	Depth (ft)	Time (military)	Soil Type (USCS)	Color/ Discolor	Odor/ Sheen	Headspace Reading (ppm)
Example R-1	4	16:30	CL	Reddish brown	Petroleum/ Rainbow	275
R-1	1.0	900	SP	Red/brown	none/None	0.2
R-2	1.5	930	GP	Gray	Petroleum/ Silvery sheen	86.7
R-3	2.0	950	CL	Red/brown	none/none	0.0
R-4	1.5	1000	GP	Gray	Petroleum/ Slight sheen	14.9
R-5	1.5	1008	GP	Gray	none/None	0.9
R-6	1.5	1010	GP/CL	Red brown/gray	none/none	0.6
R-7	1.5	1015	GP/CL	Gray	none/none	1.5
R-8	1.5	1030	GP/CL	Red/brown	none/none	0.8
R-9	2.0	1130	CL	Red brown	none/none	1.8
R-10	1.5	1130	CL	Red brown	slight petrol/ slight sheen	22.8
R-11	1.5	1200	GP	Gray	none/slight	2.4
R-12	0.5	1200	SP	Red brown	none/none	0.5
R-13	1.0	1415	SP	Red/brown	none/none	0.4
R-14	1.0	1415	GP	Gray	none/none	3.8
R-15	1.5	1450	SP/GP	Gray	none/none	1.1
R-16	1.5	1500	GP	Gray	none/none	4.7
R-17	1.5	1500	SP	Red brown	none/none	1.0
R-18	1.5	1505	GP	Gray	none/none	3.7

SITE SKETCH: *north is up; excavation extents and depths, sample locations, structures, utilities, boring locations, wells, natural features...* ***1 inch/grid = 10 FEET***



ENBRIDGE SITE INVESTIGATION FIELD SAMPLING AND SCREENING LOG

Location: *Milepost or Facility* Tank 10 Contractor Release

Equipment used: Photo *-ionization detector with* 10.6 *eV lamp* Background Headspace: 0.0 ppm

Sample Nomenclature *(Location - sample type - #):* Tank 10 - Scrape -

Soil Sample Types: **R** = *Removed Sample* ; **S** = *Sidewall Sample* ; **B** = *Bottom Sample* ; **Stockpile** = *Stockpile Sample*

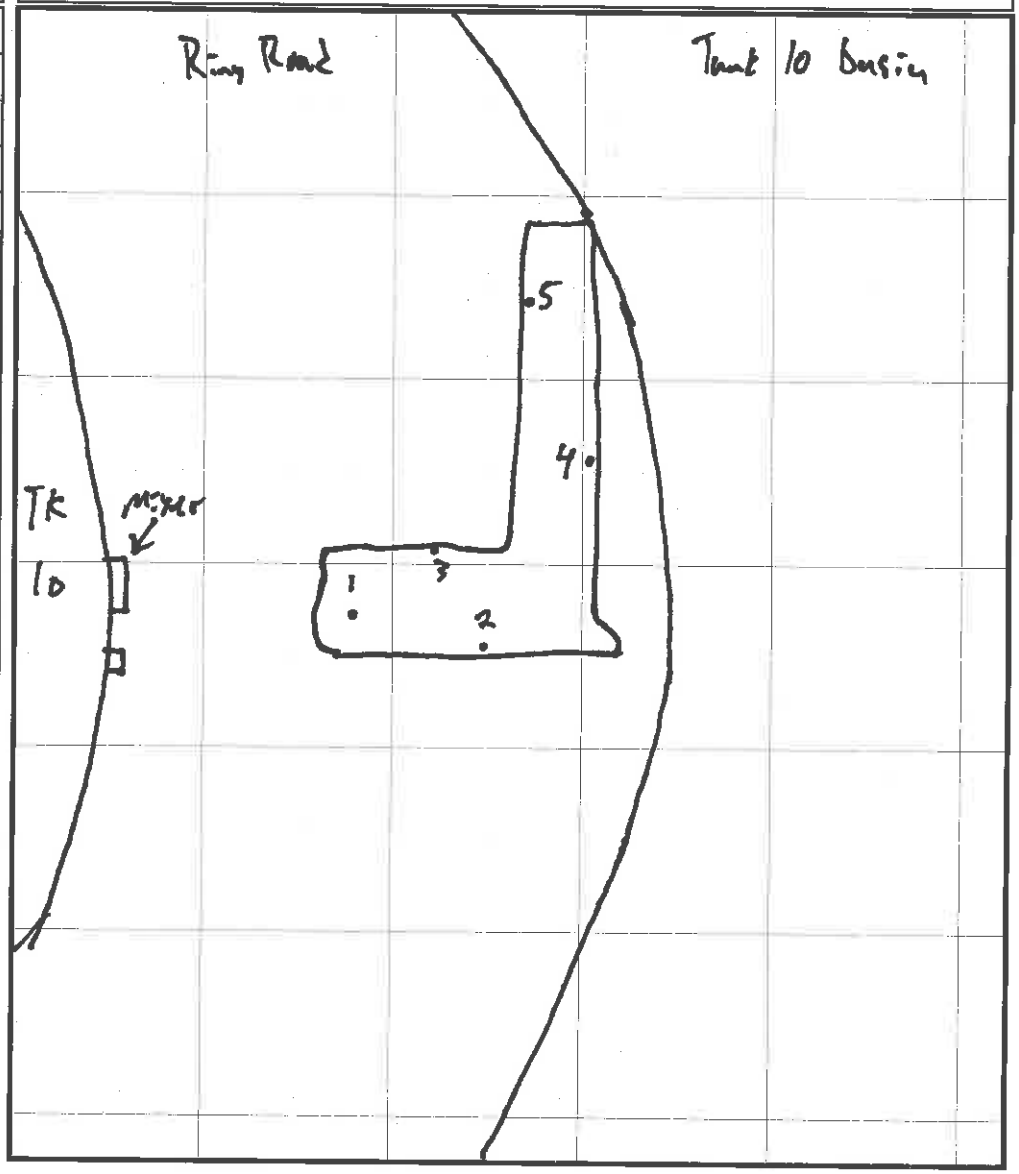
Date: 6/3/13

Sampler: EGZ

Calibration Time: 730

Sample ID	Depth (ft)	Time (military)	Soil Type (USCS)	Color/ Discolor	Odor/ Sheen	Headspace Reading (ppm)
Example R-1	*4*	*16:30*	*CL*	*Reddish brown*	*Petroleum/ Rainbow*	*275*
Scrape-1	1.5	1500	CL	Red brown	none/none	0.0
Scrape-2	1.5	1505	CL	Red brown	none/none	0.1
Scrape-3	1.5	1510	CL	Red brown	none/none	0.1
Scrape-4	1.5	1515	CL	Red brown	none/none	0.0
Scrape-5	1.5	1520	CL	Red brown	none/none	0.1

SITE SKETCH: *north is up; excavation extents and depths, sample locations, structures, utilities, boring locations, wells, natural features...* ***1 inch/grid = 10 FEET***



ENBRIDGE SITE INVESTIGATION FIELD SAMPLING AND SCREENING LOG

Date: 6/11/13

Location: *Milepost or Facility* Enbridge Superior Terminal, Tank 10

Sampler: BJL2

Equipment used: photo *-ionization detector with* 10.6 *eV lamp* Background Headspace: 0.0 ppm

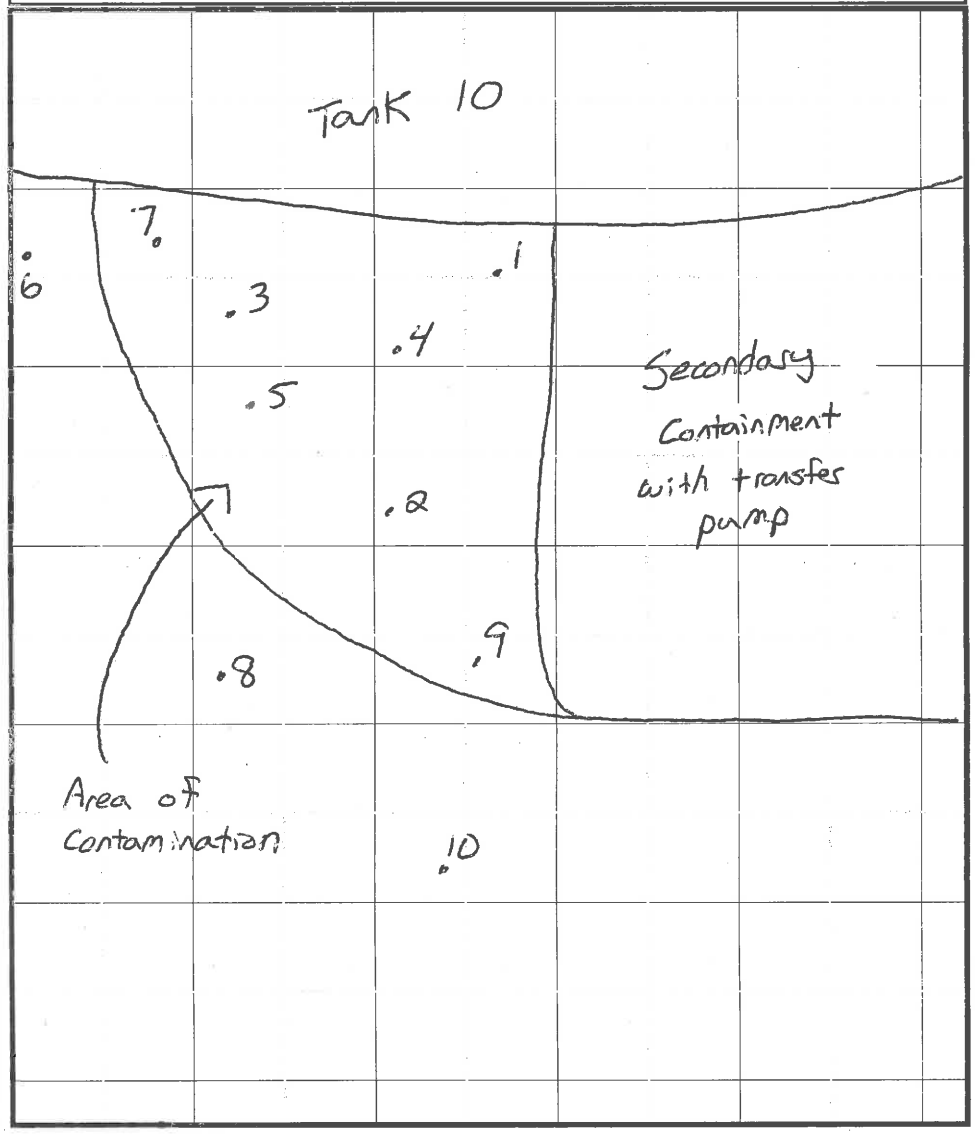
Calibration Time: —

Sample Nomenclature *(Location - sample type - #):* _____

Soil Sample Types: **R** = *Removed Sample* ; **S** = *Sidewall Sample* ; **B** = *Bottom Sample* ; **Stockpile** = *Stockpile Sample*

Sample ID	Depth (ft)	Time (military)	Soil Type (USCS)	Color/ Discolor	Odor/ Sheen	Headspace Reading (ppm)
Example: R-1	4	16:30	CL	Reddish brown	Petroleum/ Rainbow	275
1	Surface	1245	GP	Gray	Y/Y	400+
2	Surface	1245	GP		Y/Y	400+
3	Surface	1245	GP		Y/Y	400+
4	1'	1855	GP		Y/Y	100+
5	1'	1855	GP		Y/Y	100+
6	0.5'	1310	GP		N/N	3.0
7	Surface	1315	GP		N/N	14.6
8	0.25'	1320	GP		N/N	8.7
9	0.25'	1325	GP		N/N	135
10	Surface	1335	GP		N/N	3.9

SITE SKETCH: *north is up; excavation extents and depths, sample locations, structures, utilities, boring locations, wells, natural features...* ***1 inch/grid =*** 10 ***FEET***



ENBRIDGE SITE INVESTIGATION FIELD SAMPLING AND SCREENING LOG

Location: *Milepost or Facility* Tank 10 Contractor Release

Equipment used: Photo *-ionization detector with* 10.6 *eV lamp* Background Headspace: 0.0 ppm

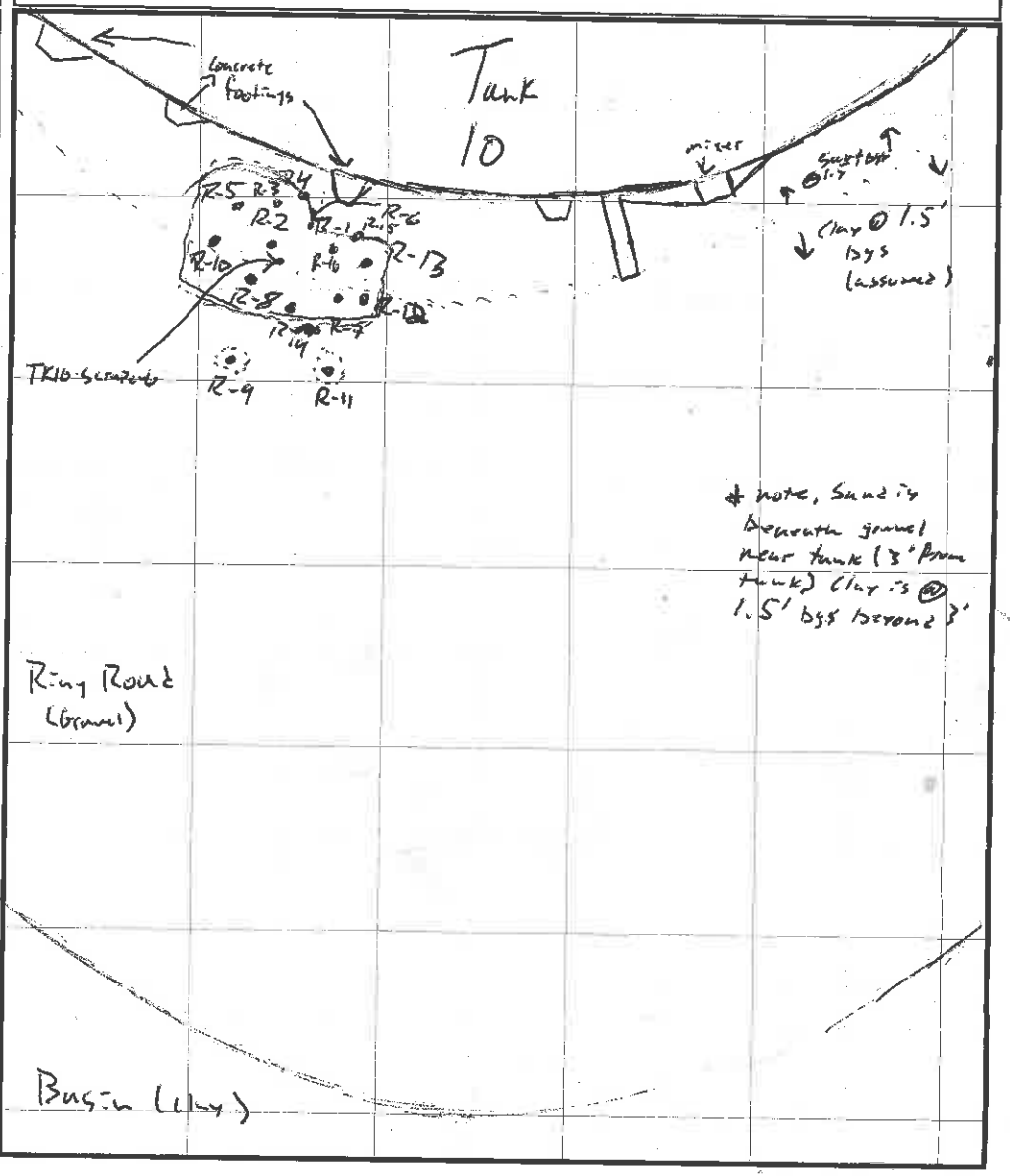
Date: 7/11/13
Sampler: CJG2
Calibration Time: 1100

Sample Nomenclature *(Location - sample type - #):* _____

Soil Sample Types: **R** = *Removed Sample* ; **S** = *Sidewall Sample* ; **B** = *Bottom Sample* ; **Stockpile** = *Stockpile Sample*

Sample ID	Depth (ft)	Time (military)	Soil Type (USCS)	Color/ Discolor	Odor/ Sheen	Headspace Reading (ppm)
Example R-1	4	16.30	CL	Reddish brown	Petroleum/ Rainbow	275
R-1	1.25	1200	SP/LL	Red brown	none/none	0.0
R-2	1.25	1210	SP/CL	Red brown	slight odor/ Filmy sheen	64.4
R-3	1.25	1215	SP/CL	Red brown	none/none	1.8
R-4	1.25	1215	SP/CL	Red brown	none/none	0.5
R-5	1.5	1225	SP/LL	Red brown	none/none	0.0
R-6	1.5	1225	SP/LL	Red brown	none/none	0.1
R-7	1.75	1230	CL	Red brown	none/none	0.0
R-8	1.5	1245	CL	Red brown	none/none	0.0
R-9	1.5	1245	CL	Red brown	none/none	0.0
R-10	1.5	1245	CL/SP	Red brown	none/none	0.0
R-11	1.5	1305	CL/SP	Red brown	none/none	0.0
R-12	1.5	1315	CL	Red brown	none/none	0.2
R-13	1.5	1315	CL/SP	Red brown	none/none	0.0
R-14	1.5	1315	CL	Red brown	none/none	0.5
R-15	1.5	1325	CL/SP	Red brown	none/Slight	0.2
R-16	1.75	1335	LL/SP	Red brown	none/Slight? Film?	0.3
TK10 Scrape-6 (out of MTR)	1.75	1405	SP/LL	Red brown	none/none	0.0

SITE SKETCH: *north is up; excavation extents and depths, sample locations, structures, utilities, boring locations, wells, natural features...* ***1 inch/grid =*** 5 ***FEET***



Attachment B

Pace Laboratory Report for the Excavation Extent Analytical Samples

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

July 02, 2013

Andrea Nord
Barr Engineering
4700 West 77th Street
Minneapolis, MN 55435

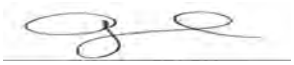
RE: Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Dear Andrea Nord:
Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on July 2, 2013 to revise the project name.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andrea Opland

andrea.opland@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10230969001	**TK10-Scrape-1**	Solid	06/03/13 15:00	06/05/13 08:40
10230969002	**TK10-Scrape-2**	Solid	06/03/13 15:05	06/05/13 08:40
10230969003	**TK10-Scrape-3**	Solid	06/03/13 15:10	06/05/13 08:40
10230969004	**TK10-Scrape-4**	Solid	06/03/13 15:15	06/05/13 08:40
10230969005	**TK10-Scrape-5**	Solid	06/03/13 15:20	06/05/13 08:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10230969001	**TK10-Scrape-1**	WI MOD DRO	MT	2	PASI-M
		WI MOD GRO	KT1	7	PASI-M
		ASTM D2974	JDL	1	PASI-M
10230969002	**TK10-Scrape-2**	WI MOD DRO	MT	2	PASI-M
		WI MOD GRO	KT1	7	PASI-M
		ASTM D2974	JDL	1	PASI-M
10230969003	**TK10-Scrape-3**	WI MOD DRO	MT	2	PASI-M
		WI MOD GRO	KT1	7	PASI-M
		ASTM D2974	JDL	1	PASI-M
10230969004	**TK10-Scrape-4**	WI MOD DRO	MT	2	PASI-M
		WI MOD GRO	KT1	7	PASI-M
		ASTM D2974	JDL	1	PASI-M
10230969005	**TK10-Scrape-5**	WI MOD DRO	MT	2	PASI-M
		WI MOD GRO	KT1	7	PASI-M
		ASTM D2974	JDL	1	PASI-M

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PROJECT NARRATIVE

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Method: **WI MOD DRO**
Description: WIDRO GCS
Client: Barr Engineering
Date: July 02, 2013

General Information:
5 samples were analyzed for WI MOD DRO. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with WI MOD DRO with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: OEXT/21915

R1: RPD value was outside control limits.
- LCSD (Lab ID: 1450698)
  - Diesel Range Organics

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/21915

T6: High boiling point hydrocarbons are present in the sample.
- TK10-Scrape-2 (Lab ID: 10230969002)
  - Diesel Range Organics
- TK10-Scrape-3 (Lab ID: 10230969003)
  - Diesel Range Organics
- TK10-Scrape-4 (Lab ID: 10230969004)
  - Diesel Range Organics

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PROJECT NARRATIVE

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Method: **WI MOD GRO**
Description: WIGRO GCV
Client: Barr Engineering
Date: July 02, 2013

General Information:
5 samples were analyzed for WI MOD GRO. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with TPH GRO/PVOC WI ext. with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: GCV/10868

1M: Surrogate recovery outside laboratory control limits due to matrix interferences.
- DUP (Lab ID: 1449750)
  - a,a,a-Trifluorotoluene (S)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Sample: TK10-Scrape-1 **Lab ID: 10230969001** Collected: 06/03/13 15:00 Received: 06/05/13 08:40 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**<12.4**	mg/kg	12.4	1.4	1	06/07/13 10:40	06/10/13 20:16		
Surrogates									
n-Triacontane (S)	95	%	50-150		1	06/07/13 10:40	06/10/13 20:16	638-68-6	
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<0.068**	mg/kg	0.068	0.011	1	06/06/13 15:21	06/07/13 13:53	71-43-2	
Ethylbenzene	**<0.068**	mg/kg	0.068	0.0095	1	06/06/13 15:21	06/07/13 13:53	100-41-4	
Toluene	**<0.068**	mg/kg	0.068	0.0068	1	06/06/13 15:21	06/07/13 13:53	108-88-3	
1,2,4-Trimethylbenzene	**<0.068**	mg/kg	0.068	0.011	1	06/06/13 15:21	06/07/13 13:53	95-63-6	
1,3,5-Trimethylbenzene	**<0.068**	mg/kg	0.068	0.0095	1	06/06/13 15:21	06/07/13 13:53	108-67-8	
Xylene (Total)	**<0.20**	mg/kg	0.20	0.023	1	06/06/13 15:21	06/07/13 13:53	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-125		1	06/06/13 15:21	06/07/13 13:53	98-08-8	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**15.0**	%	0.10	0.10	1		06/06/13 00:00		

Sample: TK10-Scrape-2 **Lab ID: 10230969002** Collected: 06/03/13 15:05 Received: 06/05/13 08:40 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**12.7**	mg/kg	12.1	1.3	1	06/07/13 10:40	06/10/13 20:01		T6
Surrogates									
n-Triacontane (S)	94	%	50-150		1	06/07/13 10:40	06/10/13 20:01	638-68-6	
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<0.060**	mg/kg	0.060	0.0096	1	06/06/13 15:21	06/07/13 04:30	71-43-2	
Ethylbenzene	**<0.060**	mg/kg	0.060	0.0084	1	06/06/13 15:21	06/07/13 04:30	100-41-4	
Toluene	**<0.060**	mg/kg	0.060	0.0060	1	06/06/13 15:21	06/07/13 04:30	108-88-3	
1,2,4-Trimethylbenzene	**<0.060**	mg/kg	0.060	0.0096	1	06/06/13 15:21	06/07/13 04:30	95-63-6	
1,3,5-Trimethylbenzene	**<0.060**	mg/kg	0.060	0.0084	1	06/06/13 15:21	06/07/13 04:30	108-67-8	
Xylene (Total)	**<0.18**	mg/kg	0.18	0.020	1	06/06/13 15:21	06/07/13 04:30	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	103	%	80-125		1	06/06/13 15:21	06/07/13 04:30	98-08-8	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**14.5**	%	0.10	0.10	1		06/06/13 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Sample: TK10-Scrape-3 **Lab ID: 10230969003** Collected: 06/03/13 15:10 Received: 06/05/13 08:40 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**17.3**	mg/kg	16.3	1.8	1	06/07/13 10:40	06/10/13 20:09		T6
Surrogates									
n-Triacontane (S)	96	%	50-150		1	06/07/13 10:40	06/10/13 20:09	638-68-6	
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<0.065**	mg/kg	0.065	0.010	1	06/06/13 15:21	06/07/13 04:49	71-43-2	
Ethylbenzene	**<0.065**	mg/kg	0.065	0.0091	1	06/06/13 15:21	06/07/13 04:49	100-41-4	
Toluene	**<0.065**	mg/kg	0.065	0.0065	1	06/06/13 15:21	06/07/13 04:49	108-88-3	
1,2,4-Trimethylbenzene	**<0.065**	mg/kg	0.065	0.010	1	06/06/13 15:21	06/07/13 04:49	95-63-6	
1,3,5-Trimethylbenzene	**<0.065**	mg/kg	0.065	0.0091	1	06/06/13 15:21	06/07/13 04:49	108-67-8	
Xylene (Total)	**<0.20**	mg/kg	0.20	0.022	1	06/06/13 15:21	06/07/13 04:49	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	103	%	80-125		1	06/06/13 15:21	06/07/13 04:49	98-08-8	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**14.0**	%	0.10	0.10	1		06/06/13 00:00		

Sample: TK10-Scrape-4 **Lab ID: 10230969004** Collected: 06/03/13 15:15 Received: 06/05/13 08:40 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**14.2**	mg/kg	11.8	1.3	1	06/07/13 10:40	06/10/13 20:24		T6
Surrogates									
n-Triacontane (S)	106	%	50-150		1	06/07/13 10:40	06/10/13 20:24	638-68-6	
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<0.065**	mg/kg	0.065	0.010	1	06/06/13 15:21	06/07/13 05:09	71-43-2	
Ethylbenzene	**<0.065**	mg/kg	0.065	0.0092	1	06/06/13 15:21	06/07/13 05:09	100-41-4	
Toluene	**<0.065**	mg/kg	0.065	0.0065	1	06/06/13 15:21	06/07/13 05:09	108-88-3	
1,2,4-Trimethylbenzene	**<0.065**	mg/kg	0.065	0.010	1	06/06/13 15:21	06/07/13 05:09	95-63-6	
1,3,5-Trimethylbenzene	**<0.065**	mg/kg	0.065	0.0092	1	06/06/13 15:21	06/07/13 05:09	108-67-8	
Xylene (Total)	**<0.20**	mg/kg	0.20	0.022	1	06/06/13 15:21	06/07/13 05:09	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-125		1	06/06/13 15:21	06/07/13 05:09	98-08-8	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**21.3**	%	0.10	0.10	1		06/06/13 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Sample: TK10-Scrape-5 **Lab ID: 10230969005** Collected: 06/03/13 15:20 Received: 06/05/13 08:40 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**<13.0**	mg/kg	13.0	1.4	1	06/07/13 10:40	06/10/13 20:55		
Surrogates									
n-Triacontane (S)	89	%	50-150		1	06/07/13 10:40	06/10/13 20:55	638-68-6	
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<0.074**	mg/kg	0.074	0.012	1	06/06/13 15:21	06/07/13 05:28	71-43-2	
Ethylbenzene	**<0.074**	mg/kg	0.074	0.010	1	06/06/13 15:21	06/07/13 05:28	100-41-4	
Toluene	**<0.074**	mg/kg	0.074	0.0074	1	06/06/13 15:21	06/07/13 05:28	108-88-3	
1,2,4-Trimethylbenzene	**<0.074**	mg/kg	0.074	0.012	1	06/06/13 15:21	06/07/13 05:28	95-63-6	
1,3,5-Trimethylbenzene	**<0.074**	mg/kg	0.074	0.010	1	06/06/13 15:21	06/07/13 05:28	108-67-8	
Xylene (Total)	**<0.22**	mg/kg	0.22	0.025	1	06/06/13 15:21	06/07/13 05:28	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-125		1	06/06/13 15:21	06/07/13 05:28	98-08-8	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**20.4**	%	0.10	0.10	1		06/06/13 00:00		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

QC Batch: GCV/10868 Analysis Method: WI MOD GRO
QC Batch Method: TPH GRO/PVOC WI ext. Analysis Description: WIGRO Solid GCV
Associated Lab Samples: 10230969001, 10230969002, 10230969003, 10230969004, 10230969005

METHOD BLANK: 1449746 Matrix: Solid
Associated Lab Samples: 10230969001, 10230969002, 10230969003, 10230969004, 10230969005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	<0.050	0.050	06/07/13 01:15	
1,3,5-Trimethylbenzene	mg/kg	<0.050	0.050	06/07/13 01:15	
Benzene	mg/kg	<0.050	0.050	06/07/13 01:15	
Ethylbenzene	mg/kg	<0.050	0.050	06/07/13 01:15	
Toluene	mg/kg	<0.050	0.050	06/07/13 01:15	
Xylene (Total)	mg/kg	<0.15	0.15	06/07/13 01:15	
a,a,a-Trifluorotoluene (S)	%	102	80-125	06/07/13 01:15	

LABORATORY CONTROL SAMPLE & LCSD: 1449747 1449748

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	5	5.1	5.0	102	99	80-120	3	20	
1,3,5-Trimethylbenzene	mg/kg	5	5.2	5.0	103	101	80-120	2	20	
Benzene	mg/kg	5	4.6	4.7	92	95	80-120	3	20	
Ethylbenzene	mg/kg	5	5.0	5.0	101	101	80-120	.3	20	
Toluene	mg/kg	5	4.9	4.9	97	98	80-120	.8	20	
Xylene (Total)	mg/kg	15	15.5	15.3	104	102	80-120	1	20	
a,a,a-Trifluorotoluene (S)	%				97	101	80-125			

MATRIX SPIKE SAMPLE: 1449749

Parameter	Units	10230979005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	0.065	6.1	5.8	95	80-120	
1,3,5-Trimethylbenzene	mg/kg	ND	6.1	5.9	96	80-120	
Benzene	mg/kg	ND	6.1	5.2	86	80-120	
Ethylbenzene	mg/kg	ND	6.1	5.7	94	80-120	
Toluene	mg/kg	ND	6.1	5.5	91	80-120	
Xylene (Total)	mg/kg	ND	18.2	17.6	97	80-120	
a,a,a-Trifluorotoluene (S)	%				98	80-125	

SAMPLE DUPLICATE: 1449750

Parameter	Units	10230979006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	6.6	7.7	15	20	
1,3,5-Trimethylbenzene	mg/kg	2.4	2.9	17	20	
Benzene	mg/kg	ND	<0.061		20	
Ethylbenzene	mg/kg	0.48	0.46	4	20	
Toluene	mg/kg	0.13	0.13	5	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

SAMPLE DUPLICATE: 1449750

Parameter	Units	10230979006 Result	Dup Result	RPD	Max RPD	Qualifiers
Xylene (Total)	mg/kg	3.1	3.1	3	20	
a,a,a-Trifluorotoluene (S)	%	54	60	15		1M

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

QC Batch: MPRP/39672 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10230969001, 10230969002, 10230969003

SAMPLE DUPLICATE: 1449117

Parameter	Units	10230776001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.6	15.1	11	30	

SAMPLE DUPLICATE: 1449118

Parameter	Units	10230969003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.0	11.4	21	30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

QC Batch: MPRP/39673
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10230969004, 10230969005

SAMPLE DUPLICATE: 1449127

Parameter	Units	10230969004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.3	20.4	4	30	

SAMPLE DUPLICATE: 1449128

Parameter	Units	10231015003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.4	12.9	4	30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

QC Batch: OEXT/21915 Analysis Method: WI MOD DRO
QC Batch Method: WI MOD DRO Analysis Description: WIDRO GCS
Associated Lab Samples: 10230969001, 10230969002, 10230969003, 10230969004, 10230969005

METHOD BLANK: 1450696 Matrix: Solid
Associated Lab Samples: 10230969001, 10230969002, 10230969003, 10230969004, 10230969005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	<10.0	10.0	06/10/13 19:30	
n-Triacontane (S)	%	79	50-150	06/10/13 19:30	

LABORATORY CONTROL SAMPLE & LCSD: 1450697 1450698

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/kg	80	62.9	78.8	79	98	70-120	22	20	R1
n-Triacontane (S)	%				84	93	50-150			

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

1M	Surrogate recovery outside laboratory control limits due to matrix interferences.
R1	RPD value was outside control limits.
T6	High boiling point hydrocarbons are present in the sample.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 49/16-1227.00 Rev
Pace Project No.: 10230969

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10230969001	**TK10-Scrape-1**	WI MOD DRO	OEXT/21915	WI MOD DRO	GCSV/11470
10230969002	**TK10-Scrape-2**	WI MOD DRO	OEXT/21915	WI MOD DRO	GCSV/11470
10230969003	**TK10-Scrape-3**	WI MOD DRO	OEXT/21915	WI MOD DRO	GCSV/11470
10230969004	**TK10-Scrape-4**	WI MOD DRO	OEXT/21915	WI MOD DRO	GCSV/11470
10230969005	**TK10-Scrape-5**	WI MOD DRO	OEXT/21915	WI MOD DRO	GCSV/11470
10230969001	**TK10-Scrape-1**	TPH GRO/PVOC WI ext.	GCV/10868	WI MOD GRO	GCV/10869
10230969002	**TK10-Scrape-2**	TPH GRO/PVOC WI ext.	GCV/10868	WI MOD GRO	GCV/10869
10230969003	**TK10-Scrape-3**	TPH GRO/PVOC WI ext.	GCV/10868	WI MOD GRO	GCV/10869
10230969004	**TK10-Scrape-4**	TPH GRO/PVOC WI ext.	GCV/10868	WI MOD GRO	GCV/10869
10230969005	**TK10-Scrape-5**	TPH GRO/PVOC WI ext.	GCV/10868	WI MOD GRO	GCV/10869
10230969001	**TK10-Scrape-1**	ASTM D2974	MPRP/39672		
10230969002	**TK10-Scrape-2**	ASTM D2974	MPRP/39672		
10230969003	**TK10-Scrape-3**	ASTM D2974	MPRP/39672		
10230969004	**TK10-Scrape-4**	ASTM D2974	MPRP/39673		
10230969005	**TK10-Scrape-5**	ASTM D2974	MPRP/39673		

Chain of Custody

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

1127 10230969

Project Number: 49161227.00 100 002

Project Name: Tank 10 Contractor Release

Sample Origination State WI (use two letter postal state abbreviation)

COC Number: № 40533

COC 1 of 1

Project Manager: REE

Project QC Contact: AAN

Sampled by: CJG2

Laboratory: Pace

Location	Start Depth	Stop Depth	Depth Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix: Water	Matrix: Soil	Type: Grab	Type: Comp.	Type: QC	Number of Containers/Preservative: Water: VOCs (HCl) #1	Water: SVOCs (unpreserved) #2	Water: Dissolved Metals (HNO_3)	Water: Total Metals (HNO_3)	Water: General (unpreserved) #3	Water: Diesel Range Organics (HCl)	Water: Nutrients (H_2SO_4) #4	Soil: VOCs (tared MeOH) #1 PVOC-MTBE	Soil: GRO, BTEX (tared MeOH) #1	Soil: DRO (tared unpreserved)	Soil: Metals (unpreserved)	Soil: SVOCs (unpreserved) #2	Soil: % Solids (plastic vial, unpres.)	Total Number Of Containers	
1. TK10-Scrape-1	1.5	1.5	ft	6/3/13	1500		X	X										1		1			1	3	PVOC-MTBE,
2. TK10-Scrape-2	1.5	1.5	ft		1505													1		1			1	3	DRO, % solids for
3. TK10-Scrape-3	1.5	1.5	ft		1510													1		1			1	3	all samples
4. TK10-Scrape-4	1.5	1.5	ft		1515													1		1			1	3	
5. TK10-Scrape-5	1.5	1.5	ft		1520													1		1			1	3	Normal TAT for
6.																									all samples
7.																									
8.																									
9.																									
10.																									

Common Parameter/Container - Preservation Key

#1 Volatile Organics = BTEX, GRO, 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

Relinquished By:	On Ice?	Date	Time	Received by:	Date	Time
CJG2	Y N	6/4/13	1040	KO/Pace	6-5-13	8:40 T=3.2
Relinquished By:	On Ice? Y N	Date	Time	Received by:	Date	Time

Samples Shipped VIA: ☐ Air Freight ☒ Federal Express ☐ Sampler ☐ Other: Dropped off @ Pace Duluth

Air Bill Number:

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

H:RLG\STDFORMS\Chain Of Custody Form 2009 RLG Rev. 09/01/09

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 28Jan2013 Page 1 of 1
	Document No.: **F-MN-L-213-rev.06**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Barr

Project #:

WO# : 10230969

10230969

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 9470855 1500089

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermom. Used: ☑ B88A912167504 ☐ 80512447 ☐ 72337080 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 3.3 **Cooler Temp Corrected (°C):** 3.2 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** -.1 **Date and Initials of Person Examining Contents:** KO 6-5-13

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6. 5 day
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9. KO 6-5-13
-Pace Containers Used?	☐ Yes	☑ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: SL	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☐ Yes	☐ No	☑ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☑ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☐ Yes	☑ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☑ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 6/6/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

July 26, 2013

Andrea Nord
Barr Engineering
4700 West 77th Street
Minneapolis, MN 55435

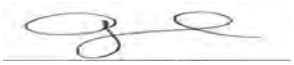
RE: Project: 49/16-1227 Rev
Pace Project No.: 10235238

Dear Andrea Nord:
Enclosed are the analytical results for sample(s) received by the laboratory on July 13, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on July 26, 2013 to correct the project name.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Andrea Opland

andrea.opland@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 49/16-1227 Rev
Pace Project No.: 10235238

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 49/16-1227 Rev
Pace Project No.: 10235238

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10235238001	**TK10-SCRAPE-6**	Solid	07/12/13 14:05	07/13/13 08:15

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 49/16-1227 Rev
Pace Project No.: 10235238

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10235238001	**TK10-SCRAPE-6**	WI MOD GRO	LLC	7	PASI-M
		ASTM D2974	JDL	1	PASI-M

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 49/16-1227 Rev
Pace Project No.: 10235238

Method: **WI MOD GRO**
Description: WIGRO GCV
Client: Barr Engineering
Date: July 26, 2013

General Information:
1 sample was analyzed for WI MOD GRO. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with TPH GRO/PVOC WI ext. with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 49/16-1227 Rev
Pace Project No.: 10235238

Sample: TK10-SCRAPE-6 **Lab ID: 10235238001** Collected: 07/12/13 14:05 Received: 07/13/13 08:15 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<0.055**	mg/kg	0.055	0.0087	1	07/15/13 10:17	07/16/13 07:57	71-43-2	
Ethylbenzene	**<0.055**	mg/kg	0.055	0.0076	1	07/15/13 10:17	07/16/13 07:57	100-41-4	
Toluene	**<0.055**	mg/kg	0.055	0.0055	1	07/15/13 10:17	07/16/13 07:57	108-88-3	
1,2,4-Trimethylbenzene	**<0.055**	mg/kg	0.055	0.0087	1	07/15/13 10:17	07/16/13 07:57	95-63-6	
1,3,5-Trimethylbenzene	**<0.055**	mg/kg	0.055	0.0076	1	07/15/13 10:17	07/16/13 07:57	108-67-8	
Xylene (Total)	**<0.16**	mg/kg	0.16	0.019	1	07/15/13 10:17	07/16/13 07:57	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-125		1	07/15/13 10:17	07/16/13 07:57	98-08-8	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**8.6**	%	0.10	0.10	1		07/17/13 00:00		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 49/16-1227 Rev
Pace Project No.: 10235238

QC Batch: GCV/11048 Analysis Method: WI MOD GRO
QC Batch Method: TPH GRO/PVOC WI ext. Analysis Description: WIGRO Solid GCV
Associated Lab Samples: 10235238001

METHOD BLANK: 1478093 Matrix: Solid
Associated Lab Samples: 10235238001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	<0.050	0.050	07/16/13 01:04	
1,3,5-Trimethylbenzene	mg/kg	<0.050	0.050	07/16/13 01:04	
Benzene	mg/kg	<0.050	0.050	07/16/13 01:04	
Ethylbenzene	mg/kg	<0.050	0.050	07/16/13 01:04	
Toluene	mg/kg	<0.050	0.050	07/16/13 01:04	
Xylene (Total)	mg/kg	<0.15	0.15	07/16/13 01:04	
a,a,a-Trifluorotoluene (S)	%	100	80-125	07/16/13 01:04	

LABORATORY CONTROL SAMPLE & LCSD: 1478094 1478095

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	5	4.4	4.4	87	88	80-120	.7	20	
1,3,5-Trimethylbenzene	mg/kg	5	4.4	4.4	87	88	80-120	.7	20	
Benzene	mg/kg	5	4.1	4.3	83	87	80-120	5	20	
Ethylbenzene	mg/kg	5	4.4	4.6	88	91	80-120	3	20	
Toluene	mg/kg	5	4.3	4.5	86	89	80-120	4	20	
Xylene (Total)	mg/kg	15	13.3	13.6	88	91	80-120	3	20	
a,a,a-Trifluorotoluene (S)	%				98	99	80-125			

MATRIX SPIKE SAMPLE: 1478096

Parameter	Units	10234814001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	ND	6	6.6	110	80-120	
1,3,5-Trimethylbenzene	mg/kg	ND	6	6.6	110	80-120	
Benzene	mg/kg	ND	6	6.3	104	80-120	
Ethylbenzene	mg/kg	ND	6	6.7	111	80-120	
Toluene	mg/kg	ND	6	6.5	107	80-120	
Xylene (Total)	mg/kg	ND	18.2	20.2	111	80-120	
a,a,a-Trifluorotoluene (S)	%				99	80-125	

SAMPLE DUPLICATE: 1478097

Parameter	Units	10234814002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	mg/kg	ND	<0.059		20	
1,3,5-Trimethylbenzene	mg/kg	ND	<0.059		20	
Benzene	mg/kg	ND	<0.059		20	
Ethylbenzene	mg/kg	ND	<0.059		20	
Toluene	mg/kg	ND	<0.059		20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 49/16-1227 Rev
Pace Project No.: 10235238

SAMPLE DUPLICATE: 1478097

Parameter	Units	10234814002 Result	Dup Result	RPD	Max RPD	Qualifiers
Xylene (Total)	mg/kg	ND	<0.18		20	
a,a,a-Trifluorotoluene (S)	%	98	100	2		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 49/16-1227 Rev
Pace Project No.: 10235238

QC Batch: MPRP/40608
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10235238001

SAMPLE DUPLICATE: 1480064

Parameter	Units	10234875007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.0	13.2	2	30	

SAMPLE DUPLICATE: 1480065

Parameter	Units	10235202001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.3	15.7	24	30	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 49/16-1227 Rev
Pace Project No.: 10235238

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 49/16-1227 Rev
Pace Project No.: 10235238

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10235238001	**TK10-SCRAPE-6**	TPH GRO/PVOC WI ext.	GCV/11048	WI MOD GRO	GCV/11050
10235238001	**TK10-SCRAPE-6**	ASTM D2974	MPRP/40608		

10235238

Chain of Custody

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

1128

COC 1 of 1

Project Number: 49161227.00 100 002

Project Name: Enbridge Tank 10 Contractor Release

Sample Origination State WI (use two letter postal state abbreviation)

COC Number: № 40528

Project Manager: REE

Project QC Contact: AAN

Sampled by: CJG2

Laboratory: Pace

Location	Start Depth	Stop Depth	Depth Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix: Water	Matrix: Soil	Type: Grab	Type: Comp.	Type: QC	Number of Containers/Preservative — Water: VOCs (HCl) #1	SVOCs (unpreserved) #2	Dissolved Metals (HNO_3)	Total Metals (HNO_3)	General (unpreserved) #3	Diesel Range Organics (HCl)	Nutrients (H_2SO_4) #4	Soil: VOCs (tared MeOH) #1	GRO, BTEX (tared MeOH) #1	DRO (tared unpreserved)	Metals (unpreserved)	SVOCs (unpreserved) #2	% Solids (plastic vial, unpres.)	Pvol (-MTBE)	Total Number Of Containers
1. Tk10-Scrape-6	1.75	1.75	ft	7/11/13	1405		X	X															X	X	2
2.																									
3.																									
4.																									
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									

Analysis requested: Pvol(-MTBE), % solids, Normal Turnaround Time

001

Common Parameter/Container - Preservation Key

#1 Volatile Organics = BTEX, GRO, 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

Relinquished By:	On Ice? Y N	Date	Time	Received by:	Date	Time
	Y N	7/12/13	1345	Pace T=2.4	7/13/13	815
Relinquished By:	On Ice? Y N	Date	Time	Received by:	Date	Time

Samples Shipped VIA: ☐ Air Freight ☐ Federal Express ☐ Sampler ☐ Other: Dropped off @ Pace Duluth

Air Bill Number:

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

H:\RLG\STDFORMS\Chain Of Custody Form 2009 RLG Rev. 09\01\09

Pace Analytical®	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Jan2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.06	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Barr

Project #: WO#: 10235238

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7962 7031 8584

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other:

Temp Blank? ☒ Yes ☐ No

Thermom. Used: ☒ 888A912167504 ☐ 80512447 ☐ 72337080 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.4 Cooler Temp Corrected (°C): 2.4

Temp should be above freezing to 6°C Correction Factor: 0.0

Biological Tissue Frozen? ☐ Yes ☐ No

Date and Initials of Person Examining Contents: AMD 7/15/13

Comments:

Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: SL	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☐ Yes	☐ No	☒ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☒ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☒ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☒ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 7/15/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Attachment C

Waste Disposal Documentation

Shamrock Landfill

Waste Profile Sheet

Shamrock Landfill

P.O. Number	Customer Code	SKB Representative	CL

I. Generator Information

Generator Name: Enbridge Pipelines Limited Partnership, LLC		Generator EPA ID Number	SIC Code
Generator Location: Enbridge Superior Terminal -Tank 10	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
Invoice Contact:		Billing Email Address: alex.smith@enbridge.com	

II. Waste Generation Information

Waste Name: Crude contaminated soil - Tank 10	Estimated rate of waste generation: 10 ☐ Lbs. ☐ tons ☒ cy ☐ drums	☒ one time ☐ 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:	Free Liquids:	pH Range:	Flash point:	Color:	Odor (describe):
☒ Solid ☐ Liquid ☐ Sludge ☐ Gas	☐ Yes ☒ No Content ____ %	☐ <2 ☐ 2-4 ☐ 5-8 ☐ 8-12.4 ☐ >12.5	☐ ≤ 140°F ☐ > 140°F to < 200°F ☐ > 200°F	Brown	petroleum odor

V. Waste Classification

Waste stream properties (answer ALL questions)			Does this waste contain absorbents?	☐ Yes	☒ 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?	☐ Yes	☒ No	Is this waste lethal (by Minn. Rules 7045.0131 Subp. 6)?	☐ Yes	☒ No
Does this waste stream contain PCB material	☐ Yes	☒ No	Is this waste recyclable?	☐ Yes	☒ No
If yes, concentration: _____ppm			Is this waste explosive?	☐ Yes	☒ No
Does this waste stream contain fuming acids?	☐ Yes	☒ No	Is this waste infectious?	☐ Yes	☒ No
Does this waste contain asbestos?	☐ Yes	☒ No	Is this putrescible waste?	☐ Yes	☒ No
Does this waste contain oxidizers?	☐ Yes	☒ No	Is this waste demolition debris?	☐ Yes	☒ No
Does this waste contain radioactive material?	☐ Yes	☒ No	Is this waste sewer sludge?	☐ Yes	☒ 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: ☐ drums (size _____) ☒ Bulk Solids ☐ boxes (size _____)		Method of shipment ☐ Roll-off ☒ End dump ☐ Rail ☐ 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.

Signature	Printed Name	Title	Date
	Alex Smith	Environmental Analyst	10 June 2013

LEGEND
Technical Services, Inc.
www.legend-group.com

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

June 06, 2013

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

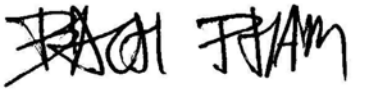
Work Order Number: 1302482
RE: 49161227

Enclosed are the results of analyses for samples received by the laboratory on 06/04/13. If you have any questions concerning this report, please feel free to contact me.

All samples will be retained by LEGEND, unless consumed in the analysis, for 30 days from the date of this report and then discarded unless other arrangements are made.

WI Certification #998022410

Prepared by,
LEGEND TECHNICAL SERVICES, INC



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

Tyler Jones
Chemist I
tjones@legend-group.com

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Barr Engineering Co.	Project:	49161227	
4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Tank 10-stockpile-1	1302482-01	Soil	06/03/13 13:50	06/04/13 09:30

Shipping Container Information

Default Cooler Temperature (°C): 5.9

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:

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Barr Engineering Co.	Project:	49161227	
4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Tank 10-stockpile-1 (1302482-01) Soil	**Sampled: 06/03/13 13:50**			**Received: 06/04/13 9:30**						
Diesel Range Organics	**670**	48	5.5	mg/kg dry	5	B3F0503	06/05/13	06/06/13	WI(95) DRO	
Surrogate: Triacontane (C-30)	*109*			*70-130 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161227	
4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

WI(95) GRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Tank 10-stockpile-1 (1302482-01) Soil	**Sampled: 06/03/13 13:50**			**Received: 06/04/13 9:30**						W-03
Benzene	<0.038	0.038	0.0048	mg/kg dry	1	B3F0412	06/04/13	06/04/13	WI(95) GRO	
Ethylbenzene	<0.038	0.038	0.0033	mg/kg dry	1	"	"	"	"	
Toluene	<0.038	0.038	0.0042	mg/kg dry	1	"	"	"	"	
Xylenes (total)	**0.47**	0.12	0.012	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	*106*			*80-150 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161227	
4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Tank 10-stockpile-1 (1302482-01) Soil	**Sampled: 06/03/13 13:50**			**Received: 06/04/13 9:30**						
% Solids	**92**			%	1	B3F0609	06/06/13	06/06/13	% calculation	

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Barr Engineering Co.	Project:	49161227	
4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

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 B3F0503 - Sonication (Wisc DRO)											
Blank (B3F0503-BLK1)					Prepared & Analyzed: 06/05/13						
Diesel Range Organics	< 6.7	6.7	0.78	mg/kg wet							
Surrogate: Triacontane (C-30)	*11.3*			*mg/kg wet*	*13.3*		*84.5*	*70-130*			
LCS (B3F0503-BS1)					Prepared & Analyzed: 06/05/13						
Diesel Range Organics	60.1	8.0	0.93	mg/kg wet	64.0		93.9	70-120			
Surrogate: Triacontane (C-30)	*14.5*			*mg/kg wet*	*16.0*		*90.9*	*70-130*			
LCS Dup (B3F0503-BSD1)					Prepared: 06/05/13 Analyzed: 06/06/13						
Diesel Range Organics	61.4	8.0	0.93	mg/kg wet	64.0		95.9	70-120	2.03	20	
Surrogate: Triacontane (C-30)	*15.2*			*mg/kg wet*	*16.0*		*95.0*	*70-130*			

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4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

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 B3F0412 - EPA 5035 Soil (Purge and Trap)											
Blank (B3F0412-BLK1)					Prepared & Analyzed: 06/04/13						
Benzene	< 0.025	0.025	0.0031	mg/kg wet							
Ethylbenzene	< 0.025	0.025	0.0022	mg/kg wet							
Toluene	< 0.025	0.025	0.0027	mg/kg wet							
Xylenes (total)	< 0.075	0.075	0.0080	mg/kg wet							
Surrogate: 4-Fluorochlorobenzene	*24.9*			*ug/L*	*25.0*		*99.6*	*80-150*			
LCS (B3F0412-BS1)					Prepared & Analyzed: 06/04/13						
Benzene	99.8			ug/L	100		99.8	80-120			
Ethylbenzene	103			ug/L	100		103	80-120			
Toluene	103			ug/L	100		103	80-120			
Xylenes (total)	313			ug/L	300		104	80-120			
Surrogate: 4-Fluorochlorobenzene	*25.2*			*ug/L*	*25.0*		*101*	*80-150*			
LCS Dup (B3F0412-BSD1)					Prepared & Analyzed: 06/04/13						
Benzene	100			ug/L	100		100	80-120	0.669	20	
Ethylbenzene	101			ug/L	100		101	80-120	1.32	20	
Toluene	102			ug/L	100		102	80-120	0.516	20	
Xylenes (total)	313			ug/L	300		104	80-120	0.0386	20	
Surrogate: 4-Fluorochlorobenzene	*26.0*			*ug/L*	*25.0*		*104*	*80-150*			
Matrix Spike (B3F0412-MS1)		**Source: 1302479-01**			Prepared & Analyzed: 06/04/13						
Benzene	101			ug/L	100	<	101	80-120			
Ethylbenzene	104			ug/L	100	0.274	104	80-120			
Toluene	103			ug/L	100	0.116	103	80-120			
Xylenes (total)	323			ug/L	300	0.195	108	80-120			
Surrogate: 4-Fluorochlorobenzene	*26.6*			*ug/L*	*25.0*		*106*	*80-150*			

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Fax: 651-642-1239

Barr Engineering Co.	Project:	49161227	
4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

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 B3F0609 - General Preparation											
Duplicate (B3F0609-DUP1)		**Source: 1302421-05**			Prepared & Analyzed: 06/06/13						
% Solids	93.0			%		92.0			1.08	20	
Duplicate (B3F0609-DUP2)		**Source: 1302421-15**			Prepared & Analyzed: 06/06/13						
% Solids	89.0			%		89.0			0.00	20	
Duplicate (B3F0609-DUP3)		**Source: 1302482-01**			Prepared & Analyzed: 06/06/13						
% Solids	92.0			%		92.0			0.00	20	

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4700 W 77th St	Project Number:	49161227 TK10	Work Order #: 1302482
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 06/06/13

Notes and Definitions

W-03	The initial sample weight was less than 8.0 grams.
<	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)

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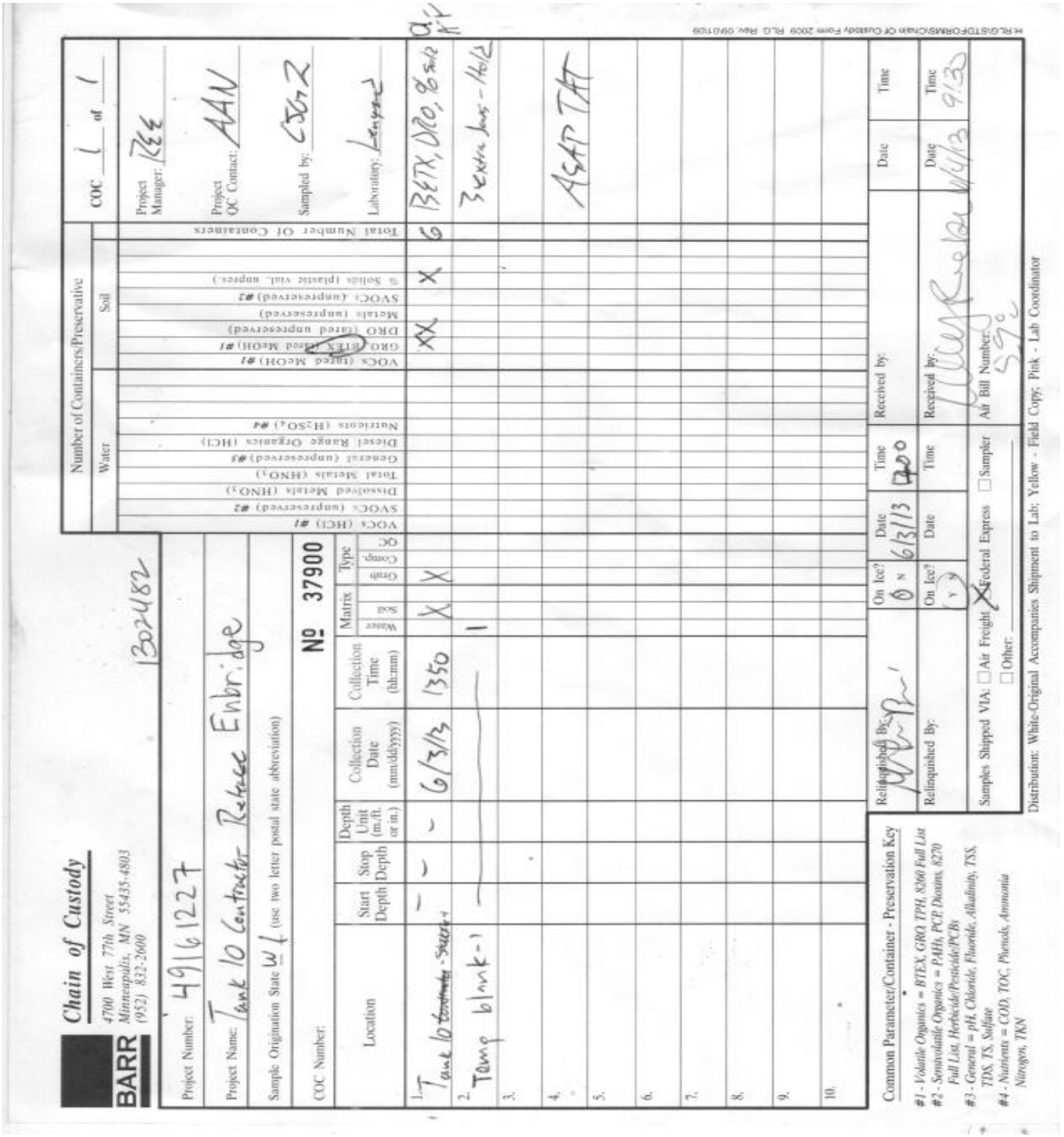

Chain of Custody

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

1302482

Project Number: 49161227
Project Name: Tank 10 Container Release Embridge
Sample Origination State: WI (use two letter postal state abbreviation)
COC Number: № 37900

Location	Start Depth	Stop Depth	Depth Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix: Water	Matrix: Soil	Type: Grab	Type: Comp.	QC	Number of Containers/Preservative: Water	Number of Containers/Preservative: Soil	Total Number Of Containers
1. Tank 10 Container - Surface	-	-	-	6/3/13	1350		X	X				X	6
2. Temp blank-1													
3.													
4.													
5.													
6.													
7.													
8.													
9.													
10.													

VOCs (HCl) #1
SVOCs (unpreserved) #2
Dissolved Metals (HNO3)
Total Metals (HNO3)
Diesel Range Organics (HCl)
Nutrients (H_2SO_4) #4
VOCs (unpreserved) #1
GRO (BTEX Plus MeOH) #1
DRO (Acid preserved)
Metals (unpreserved)
SVOCs (unpreserved) #2
Solids (Plastic Vial, unpres.)

BTEX, DRO, 8 Solids
3 extra bottles - 11/12
ASAP TAT

Project Manager: KEK
Project QC Contact: AAN
Sampled by: CJG/RZ
Laboratory: Legend

COC 1 of 1

Common Parameter/Container - Preservation Key

#1 - Volatile Organics = BTEX, GRO, 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

Relinquished By: [signature] On Ice? Y N Date 6/3/13 Time 1700 Received by: Date Time
Relinquished By: On Ice? Y N Date Time Received by: [signature] Date 6/4/13 Time 9:30
Samples Shipped VIA: ☐ Air Freight ☒ Federal Express ☐ Sampler Air Bill Number: 5276
☐ Other:

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

H:\RLG\STDFORMS\Chain Of Custody Form 2009 RLG Rev 090109

Shamrock Landfill

June 12, 2013

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

RE: CL13-0025 Crude Contaminated Soil - Tank 10

Dear 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 sopstad@skbinc.com.

Shamrock Landfill

Steve Opstad

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

DATE: 13 June 2013

WASTE APPROVAL Period: 6/12/2013 to 6/3/2015

P.O. Box 338 • Esko, MN 55733-0338
Main: 218.878.0112 • Fax: 218.879.2120

Shamrock Landfill

Bill To Customer

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

Service For Generator

Enbridge Pipelines Limited Partnership, LLC
2800 East 21st St
Superior, WI 54880

Disposal

Waste Description: Crude Contaminated Soil - Tank 10

Estimated Volume: 10 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 - Tank 10

Shamrock Landfill

Notification of Waste Acceptance

CUSTOMER INFORMATION

EPA ID#: WID981092133
Enbridge Pipelines Limited Partnership,
Enbridge Superior Terminal

2800 East 21st St
Superior, WI 54880
Contact: Alex Smith
Phone: (715) 398-4795

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

Profile Sheet #:
Waste Stream #: CL13-0025
Waste Name: Crude Contaminated Soil - Tank 10

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 10 YARDS / ONE TIME ONLY

This waste is acceptable for delivery beginning on 6/12/2013 thru 6/3/2015 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.

Shamrock Landfill

WASTE STREAM ANALYSIS INFORMATION

Waste Name:	Crude Contaminated Soil - Tank 10
Physical State:	Solid
Process Producing Waste:	pipeline terminal activities

PRE-ACCEPTANCE SAMPLE RESULTS

Color:		Physical State:	
Dust Present:	0	Free Liquids:	0
Paint Filter Test:	0	Odor:	
Flash Point Range:		Density:	
Radioactive?:	0	Water Reactivity:	0
pH Range:		React to Acid:	0
React to Base:	0	% Moisture:	
OVM Sniff:		Sulfide:	
Oxidizers:	0	Cyanide:	
Reacts with Air:	0		

This analysis is solely for use by Shamrock Landfill employees for the purpose of determining waste acceptability. No other claims are made or implied.

COMMENTS

AUTHORIZATION

Approval: _____ Date: 6/12/13

P.O. Box 338 • Esko, MN 55733-0338
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SKB / SLOQUET

REPORT NAME: **Tons Each Load By WSID**
DESCRIPTION: **Tonnage for EACH LOAD, grouped by customer**
DATE RANGE: **01/01/2013 to 08/26/2013**
PRINTED ON (DATE): **Monday, August 26, 2013**

ENBSI

Enbridge Pipelines Limited Partnership,
2800 East 21st St
Superior WI 54880

LOAD #	MANIFEST	ARRIVED	WASTE STREAM	WASTE NAME	CELL	SPOT	LIFT	TONS
10824 (A)	10422	6/26/2013	CL13-0025	Crude Contaminated Soil - Tank 10	2A	Q45	1160	14.56
11896 (A)	16400	8/5/2013	CL13-0025	Crude Contaminated Soil - Tank 10	2A	T45	1175	5.68
				Total # of Loads: 2			**Total Tons:**	**20.24**

Grand Total (Tons): 20.24
Grand Total (Loads): 2