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engineering and environmental consultants

BARR

Technical Memorandum

To: Alex Smith, Enbridge Energy
From: Ryan Erickson
Subject: Superior Terminal Field Booster 23 Historical Contamination
BRRTS #: 01-16-579604
Date: January 13, 2017
Project: 49161286
Coordinates: 46° 41' 01.65"N, 92° 03' 45.15"W

This document summarizes the field screening, analytical sampling, and waste management assistance performed by Barr in response to the discovery of historically contaminated soil near Field Booster 23 (Figure 1) at the Enbridge Superior Terminal in Superior, Wisconsin.

Background

Excavation and pipeline replacement activities were conducted near Field Booster 23 as part of the Superior Terminal Enhancement Project (Project) in 2015. On November 24, 2015, contractors reported encountering a small localized pocket of product, less than 1-cup, near the foundation of a valve located just north of the Field Booster. Enbridge was notified and the nearby infrastructure was assessed for an active release. No active release was identified; therefore, Enbridge inferred that the contamination was historical. The contractors then continued their excavation activities and all excavated soil with evidence of hydrocarbon contamination was transported to the Terminal soil management area for characterization and off-site management.

Barr assisted Enbridge with environmental assessment and waste management tasks, as summarized below.

Given the historical nature of the observed impacts and the size and duration of the Project, Enbridge provided general notification to the Wisconsin Department of Natural Resources (WDNR) that historical impacts would be encountered during the work and that site-specific summary reports would be submitted to upon completion of Project.

Investigation Activities and Results

Barr was onsite on November 24 and 30 of 2015 to document environmental site conditions and field screen the final excavation extents. Barr identified contamination by field screening soil from the excavation for the presence of organic vapors using a photoionization detector (PID) or by identifying other potential indicators of contamination such as odor, discoloration, and sheen. Soil was classified as contaminated if PID headspace readings were greater than 10 parts per million (ppm), or other physical observations of oil impacts were observed, as outlined in the pending Wisconsin Department of Natural Resources (WDNR) Site Investigation and Response Action Plan (SI/RAP) (2014). Field screening sample locations and results were documented on Site Investigation Field Sampling and Screening Logs that are

presented in Attachment A. Excavated soil identified as contaminated was segregated and stockpiled in the contaminated SMA until off-site disposal was approved. Contaminated soil characterization and management activities are discussed below in the *Waste Management* section of this memo.

If residual impacts were identified, analytical soil samples were typically collected from the contaminated location to document residual soil impacts. Soil samples were submitted to ALS Environmental in Holland, Michigan for analysis of petroleum volatile organic compounds (PVOCs) minus methyl tertiary butyl ether (MTBE) plus naphthalene. Laboratory results were compared to WDNR industrial direct contact residual contaminant levels (RCLs), WDNR groundwater RCLs, and were input into the WDNR Web Calculator to determine whether the soil passed the Cumulative Hazard Index criteria described in WDNR guidance document PUB-RR-890. Lab reports and analytical results for specific sites are provided in the site specific attachments.

The final project excavation was located along the northern side of Field Booster 23 and was approximately 55 feet long by 55 feet wide by 6 feet deep (Photos 1 and 2). Soil in the final excavation extents consisted predominately of clay with some sand fill. Headspace readings from soil samples collected from the final excavation sidewalls and base did not exceed 0.5 parts per million (ppm) and no other evidence of residual soil contamination, such as odor, discoloration, sheen, or product, were observed. The excavation extents are shown on Figure 1 and in the field screening log in Attachment A.

Barr collected one analytical sidewall sample (*FB-23-S-1*) from near the valve foundation on November 30, 2015 to document the soil condition near the location of the previously observed contaminated soil (Photos 3 and 4; Figure 1; Attachment A). The sample was sent to ALS Environmental in Holland, Michigan for laboratory analysis of petroleum volatile organic compounds (PVOC) and naphthalene. Analytical sampling results are summarized in Table 1 and the laboratory report is included in Attachment B.

Concentrations of 1,2,4-trimethylbenzne and naphthalene were detected in sample *FB-23-S-1;* however, the concentrations were below Wisconsin Department of Natural Resources (WDNR) industrial direct contact residual contaminant levels (RCLs) and WDNR groundwater RCLs (Table 1) and passed the Cumulative Hazard Index criteria.

The excavation was backfilled with soil or fill with no identified contamination upon completion of the Project work.

Historical Release Information

Barr reviewed the WDNR Bureau of Remediation and Redevelopment Tracking System (BRRTS) database for historical releases in the vicinity of the Field Booster 23 excavation. No historical release source was identified. Based on the location of contaminated soil beneath a Terminal pipeline valve and the limited

extent of the contamination, it is likely that contaminated soil is associated with an unreported historical valve release or historical field booster maintenance activities.

Waste Management

Approximately 100 tons of soil from the Field Booster excavation was managed with the Superior Terminal Pipeline Enhancement Project contaminated soil waste stream. A total of 10,638.71 tons of contaminated soil from the overall Project was managed at both the Shamrock Landfill in Cloquet, Minnesota (waste profile# CL14-0029) and the VONCO V landfill in Duluth, Minnesota (waste profile# 16-007-I). Waste profile documentation associated with the Project is provided in Attachment C and includes: profile approval documents; landfill summary reports; and, waste characterization sample laboratory reports.

Receptor Survey

The closest groundwater monitoring wells are wells *MW-6* and *MW-6B* located approximately 190 feet to the east. In 2016, analyte concentrations for PVOC and naphthalene in these wells were below method detection limits as shown in *Groundwater Monitoring Program Report, Superior WI Report* (December 2016).

No residual contamination above WDNR groundwater RCLs was identified, therefore no direct contact or surface water receptors are at risk.

The closest structure is Tank 22, which has no human occupancy. No other vapor receptors were identified within 100 feet of the excavation.

Conclusion

Contaminated soil excavated from around Field Booster 23 was managed at an approved landfill. No residual soil contamination was identified in the final excavation extents through field screening. An analytical sample collected from the final excavation had minor analyte detections that were below the WDNR Groundwater and WDNR Industrial Direct Contact RCLs and passed the WDNR Cumulative Hazard Index criteria. No receptors appear to be at risk from the residual contamination.

No active release was identified at the site and no historical release was identified for this site on the WDNR BRRTS website. Impacted soil was likely associated with a historical valve release based on the location and characteristics of the contamination. Because no residual contamination was identified in the final excavation, Barr recommends that Enbridge request site closure under NR 708. Barr believes that no further remedial or investigative actions will be requested by the WDNR for this site at this time.

References

Barr, 2014. "Site Investigation and Response Action Plan, Enbridge Energy Superior Terminal (Facility-wide)". July 2014.

Barr, 2016. "Groundwater Monitoring Program Report, Superior WI Report". December 2016.

Attachments:

Site Photos	1 through 4
Table 1	Analytical Soil Sample Results
Figure 1	Site Layout
Attachment A	Enbridge Site Investigation Field Sampling and Screening Log
Attachment B	Excavation Sample Laboratory Report
Attachment C	Waste Management Documentation

Site Photos

Photo 1

Photo 2

Photo 1: Final Field Booster 23 Pipeline Enhancement excavation. Field booster 23 is visible in center of the photo just beyond the excavation. Photo taken facing east on November 30, 2015.
Photo 2: Field Booster 23 Pipeline Enhancement excavation. Hydrocarbon contaminated soil was encountered near the valve foundation shown in the top-center of the photo. Field Booster 23 is shown in the top-right of the photo. Photo taken facing northeast on November 30, 2015.

Photo 3

Photo 4

Photo 3: Valve foundation where hydrocarbon contamination was encountered. Photo taken facing southeast on November 30, 2015**.**
Photo 4: Excavation sidewall where hydrocarbon contamination was encountered. Photo taken facing northeast on November 30, 2015**.**

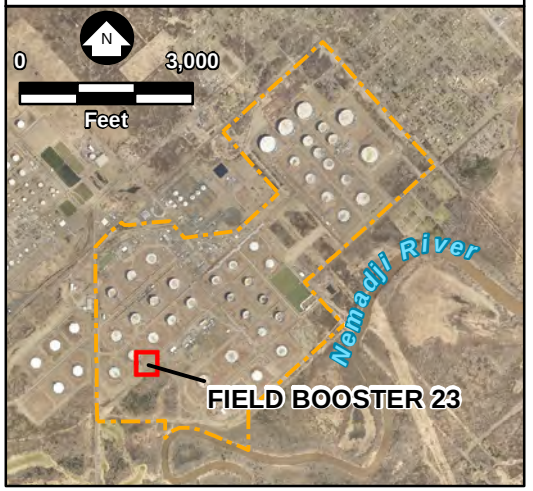
TABLE 1: Analytical Soil Sample Results *(all analyte concentrations in mg/kg)*

Sample ID	Sample Date	Sample Depth (feet)	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl benzene	Toluene	Total Xylenes	Naphthalene
Groundwater RCLs			*1.3821*	*1.3821*	*0.0051*	*1.57*	*1.1072*	*3.96*	*0.6582*
Industrial DC RCLs			*219*	*182*	*7.41*	*37*	*818*	*260*	*26*
FB-23-S-1	11/30/2015	6	**0.06**	<0.019	<0.010	<0.010	<0.015	<0.034	**0.036**

BOLD = Analyte detections

BRRTS# 01-16-579604
Latitude: 46° 41' 01.65" N
Longitude: 92° 03' 45.15" W

ENBRIDGE SUPERIOR TERMINAL



- Analytical Sample Location
- Excavation Extents
- Pipeline Infrastructure
- Terminal Property Boundary

N

0 50 100

Feet
1 Inch = 50 Feet

Douglas County Imagery Circa May, 2016

Figure 1

SITE LAYOUT
FIELD BOOSTER 23 ENHANCEMENT
SUPERIOR TERMINAL
Enbridge Energy, L.P.
Superior, Wisconsin

ENBRIDGE

Attachment A

Site Investigation Field Sampling and Screening Log

SITE INVESTIGATION FIELD SAMPLING AND SCREENING LOG

Location: *Milepost or Facility* Superior Terminal Enhancement - Field Booster 23

Equipment used: Photo *-ionization detector with* 11.7 *eV lamp* Background Headspace: 0.0 ppm

Date: 11/30/15

Sampler: NRS2

Calibration Time: 1100

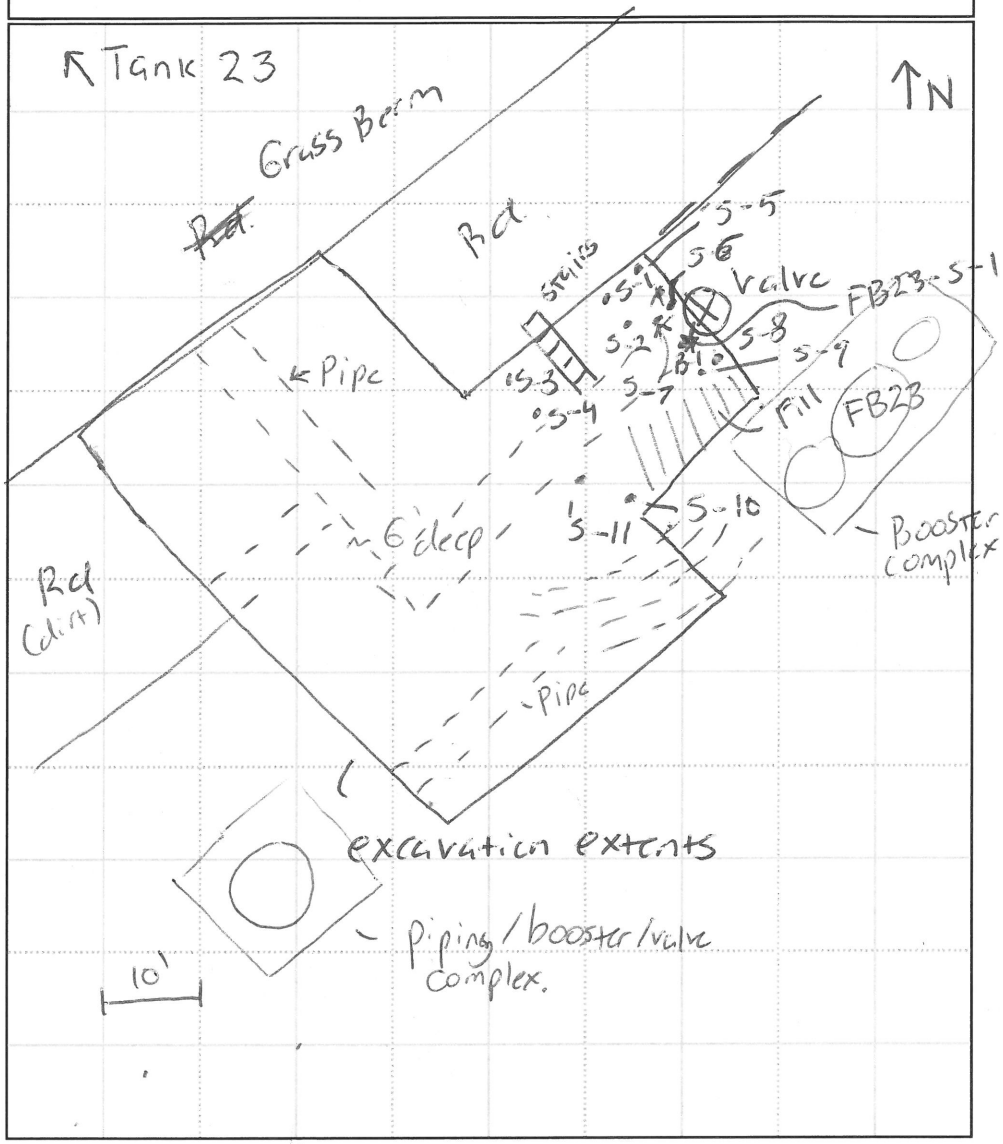
Sample Nomenclature *(Location - sample type - #):* _____

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: TK99-S-1	4	16:30	CL	Reddish brown	Petroleum/ Rainbow	275
S-1	2'	1215	CL	Reddish Brown +	none/none	0.0
S-2	6'	"	"	"	"	0.5
S-3	5	"	"	"	"	0.0
S-4	3'	"	"	"	"	0.0
S-5	1'	"	"	"	"	0.0
S-6	1.5		SM	"	"	0.0
S-8	1.5	1225	CL	"	"	0.0
S-9	4.5	"	"	"	* /none	0.0
S-7	6'	"	"	"	* /none	0.0
S-10	2	"	"	"	none/none	0.0
B-1	6	"	"	"	* /none	0.0
S-11	5	"	"	"	none/none	0.0
† FB23-S-1	6'	1300	C	Reddish Brown +	* /none	0.0

† analytical Sample

SITE SKETCH: *north is up; excavation extents & depths, impacted areas, sample locations, borings, wells, structures, utilities, natural features...* ***1 inch/grid =*** 20 ***FEET***



+ Black mottling

† = Analyzed For DRO-MTBE + Naphthalene

* = odor possibly organic (unknown). Not Petroleum.

* = analytical Sample

• = screening point

Attachment B

Excavation Sample Laboratory Report

20-Apr-2016

Ryan Erickson
Barr Engineering
325 S. Lake Avenue
Suite 700
Duluth, MN 55802-2323

Re: **Field Booster 23 Response (49161286.00)** Work Order: **1512177**

Dear Ryan, Revision: **1**

ALS Environmental received 2 samples on 03-Dec-2015 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

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

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

Certificate No: WI: 399084510

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

ALS Group USA, Corp

Date: 20-Apr-16

Client: Barr Engineering
Project: Field Booster 23 Response (49161286.00)
Work Order: **1512177**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1512177-01	FB-23-S-1	Soil		11/30/15 13:00	12/03/15 09:30	☐
1512177-02	Trip Blank	Soil		11/30/15	12/03/15 09:30	☐

ALS Group USA, Corp

Date: 20-Apr-16

Client: Barr Engineering
Project: Field Booster 23 Response (49161286.00)
WorkOrder: **1512177**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram

Client: Barr Engineering
Project: Field Booster 23 Response (49161286.00)
Work Order: 1512177

Case Narrative

Samples for the above noted Work Order were received on 12/03/15. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No deviations or anomalies were noted.

Wet Chemistry:
No deviations or anomalies were noted.

ALS Group USA, Corp

Date: *20-Apr-16*

Client: Barr Engineering
Project: Field Booster 23 Response (49161286.00)
Sample ID: FB-23-S-1
Collection Date: 11/30/15 01:00 PM

Work Order: 1512177
Lab ID: 1512177-01
Matrix: SOIL

Analyses	Result	Qual	MDL	PQL	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**			Prep: SW5035 / 12/4/15		Analyst: **AK**
1,2,4-Trimethylbenzene	60		6.0	30	µg/Kg	1	12/05/15 12:06
1,3,5-Trimethylbenzene	U		13	30	µg/Kg	1	12/05/15 12:06
Benzene	U		6.8	30	µg/Kg	1	12/05/15 12:06
Ethylbenzene	U		7.0	30	µg/Kg	1	12/05/15 12:06
m,p-Xylene	U		13	60	µg/Kg	1	12/05/15 12:06
Naphthalene	36	J	5.1	100	µg/Kg	1	12/05/15 12:06
o-Xylene	U		9.7	30	µg/Kg	1	12/05/15 12:06
Toluene	U		9.9	30	µg/Kg	1	12/05/15 12:06
Xylenes, Total	U		23	90	µg/Kg	1	12/05/15 12:06
Surr: 1,2-Dichloroethane-d4	*102*			*70-130*	*%REC*	1	12/05/15 12:06
Surr: 4-Bromofluorobenzene	*101*			*70-130*	*%REC*	1	12/05/15 12:06
Surr: Dibromofluoromethane	*99.0*			*70-130*	*%REC*	1	12/05/15 12:06
Surr: Toluene-d8	*98.5*			*70-130*	*%REC*	1	12/05/15 12:06
MOISTURE		Method: **SW3550C**					Analyst: **ED**
Moisture	**32**		**0.025**	**0.050**	**% of sample**	1	12/03/15 20:25

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *20-Apr-16*

Client: Barr Engineering
Project: Field Booster 23 Response (49161286.00)
Sample ID: Trip Blank
Collection Date: 11/30/15

Work Order: 1512177
Lab ID: 1512177-02
Matrix: SOIL

Analyses	Result	Qual	MDL	PQL	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**			Prep: SW5035 / 12/4/15		Analyst: **AK**
1,2,4-Trimethylbenzene	U		6.0	30	µg/Kg	1	12/04/15 23:41
1,3,5-Trimethylbenzene	U		13	30	µg/Kg	1	12/04/15 23:41
Benzene	U		6.8	30	µg/Kg	1	12/04/15 23:41
Ethylbenzene	U		7.0	30	µg/Kg	1	12/04/15 23:41
m,p-Xylene	U		13	60	µg/Kg	1	12/04/15 23:41
Naphthalene	15	J	5.1	100	µg/Kg	1	12/04/15 23:41
o-Xylene	U		9.7	30	µg/Kg	1	12/04/15 23:41
Toluene	U		9.9	30	µg/Kg	1	12/04/15 23:41
Xylenes, Total	U		23	90	µg/Kg	1	12/04/15 23:41
Surr: 1,2-Dichloroethane-d4	*102*			*70-130*	*%REC*	1	12/04/15 23:41
Surr: 4-Bromofluorobenzene	*99.0*			*70-130*	*%REC*	1	12/04/15 23:41
Surr: Dibromofluoromethane	*98.8*			*70-130*	*%REC*	1	12/04/15 23:41
Surr: Toluene-d8	*99.3*			*70-130*	*%REC*	1	12/04/15 23:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

Batch ID: **79807** Instrument ID **VMS9** Method: **SW8260B**

MBLK Sample ID: **MBLK-79807-79807** Units: **µg/Kg** Analysis Date: **12/04/15 01:33 PM**

Client ID: Run ID: **VMS9_151204A** SeqNo: **3605576** Prep Date: **12/04/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	U	6	30								
1,3,5-Trimethylbenzene	U	13	30								
Benzene	U	6.8	30								
Ethylbenzene	U	7	30								
m,p-Xylene	U	13	60								
Naphthalene	U	5.1	100								
o-Xylene	U	9.7	30								
Toluene	U	9.9	30								
Xylenes, Total	U	23	90								
Surr: 1,2-Dichloroethane-d4	*952.5*	0	0	*1000*	0	*95.2*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*904*	0	0	*1000*	0	*90.4*	*70-130*	0			
Surr: Dibromofluoromethane	*923*	0	0	*1000*	0	*92.3*	*70-130*	0			
Surr: Toluene-d8	*952.5*	0	0	*1000*	0	*95.2*	*70-130*	0			

LCS Sample ID: **LCS-79807-79807** Units: **µg/Kg** Analysis Date: **12/04/15 11:24 AM**

Client ID: Run ID: **VMS9_151204A** SeqNo: **3605575** Prep Date: **12/04/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	994	6	30	1000	0	99.4	65-135	0			
1,3,5-Trimethylbenzene	1008	13	30	1000	0	101	65-135	0			
Benzene	990.5	6.8	30	1000	0	99	75-125	0			
Ethylbenzene	968	7	30	1000	0	96.8	75-125	0			
m,p-Xylene	1964	13	60	2000	0	98.2	80-125	0			
Naphthalene	825	5.1	100	1000	0	82.5	40-140	0			
o-Xylene	959.5	9.7	30	1000	0	96	75-125	0			
Toluene	1034	9.9	30	1000	0	103	70-125	0			
Xylenes, Total	2923	23	90	3000	0	97.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	*927.5*	0	0	*1000*	0	*92.8*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1050*	0	0	*1000*	0	*105*	*70-130*	0			
Surr: Dibromofluoromethane	*932.5*	0	0	*1000*	0	*93.2*	*70-130*	0			
Surr: Toluene-d8	*1002*	0	0	*1000*	0	*100*	*70-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Barr Engineering
Work Order: 1512177
Project: Field Booster 23 Response (49161286.00)

QC BATCH REPORT

Batch ID: **79807** Instrument ID **VMS9** Method: **SW8260B**

MS Sample ID: **1512208-02B MS** Units: **µg/Kg** Analysis Date: **12/04/15 07:42 PM**
Client ID: Run ID: **VMS9_151204A** SeqNo: **3605584** Prep Date: **12/04/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	1040	6	30	1000	163.4	87.7	65-135	0			
1,3,5-Trimethylbenzene	1086	13	30	1000	83.59	100	65-135	0			
Benzene	1046	6.8	30	1000	0	105	75-125	0			
Ethylbenzene	970.5	7	30	1000	79.79	89.1	75-125	0			
m,p-Xylene	2032	13	60	2000	281.9	87.5	80-125	0			
Naphthalene	882.5	5.1	100	1000	383.7	49.9	40-140	0			
o-Xylene	987	9.7	30	1000	180.9	80.6	75-125	0			
Toluene	1073	9.9	30	1000	145.9	92.7	70-125	0			
Xylenes, Total	3018	23	90	3000	460	85.3	75-125	0			
Surr: 1,2-Dichloroethane-d4	*969.5*	0	0	*1000*	0	*97*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1018*	0	0	*1000*	0	*102*	*70-130*	0			
Surr: Dibromofluoromethane	*955*	0	0	*1000*	0	*95.5*	*70-130*	0			
Surr: Toluene-d8	*986*	0	0	*1000*	0	*98.6*	*70-130*	0			

MSD Sample ID: **1512208-02B MSD** Units: **µg/Kg** Analysis Date: **12/04/15 08:08 PM**
Client ID: Run ID: **VMS9_151204A** SeqNo: **3605585** Prep Date: **12/04/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	1194	6	30	1000	163.4	103	65-135	1040	13.7	30	
1,3,5-Trimethylbenzene	1202	13	30	1000	83.59	112	65-135	1086	10.2	30	
Benzene	1148	6.8	30	1000	0	115	75-125	1046	9.35	30	
Ethylbenzene	1092	7	30	1000	79.79	101	75-125	970.5	11.7	30	
m,p-Xylene	2275	13	60	2000	281.9	99.7	80-125	2032	11.3	30	
Naphthalene	1035	5.1	100	1000	383.7	65.1	40-140	882.5	15.9	30	
o-Xylene	1088	9.7	30	1000	180.9	90.8	75-125	987	9.78	30	
Toluene	1179	9.9	30	1000	145.9	103	70-125	1073	9.41	30	
Xylenes, Total	3364	23	90	3000	460	96.8	75-125	3018	10.8	30	
Surr: 1,2-Dichloroethane-d4	*977*	0	0	*1000*	0	*97.7*	*70-130*	969.5	*0.771*	*30*	
Surr: 4-Bromofluorobenzene	*1035*	0	0	*1000*	0	*104*	*70-130*	1018	*1.71*	*30*	
Surr: Dibromofluoromethane	*960*	0	0	*1000*	0	*96*	*70-130*	955	*0.522*	*30*	
Surr: Toluene-d8	*1008*	0	0	*1000*	0	*101*	*70-130*	986	*2.26*	*30*	

The following samples were analyzed in this batch: 1512177-01A 1512177-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Barr Engineering
Work Order: 1512177
Project: Field Booster 23 Response (49161286.00)

QC BATCH REPORT

Batch ID: **R177558** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R177558** Units: **% of sample** Analysis Date: **12/03/15 08:25 PM**
Client ID: Run ID: **MOIST_151203B** SeqNo: **3603251** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.025	0.050								

LCS Sample ID: **LCS-R177558** Units: **% of sample** Analysis Date: **12/03/15 08:25 PM**
Client ID: Run ID: **MOIST_151203B** SeqNo: **3603250** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.025	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1512131-17B DUP** Units: **% of sample** Analysis Date: **12/03/15 08:25 PM**
Client ID: Run ID: **MOIST_151203B** SeqNo: **3603235** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	12.05	0.025	0.050	0	0	0		11.26	6.78	20	

DUP Sample ID: **1512177-01B DUP** Units: **% of sample** Analysis Date: **12/03/15 08:25 PM**
Client ID: **FB-23-S-1** Run ID: **MOIST_151203B** SeqNo: **3603240** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	32.15	0.025	0.050	0	0	0		32.36	0.651	20	

The following samples were analyzed in this batch: 1512177-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

1512177

Barr Engineering Co. Chain of Custody

BARR ☐ Ann Arbor ☐ Bismarck ☒ Duluth ☐ Hibbing ☐ Jefferson City ☐ Minneapolis

Sample Origination State: ☐ KS ☐ MO ☒ WI ☐ MI ☐ ND Other: ☐ MN ☐ SD

COC Number: № 49477

COC 1 of 1

REPORT TO	INVOICE TO
Company: Barr Engineering	Company: Barr Engineering
Address:	Address:
Name: REE Ryan Ericksen	Name:
email: REE@barr.com	email:
Copy to: datamgt@barr.com	P.O.
Project Name: Field Booster 23	Barr Project No: 49161286000 15 001

Matrix Code: GW = Groundwater, SW = Surface Water, WW = Waste Water, DW = Drinking Water, S = Soil/Solid, SD = Sediment, O = Other

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, I = Ascorbic Acid, J = NH_4Cl, K = Zn Acetate, O = Other

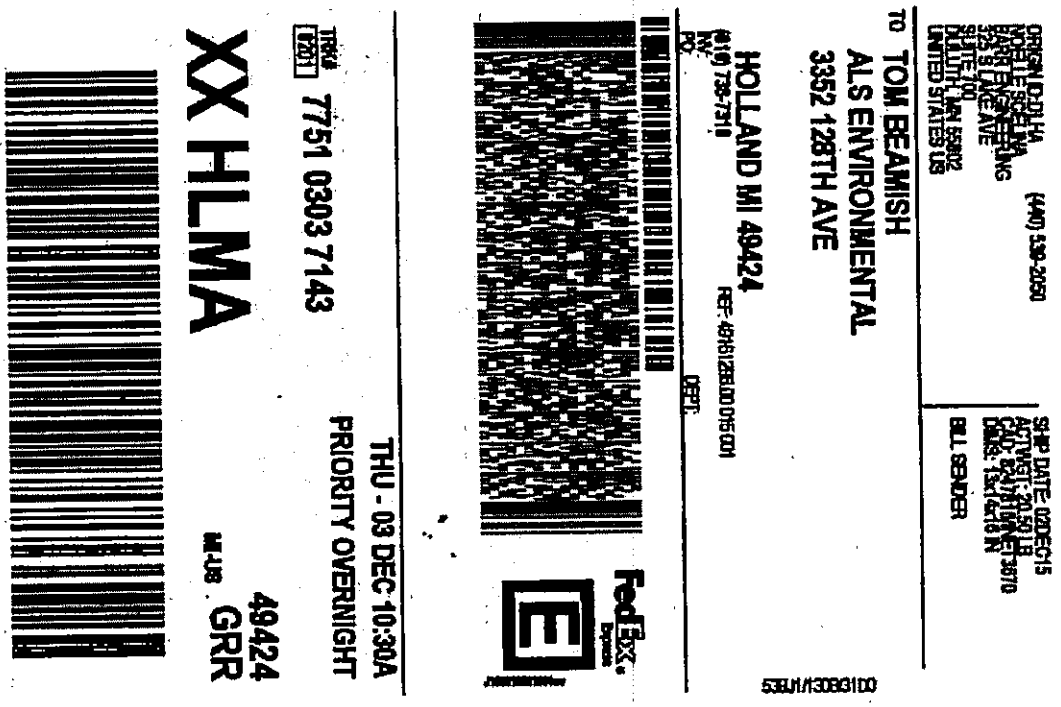
Response Location	Sample Depth Start	Sample Depth Stop	Sample Depth Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested: Water	Analysis Requested: Soil	Analysis Requested: 8270 PVOC-MTBE+Naphthalene	% Solids	Preservative Code	Field Filtered Y/N	
													A	N	
1. FB-23-S-1	—	—	6	~~12/4/15~~	1300	S	N	3			2	1			PVOC-MTBE+Naphthalene
2. Trip Blank	—	—	—	—	—			1			—				
3. Temp Blank	—	—	—	—	—			1							
4.				11/30/15 TBB											
5.															
6.															
7.															
8.															5 Day TAT
9.															
10.															

BARR USE ONLY	Relinquished by	On Ice? Y N	Date	Time	Received by	Date	Time
Sampled by: NRS2							
Barr Proj. Manager: REE	Relinquished by: FedEx	On Ice? Y N	12/3/15	0930	Received By:	Date	Time
Barr DQ Manager: JET	Samples Shipped VIA: ☐ Courier ☐ Federal Express ☐ Sampler ☐ Other:				Air Bill Number:		
Lab Name: ALS Holland						Requested Due Date: ☐ Standard Turn Around Time ☑ Rush 5 Day TAT (mm/dd/yyyy)	
Lab Location: Holland MI	Lab WO:	Temperature on Receipt (°C):			Custody Seal Intact? ☐ Y ☐ N ☐ None		

Distribution - White-Original: Accompanies Shipment to Laboratory; Yellow Copy: Include in Field Documents; Pink Copy: Send to Data Management Administrators.

H:\LG\STDFORMS\Chain Of Custody Form 2015 RLG Rev. 06/16/15

TBB



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

CUSTODY SEAL

Project Name: Field Booster 23 Report Project Number: 4816128600 015 001

BARR

Date: 12/2/15 Initials: NRS2 Signature: Natalie Rosen Container # 1 of 1

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **BARRENG-DULUTH** Date/Time Received: **03-Dec-15 09:30**

Work Order: **1512177** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 03-Dec-15 (Date) Reviewed by: Tom Bramish (eSignature) 03-Dec-15 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	5.2/5.2 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	12/3/2015 11:11:26 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	_		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Revision: 1

Attachment C

Waste Management Documentation

VONCO
Waste Management Campus

VONCO V, LLC
1100 West Gary Street
Duluth, MN 55808

VONCOUSA.com
Office: 218.626.3830
Fax: 218.626.4874

March 4, 2016

Enbridge Energy
Attention: Alex Smith
1100 Louisiana Ave Ste 3300
Houston TX 77002

RE: 16-007-I SUP Terminal Enhancement Historical Soil

Dear Alex,

Please be advised that the above described waste material is acceptable for disposal at the Vonco V Waste Management Campus Facility in Duluth, MN. The waste material is acceptable per Vonco V (SW-560) Minnesota Pollution Control Agency Industrial Solid Waste Management Plan. This profile has been approved for a total of 6000 **CY** for disposal and will expire on 04/03/2018.

The referenced waste must maintain consistency with what was originally submitted on the waste profile. Vonco V Waste Management Campus must be contacted immediately for any changes in material composition or process generation as further testing and analysis may apply.

Additionally, acceptance is subject to the following conditions:

- The material will be absent of free liquids and must meet the paint filter test.
- A signed waste manifest with the correct profile number shall accompany each load delivered to Vonco V Waste Management Campus.
- All hauling will be in compliance with the Federal and State D.O.T regulations.

Thank you for choosing Vonco V Waste Management Campus. We appreciate your business. If you have any questions or concerns please feel free to contact myself @ (651) 319-7013 or Joe Pesante @ (218) 730-6361.

Have a great day,

Nettie Kuhn
Vonco V, LLC
Industrial Waste Manager

Shamrock Landfill

July 16, 2014

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

RE: C114-0029 Crude contaminated soil-Pipeline Enhancement Project

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 Pentheiter

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

DATE: 15 July 2014

WASTE APPROVAL Period: 7/17/2014 to 7/17/2016

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
1320 Grand Ave
Pipeline Enhancement Project
Superior, WI 54880

Disposal

Waste Description: Crude contaminated soil-Pipeline Enhancement Project

Estimated Volume: 50 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-Pipeline

Shamrock Landfill

Notification of Waste Acceptance

CUSTOMER INFORMATION

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

1320 Grand Ave
Pipeline Enhancement Project
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 #: CI14-0029
Waste Name: Crude contaminated soil-Pipeline Enhancement Pr

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 50 YARDS / ONE TIME ONLY

This waste is acceptable for delivery beginning on 7/17/2014 thru 7/17/2016 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-Pipeline Enhancement Proje
Physical State:	Solid
Process Producing Waste:	Pipeline Terminal Activities

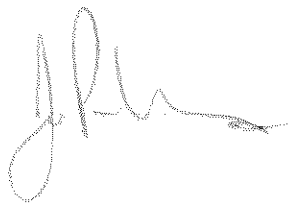
PRE-ACCEPTANCE SAMPLE RESULTS

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: 7/16/14

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

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 - Pipeline Enhancement Project	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 - Pipeline Enhancement Project	Estimated rate of waste generation: 50 ☐ 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 %	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	16 July 2014

SKB CLOQUET

REPORT NAME: **Tons Each Load By WSID**
DESCRIPTION: **Tonnage for EACH LOAD, grouped by customer**
DATE RANGE: **01/01/2014 to 12/06/2016**
PRINTED ON (DATE): **Tuesday, December 06, 2016**

ENB14
Enbridge Pipelines Limited Partnership
1320 Grand Ave
Superior WI 54880

LOAD #	MANIFEST	ARRIVED	WASTE STREAM	WASTE NAME	CELL	SPOT.	LIFT	TONS
22630 (A)	52059	8/18/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.29
22636 (A)	52060	8/18/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.20
22640 (A)	52061	8/18/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.25
22643 (A)	52062	8/18/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.44
22659 (A)	52089	8/19/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.34
22666 (A)	52087	8/19/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	16.99
22668 (A)	52088	8/19/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.45
22792 (A)	52085-A	8/22/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	9.87
23267 (A)	52006	9/8/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	17.19
23278 (A)	52028	9/8/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.87
23650 (A)	52029	9/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	17.92
24039 (A)	52041	9/29/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	23.52
24041 (A)	52040	9/29/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.94
24051 (A)	52039	9/29/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	22.30
24361 (A)	52463	10/6/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.38
24366 (A)	52464	10/6/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.83
24429 (A)	52471	10/8/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.55
24435 (A)	52472	10/8/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.79
24506 (A)	52473	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	17.26
24507 (A)	52474	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	16.24
24517 (A)	52478	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.07
24519 (A)	52477	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.67
24526 (A)	52479	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.06
24527 (A)	52480	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.87
24537 (A)	52475	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.88
24538 (A)	52476	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.62
24543 (A)	52481	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.09
24544 (A)	52482	10/10/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	16.32
24575 (A)	52483	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	16.64
24580 (A)	52484	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	17.02
24588 (A)	52488	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.77
24590 (A)	52487	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.80
24594 (A)	52486	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.38
24596 (A)	52485	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.42
24604 (A)	52489	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.52
24605 (A)	52490	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.99
24613 (A)	52491	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	25.94
24614 (A)	52492	10/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.54
24629 (A)	52493	10/14/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.74
24639 (A)	52496	10/14/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	22.60
24641 (A)	52495	10/14/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.35
24656 (A)	52498	10/14/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.33
24658 (A)	52499	10/14/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	18.60
24675 (A)	52497	10/14/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	22.09
24676 (A)	52494	10/14/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.16
24698 (A)	52505	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.30
24699 (A)	52506	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	19.95
24708 (A)	52501	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	22.46
24715 (A)	52502	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.22
24732 (A)	52504	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	22.56

24739 (A)	52500	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.24
24749 (A)	52503	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	22.85
24751 (A)	50115	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.84
24762 (A)	50114	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	22.06
24763 (A)	50113	10/15/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.39
24785 (A)	50116	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	23.71
24786 (A)	50117	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	21.36
24798 (A)	50119	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.86
24800 (A)	50118	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	P44	1190	22.11
24822 (A)	50120	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1	P44	1190	19.27
24823 (A)	50121	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	P44	1190	20.02
24833 (A)	50123	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T44	1190	20.54
24836 (A)	50122	10/16/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T44	1190	21.21
24846 (A)	50124	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T44	1190	22.99
24863 (A)	50127	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T44	1190	19.97
24873 (A)	50128	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T44	1190	21.95
24874 (A)	50129	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T44	1190	19.31
24889 (A)	50130	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	18.81
24892 (A)	50131	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	20.54
24912 (A)	50132	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	19.37
24914 (A)	50133	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	18.44
24924 (A)	50134	10/17/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	Z33	1170	20.41
24929 (A)	50135	10/18/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	19.82
24944 (A)	50136	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	14.60
24946 (A)	50137	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	21.94
24952 (A)	50138	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	14.43
24953 (A)	50139	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	22.74
24962 (A)	50140	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	14.86
24965 (A)	50141	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	21.91
24979 (A)	50142	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	14.51
24984 (A)	50143	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	23.69
24994 (A)	50144	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	16.26
24999 (A)	50145	10/20/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	24.02
25017 (A)	50146	10/21/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	T43	1190	14.45
25685 (A)	50147	11/6/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	15.07
25702 (A)	50148	11/6/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y45	1190	18.79
25714 (A)	50149	11/6/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y41	1190	13.95
25731 (A)	50150	11/6/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y45	1190	17.00
25744 (A)	50151	11/6/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y45	1190	15.50
25773 (A)	50152	11/7/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	14.57
25780 (A)	50155	11/7/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	13.41
25785 (A)	50153	11/7/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	14.53
25793 (A)	50154	11/7/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	17.12
25899 (A)	50163	11/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	21.71
25907 (A)	50162	11/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	18.54
25916 (A)	50161	11/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	19.09
25917 (A)	50160	11/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	19.44
25920 (A)	50157	11/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	19.98
25923 (A)	50159	11/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	20.43
25929 (A)	007705	11/13/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Y43	1190	14.76
29123 (A)	51006	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	11.60
29124 (A)	51007	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	11.46
29126 (A)	50950	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	15.25
29129 (A)	50911	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.58
29130 (A)	51003	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	15.13
29131 (A)	51004	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	15.39
29136 (A)	51005	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	14.95
29139 (A)	50910	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	19.69
29140 (A)	51002	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.59
29141 (A)	50909	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.65
29142 (A)	50951	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	15.48

29146 (A)	50999	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	14.75
29147 (A)	51001	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.14
29148 (A)	51000	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	13.96
29149 (A)	50998	3/4/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	13.33
29164 (A)	50996	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	18.51
29165 (A)	50997	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	14.06
29168 (A)	50995	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	18.07
29169 (A)	50994	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	12.83
29173 (A)	50992	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	18.50
29175 (A)	50993	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	13.71
29179 (A)	50912	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.54
29180 (A)	50913	3/5/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	11.13
29188 (A)	50952	3/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	20.18
29189 (A)	50953	3/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	11.49
29193 (A)	50990	3/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	19.03
29194 (A)	50991	3/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	11.72
29200 (A)	50989	3/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.76
29201 (A)	50988	3/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	12.16
29221 (A)	50979	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.51
29222 (A)	50981	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.18
29223 (A)	50980	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	18.56
29224 (A)	50982	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.43
29226 (A)	50978	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.15
29227 (A)	50977	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.12
29228 (A)	50976	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.13
29229 (A)	50975	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.46
29230 (A)	50974	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.78
29231 (A)	50973	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	15.52
29232 (A)	50972	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.42
29233 (A)	50971	3/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.02
29248 (A)	50968	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	15.95
29249 (A)	50965	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	19.66
29255 (A)	50954	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.41
29256 (A)	50967	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	16.39
29257 (A)	50964	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	18.73
29263 (A)	50966	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	18.09
29265 (A)	50916	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	17.08
29266 (A)	50917	3/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	R36	1190	18.50
29274 (A)	50955	3/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	16.58
29276 (A)	50962	3/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	13.03
29279 (A)	50961	3/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	13.93
29281 (A)	50960	3/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	17.22
29282 (A)	50963	3/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	15.55
29288 (A)	50959	3/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	15.43
29326 (A)	50920	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	17.46
29327 (A)	50919	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	13.58
29328 (A)	50918	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	21.64
29334 (A)	50924	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	14.10
29335 (A)	50922	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	16.20
29337 (A)	50921	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	17.77
29338 (A)	50923	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	25.08
29342 (A)	51013	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	20.81
29345 (A)	51010	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	16.15
29346 (A)	51009	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	15.49
29347 (A)	51011	3/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	19.60
29395 (A)	51022	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	14.60
29396 (A)	51021	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	18.22
29397 (A)	50958	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	16.97
29398 (A)	50957	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	15.29
29403 (A)	51012	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	16.86
29404 (A)	51008	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	16.05

29405 (A)	51023	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	13.65
29407 (A)	51024	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	19.89
29412 (A)	51017	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	20.30
29413 (A)	51018	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	16.00
29414 (A)	51019	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	14.77
29415 (A)	51020	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	12.05
29416 (A)	51028	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	14.91
29417 (A)	51030	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	15.19
29418 (A)	51026	3/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	14.07
29441 (A)	51046	3/19/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	22.96
29442 (A)	51031	3/19/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	15.30
29444 (A)	51014	3/19/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	22.52
29446 (A)	51034	3/19/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	14.94
29451 (A)	51016	3/19/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	18.84
29453 (A)	51033	3/19/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	19.63
29464 (A)	51040	3/20/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	18.54
29465 (A)	51036	3/20/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	22.33
29472 (A)	51035	3/20/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	X35	1190	18.04
29615 (A)	51050	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	13.76
29616 (A)	51059	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.21
29620 (A)	51051	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.45
29625 (A)	51058	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.91
29628 (A)	51052	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.26
29630 (A)	51054	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.06
29632 (A)	51053	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.93
29633 (A)	51055	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.29
29635 (A)	51057	3/31/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.03
29664 (A)	51060	4/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.10
29665 (A)	51061	4/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.11
29666 (A)	51063	4/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.13
29667 (A)	51062	4/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	19.70
29685 (A)	51064	4/2/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.50
29686 (A)	51080	4/2/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.13
29695 (A)	51081	4/2/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.55
29698 (A)	51082	4/2/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.45
29699 (A)	51083	4/2/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	12.24
29730 (A)	51065	4/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.02
29734 (A)	51038	4/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.94
29738 (A)	51067	4/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.73
29741 (A)	51066	4/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.76
29745 (A)	51029	4/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.09
29770 (A)	7719	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.04
29771 (A)	51079	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.69
29773 (A)	7716	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.05
29774 (A)	7718	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.15
29777 (A)	51044	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.50
29778 (A)	7717	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.07
29779 (A)	7742	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.09
29780 (A)	51045	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.43
29784 (A)	51042	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.05
29785 (A)	7743	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.79
29786 (A)	7746	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	23.11
29787 (A)	51041	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.68
29792 (A)	51043	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	23.11
29793 (A)	7747	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.76
29794 (A)	7745	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.36
29795 (A)	7740	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.78
29800 (A)	7734	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.18
29801 (A)	7741	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.56
29802 (A)	7737	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.47
29803 (A)	7744	4/8/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	22.02

29809 (A)	7726	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.69
29812 (A)	7724	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.51
29813 (A)	7723	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	20.91
29814 (A)	7729	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	19.25
29815 (A)	7730	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.17
29816 (A)	7727	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.33
29817 (A)	7722	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.61
29819 (A)	7725	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	19.91
29821 (A)	7720	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.77
29822 (A)	7728	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	19.22
29823 (A)	7733	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.28
29826 (A)	7736	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.88
29827 (A)	7721	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.34
29828 (A)	160284	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	20.49
29829 (A)	160286	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.36
29832 (A)	7738	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	15.08
29833 (A)	7732	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	13.03
29836 (A)	7739	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.43
29837 (A)	160288	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.43
29838 (A)	160285	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.49
29839 (A)	160287	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	23.85
29840 (A)	7735	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.09
29841 (A)	7731	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.05
29844 (A)	160289	4/9/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.06
29853 (A)	160268	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	24.07
29854 (A)	160269	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	23.75
29855 (A)	160295	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.20
29856 (A)	160299	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	20.45
29858 (A)	160296	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.56
29859 (A)	160298	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.33
29861 (A)	160270	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.42
29863 (A)	160271	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.17
29864 (A)	160301	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	12.86
29865 (A)	160294	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	13.62
29866 (A)	160297	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.53
29867 (A)	160300	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.56
29869 (A)	160272	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	20.39
29870 (A)	160273	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.03
29874 (A)	160277	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	20.09
29875 (A)	160276	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.44
29876 (A)	160279	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.22
29877 (A)	160281	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.96
29881 (A)	160282	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	19.58
29882 (A)	160274	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.94
29883 (A)	160280	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.50
29884 (A)	160278	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.49
29885 (A)	160275	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.84
29888 (A)	160290	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.49
29892 (A)	160292	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	17.95
29894 (A)	160293	4/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.33
29931 (A)	160060	4/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	12.70
29933 (A)	160057	4/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.61
29939 (A)	160061	4/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	18.14
29940 (A)	160056	4/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	16.75
29985 (A)	160058	4/16/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	14.44
29986 (A)	160059	4/16/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	1A	S36	1190	21.52
31090 (A)	160106	6/29/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.13
31091 (A)	160109	6/29/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.39
31093 (A)	160110	6/29/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	16.46
31094 (A)	160111	6/29/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.47
31098 (A)	160114	6/29/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	14.89

31099 (A)	160112	6/29/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.20
31100 (A)	160108	6/29/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	19.33
31122 (A)	160113	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	9.87
31123 (A)	160121	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	9.74
31127 (A)	160107	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	14.44
31129 (A)	160120	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.62
31136 (A)	160105	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.76
31138 (A)	160118	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.10
31143 (A)	160119	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.76
31144 (A)	160115	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	11.98
31149 (A)	160117	7/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.96
31195 (A)	160305	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	16.22
31196 (A)	160302	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.58
31199 (A)	160126	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	10.69
31203 (A)	160304	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.12
31204 (A)	160303	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.39
31205 (A)	160306	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	10.87
31208 (A)	160127	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.70
31209 (A)	160128	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.08
31210 (A)	160267	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	11.64
31213 (A)	160129	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.96
31214 (A)	160122	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.20
31217 (A)	160125	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	11.76
31218 (A)	160124	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.97
31219 (A)	160123	7/6/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	14.30
31223 (A)	160116	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	10.93
31224 (A)	160138	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	16.45
31230 (A)	160139	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.22
31231 (A)	160137	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.21
31234 (A)	160145	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.41
31237 (A)	160140	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.97
31238 (A)	160136	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.13
31241 (A)	160143	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	17.78
31242 (A)	160141	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.28
31243 (A)	160135	7/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.38
31500 (A)	160316	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	17.92
31501 (A)	160321	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	19.21
31502 (A)	160323	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	16.83
31504 (A)	160314	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	18.07
31506 (A)	160320	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	19.60
31507 (A)	160326	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	16.36
31510 (A)	160315	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	19.53
31513 (A)	160319	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	20.22
31514 (A)	160325	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	16.84
31517 (A)	160313	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	18.08
31518 (A)	160317	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	19.36
31520 (A)	160324	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.10
31521 (A)	160318	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	19.42
31522 (A)	160312	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	17.58
31524 (A)	160322	7/23/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	16.78
31529 (A)	160346	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	18.61
31530 (A)	160340	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	17.21
31531 (A)	160338	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.40
31534 (A)	160308	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.50
31535 (A)	160311	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	11.12
31538 (A)	160345	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	11.52
31541 (A)	160337	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	12.02
31543 (A)	160328	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.32
31544 (A)	160329	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.36
31547 (A)	160344	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.17
31549 (A)	160336	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	14.30

31551 (A)	160330	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.30
31553 (A)	160327	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.84
31555 (A)	160341	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.15
31556 (A)	160335	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.11
31557 (A)	160331	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	14.63
31559 (A)	160310	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	14.45
31563 (A)	160334	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	15.20
31564 (A)	160342	7/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	R42	1190	13.87
31729 (A)	160010	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.58
31730 (A)	160009	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.46
31731 (A)	160309	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.21
31732 (A)	160332	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	10.78
31736 (A)	160003	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.60
31738 (A)	160001	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.84
31739 (A)	160350	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.74
31740 (A)	160348	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	10.83
31744 (A)	160004	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.89
31745 (A)	160002	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.76
31746 (A)	160349	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.74
31748 (A)	160347	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.10
31753 (A)	160014	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.90
31754 (A)	160013	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.01
31757 (A)	160011	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.33
31758 (A)	160012	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.92
31759 (A)	160007	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	9.91
31761 (A)	160008	8/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	10.32
31825 (A)	160023	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.00
31827 (A)	160018	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.56
31829 (A)	160029	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	17.27
31830 (A)	160019	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.61
31834 (A)	160024	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.28
31835 (A)	160025	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.27
31836 (A)	160022	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.40
31837 (A)	160026	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.15
31840 (A)	160017	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.05
31841 (A)	160016	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.63
31843 (A)	160015	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.22
31844 (A)	160027	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.55
31849 (A)	160030	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.30
31850 (A)	160021	8/7/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.81
31857 (A)	160020	8/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.80
31858 (A)	160031	8/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	8.34
31863 (A)	160033	8/10/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.25
31883 (A)	160032	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.02
31884 (A)	160028	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.93
31890 (A)	160172	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.51
31892 (A)	160164	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.22
31894 (A)	160171	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.10
31897 (A)	160036	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.40
31899 (A)	160165	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.19
31900 (A)	160035	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.59
31902 (A)	160034	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.13
31903 (A)	160166	8/11/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.24
31918 (A)	160169	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.94
31919 (A)	160307	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.32
31920 (A)	160199	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.72
31935 (A)	160168	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.47
31936 (A)	160167	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.93
31937 (A)	160198	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	10.99
31938 (A)	160197	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.41
31939 (A)	160044	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.59

31940 (A)	160040	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.24
31949 (A)	160041	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.97
31950 (A)	160196	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.50
31951 (A)	160043	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.48
31956 (A)	160202	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.93
31957 (A)	160195	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.90
31958 (A)	160042	8/12/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.70
31963 (A)	160191	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.61
31965 (A)	160200	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.41
31971 (A)	160194	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.32
31976 (A)	160201	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	16.44
31977 (A)	160190	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	17.38
31980 (A)	160218	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.15
31986 (A)	160193	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.67
31987 (A)	160188	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.39
31989 (A)	160217	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.96
31995 (A)	160189	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.83
31997 (A)	160216	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.17
32003 (A)	160192	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	16.28
32004 (A)	160214	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.29
32005 (A)	160215	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.34
32009 (A)	160209	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.85
32010 (A)	160213	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.74
32012 (A)	160245	8/13/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.22
32020 (A)	160208	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.82
32021 (A)	160210	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.89
32022 (A)	160244	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.45
32028 (A)	160236	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.37
32030 (A)	160211	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.10
32031 (A)	160221	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.06
32037 (A)	160235	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.68
32038 (A)	160212	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.10
32039 (A)	160229	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	9.74
32040 (A)	160261	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.39
32044 (A)	160223	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.33
32045 (A)	160222	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.04
32046 (A)	160234	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.75
32047 (A)	160219	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	16.21
32049 (A)	160228	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.79
32050 (A)	160242	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.48
32054 (A)	160224	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.80
32055 (A)	160230	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.66
32056 (A)	160233	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	17.37
32058 (A)	160240	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	16.94
32059 (A)	160227	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.87
32061 (A)	160243	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.06
32062 (A)	160225	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	18.16
32063 (A)	160232	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	18.51
32064 (A)	160231	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.89
32066 (A)	160241	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.92
32068 (A)	160262	8/14/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.62
32085 (A)	160226	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.87
32086 (A)	160351	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.64
32088 (A)	160263	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	16.26
32094 (A)	160220	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.47
32095 (A)	160264	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.25
32096 (A)	160361	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.62
32100 (A)	160260	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.60
32101 (A)	160265	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.81
32102 (A)	160360	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.73
32104 (A)	160359	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.90

32105 (A)	160259	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.66
32106 (A)	160266	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.95
32110 (A)	160358	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	16.66
32113 (A)	160371	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.41
32114 (A)	160357	8/17/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.51
32126 (A)	160369	8/18/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.74
32129 (A)	160163	8/18/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	13.96
32218 (A)	160352	8/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	11.37
32219 (A)	160380	8/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	10.32
32223 (A)	160375	8/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	8.45
32224 (A)	160377	8/24/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	10.42
32226 (A)	160376	8/25/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.46
32227 (A)	160381	8/25/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.91
32230 (A)	160367	8/25/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.61
32232 (A)	160382	8/25/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.03
32248 (A)	160370	8/25/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	10.95
32362 (A)	160405	9/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	15.87
32363 (A)	160368	9/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	16.57
32365 (A)	160403	9/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.54
32368 (A)	160402	9/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	17.40
32371 (A)	160404	9/1/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	14.30
32430 (A)	160456	9/3/2015	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	Z44	1210	12.76

Total # of Loads: 499 **Total Tons: 8,174.74**

ENBS8
Enbridge Pipelines Limited Partnership,
1320 Grand Ave
Superior WI 54880

LOAD #	MANIFEST	ARRIVED	WASTE STREAM	WASTE NAME	CELL	SPOT.	LIFT	TONS
21689 (A)	52054	7/18/2014	CL14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	17.00
22263 (A)	52057	8/6/2014	Cl14-0029	Crude Contaminated Soil-Pipeline E	2A	P44	1190	20.41

Total # of Loads: 2 **Total Tons: 37.41**

Grand Total (Tons): 8,212.15
Grand Total (Loads): 501

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BILL TO ACCOUNT
2133 ENBRIDGE PIPELINES LIMITE

Enbridge Pipelines Limited Par
1320 Grand Ave
Superior. WI 54880

TICKET	Manifest	DATE	Waste Stream	Waste Name	TONS
614	160400	10/20/15	14-0029	Crude Contaminated Soil-Pipeline	11.35
623	160401	10/20/15	14-0029	Crude Contaminated Soil-Pipeline	11.27
630	160399	10/20/15	14-0029	Crude Contaminated Soil-Pipeline	11.93
633	160395	10/20/15	14-0029	Crude Contaminated Soil-Pipeline	13.76
643	160398	10/21/15	14-0029	Crude Contaminated Soil-Pipeline	11.26
644	160394	10/21/15	14-0029	Crude Contaminated Soil-Pipeline	12.42
652		10/21/15	14-0029	Crude Contaminated Soil-Pipeline	14.57
657		10/21/15	14-0029	Crude Contaminated Soil-Pipeline	15.16
659		10/21/15	14-0029	Crude Contaminated Soil-Pipeline	14.14
664		10/21/15	14-0029	Crude Contaminated Soil-Pipeline	15.22
665		10/21/15	14-0029	Crude Contaminated Soil-Pipeline	13.34
673		10/21/15	14-0029	Crude Contaminated Soil-Pipeline	14.45
678		10/21/15	14-0029	Crude Contaminated Soil-Pipeline	13.38
689	160468	10/22/15	14-0029	Crude Contaminated Soil-Pipeline	15.25
690		10/22/15	14-0029	Crude Contaminated Soil-Pipeline	16.44
699		10/22/15	14-0029	Crude Contaminated Soil-Pipeline	14.04
700		10/22/15	14-0029	Crude Contaminated Soil-Pipeline	14.58
704	160470	10/22/15	14-0029	Crude Contaminated Soil-Pipeline	15.64
706	160466	10/22/15	14-0029	Crude Contaminated Soil-Pipeline	15.16
716		10/22/15	14-0029	Crude Contaminated Soil-Pipeline	14.63
718		10/22/15	14-0029	Crude Contaminated Soil-Pipeline	14.10
737		10/23/15	14-0029	Crude Contaminated Soil-Pipeline	13.22
738		10/23/15	14-0029	Crude Contaminated Soil-Pipeline	11.75
742		10/23/15	14-0029	Crude Contaminated Soil-Pipeline	13.99
746		10/23/15	14-0029	Crude Contaminated Soil-Pipeline	12.69
750		10/23/15	14-0029	Crude Contaminated Soil-Pipeline	13.06
753		10/23/15	14-0029	Crude Contaminated Soil-Pipeline	13.61
757	160474	10/23/15	14-0029	Crude Contaminated Soil-Pipeline	12.75
758	160459	10/23/15	14-0029	Crude Contaminated Soil-Pipeline	11.54
759	160479	10/23/15	14-0029	Crude Contaminated Soil-Pipeline	9.81
760	160478	10/23/15	14-0029	Crude Contaminated Soil-Pipeline	10.60

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764		10/23/15 14-0029	Crude Contaminated Soil-Pipeline	13.75
765		10/23/15 14-0029	Crude Contaminated Soil-Pipeline	10.74
777	160476	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	13.69
778	160477	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	13.27
784	160480	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	16.72
786	160482	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	17.59
797	160481	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	15.32
798	160483	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	17.37
814	160504	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	18.12
816	160496	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	14.02
825	160503	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	13.11
827	160497	10/26/15 14-0029	Crude Contaminated Soil-Pipeline	16.21
839	160502	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	14.01
840	160498	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	11.77
848	160499	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	12.22
850	160501	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	11.49
856	160500	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	13.91
857	160506	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	16.07
869	160505	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	16.41
870	160507	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	12.94
873	160511	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	15.41
874	160510	10/27/15 14-0029	Crude Contaminated Soil-Pipeline	16.04
882	160489	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	16.19
883	160486	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	15.51
884	160487	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	19.60
885	160485	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	14.84
886	160488	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	18.55
887	160484	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	14.76
889	160516	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	14.55
890	160517	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	15.74
891	160515	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	13.69
898	160495	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	17.05
899	160493	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	15.34
901	160494	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	17.30
902	160519	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	14.64
903	160518	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	14.13

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908	160522	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	18.20
909	160490	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	16.79
910	160491	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	13.24
914		10/28/15 14-0029	Crude Contaminated Soil-Pipeline	14.46
915		10/28/15 14-0029	Crude Contaminated Soil-Pipeline	13.88
916		10/28/15 14-0029	Crude Contaminated Soil-Pipeline	13.86
918	160514	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	16.00
920	160521	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	15.47
922	160513	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	14.02
923	160512	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	16.96
924	160565	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	15.30
925	160568	10/28/15 14-0029	Crude Contaminated Soil-Pipeline	16.88
956	160509	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	15.91
957	160508	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	13.80
958	160577	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	11.83
965	160759	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	14.52
966	160579	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	15.20
972	160758	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	16.70
973	160582	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	16.72
977		10/29/15 14-0029	Crude Contaminated Soil-Pipeline	15.49
978		10/29/15 14-0029	Crude Contaminated Soil-Pipeline	15.82
986	160757	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	16.76
987	160753	10/29/15 14-0029	Crude Contaminated Soil-Pipeline	15.24
1000	160760	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	17.16
1001	160761	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	13.65
1004	160762	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	15.73
1005	160763	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	12.70
1009	160755	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	12.77
1012	160775	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	18.71
1013	160771	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	13.02
1017	160580	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	15.42
1020	160765	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	13.16
1022	160764	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	12.92
1023	160777	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	17.17
1026	160529	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	15.91
1028	160774	10/30/15 14-0029	Crude Contaminated Soil-Pipeline	13.91

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1032	160779	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	10.95
1033	160778	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	13.89
1034	160769	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	12.02
1035	160766	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	14.93
1036	160773	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	11.50
1041	160780	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	12.02
1043	160776	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	16.08
1044	160768	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	13.45
1045	160767	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	14.38
1047	160772	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	13.54
1050	160531	10/30/15	14-0029	Crude Contaminated Soil-Pipeline	12.05
1062	160538	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	13.74
1063	160528	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	12.09
1065	160754	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	12.30
1068	160537	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	13.07
1069	160527	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	13.05
1070	160523	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	14.06
1071	160525	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	13.39
1076	160536	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	13.53
1082	160535	11/2/15	14-0029	Crude Contaminated Soil-Pipeline	10.73
1615	160599	11/24/15	14-0029	Crude Contaminated Soil-Pipeline	12.39
1617	160598	11/24/15	14-0029	Crude Contaminated Soil-Pipeline	13.22
1618	160597	11/24/15	14-0029	Crude Contaminated Soil-Pipeline	14.60
1619	160600	11/24/15	14-0029	Crude Contaminated Soil-Pipeline	14.73
2026	160591	12/15/15	14-0029	Crude Contaminated Soil-Pipeline	17.30
2027	160601	12/15/15	14-0029	Crude Contaminated Soil-Pipeline	16.27
2031	160587	12/15/15	14-0029	Crude Contaminated Soil-Pipeline	20.14
2032	160386	12/15/15	14-0029	Crude Contaminated Soil-Pipeline	15.15
2517	160795	1/13/16	14-0029	Crude Contaminated Soil-Pipeline	13.99
2518	160797	1/13/16	14-0029	Crude Contaminated Soil-Pipeline	13.57
2523	160794	1/13/16	14-0029	Crude Contaminated Soil-Pipeline	14.05
2524	160796	1/13/16	14-0029	Crude Contaminated Soil-Pipeline	11.61
2526	160793	1/13/16	14-0029	Crude Contaminated Soil-Pipeline	11.87
2528	160799	1/13/16	14-0029	Crude Contaminated Soil-Pipeline	11.93
2533	160798	1/13/16	14-0029	Crude Contaminated Soil-Pipeline	11.73
2660	160814	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	11.85

Print Date: 12/6/2016

Start Date: 1/1/2014 Stop Date: 12/5/2016

BILL TO ACCOUNT

2661	160837	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.49
2662	160836	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.49
2666	160817	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	12.33
2667	160825	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	14.98
2668	160821	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	12.86
2674	160816	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.10
2675	160815	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.41
2678	160820	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.98
2684	160824	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.31
2687	160828	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.20
2689	160819	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	12.32
2691	160823	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	12.09
2692	160827	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	13.91
2694	160818	1/21/16	14-0029	Crude Contaminated Soil-Pipeline	12.94
3421	161025	3/10/16	14-0029	Crude Contaminated Soil-Pipeline	13.19
3426	161026	3/10/16	14-0029	Crude Contaminated Soil-Pipeline	13.29
	# of Loads: 155			**SUBTOTAL FOR Waste Stream**	**2,199.52**
		GRAND TOTALS			**2,199.52**

VONCO

Vonco V Waste Management Campus
100 West Gary Street
Duluth, MN 55808
Permit: SW 536

16-007-I SUP Terminal Historical

Date	Ticket	Customer	Truck	Material	Tons
03/10/2016	271978	001342 - Enbridge Pipelines LLC	S38099W	Contaminated Soil Tons	9.66
03/10/2016	271981	001342 - Enbridge Pipelines LLC	S38099W	Contaminated Soil Tons	10.21
03/10/2016	271990	001342 - Enbridge Pipelines LLC	S38099W	Contaminated Soil Tons	11.57
03/10/2016	271993	001342 - Enbridge Pipelines LLC	S19589X	Contaminated Soil Tons	8.73
03/10/2016	271996	001342 - Enbridge Pipelines LLC	S38099W	Contaminated Soil Tons	9.10
03/10/2016	271998	001342 - Enbridge Pipelines LLC	S19589X	Contaminated Soil Tons	11.14
03/11/2016	272004	001342 - Enbridge Pipelines LLC	T53690W	Contaminated Soil Tons	17.64
03/11/2016	272009	001342 - Enbridge Pipelines LLC	T53690W	Contaminated Soil Tons	13.24
03/11/2016	272014	001342 - Enbridge Pipelines LLC	T53690W	Contaminated Soil Tons	5.69
03/30/2016	272432	001342 - Enbridge Pipelines LLC	S38099W	Contaminated Soil Tons	12.26
03/30/2016	272440	001342 - Enbridge Pipelines LLC	S38099W	Contaminated Soil Tons	12.93
03/30/2016	272442	001342 - Enbridge Pipelines LLC	S39449X	Contaminated Soil Tons	11.65
03/30/2016	272462	001342 - Enbridge Pipelines LLC	S38099W	Contaminated Soil Tons	15.53
03/30/2016	272463	001342 - Enbridge Pipelines LLC	S36746W	Contaminated Soil Tons	14.21
06/16/2016	275529	001342 - Enbridge Pipelines LLC	T53691W	Contaminated Soil Tons	20.83
06/16/2016	275530	001342 - Enbridge Pipelines LLC	T53691W	Contaminated Soil Tons	20.98
06/16/2016	275531	001342 - Enbridge Pipelines LLC	T53691W	Contaminated Soil Tons	21.67
				Total Tons	***227.04***
				Total Loads	***17***

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

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

July 15, 2014

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

Work Order Number: 1403025
RE: 49161286

Enclosed are the results of analyses for samples received by the laboratory on 07/11/14. 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

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

Samantha Jaworski
Manager, Organics
sjaworski@legend-group.com

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

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SUP Enhancement Stockpile-01	1403025-01	Soil	07/10/14 11:00	07/11/14 09:35

Shipping Container Information

Default Cooler Temperature (°C): 2.4

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: Yes

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.

The DRO chromatogram for the sample is attached.

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St Paul, MN 55103
Tel: 651-642-1150
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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement Stockpile-01 (1403025-01) Soil	**Sampled: 07/10/14 11:00**			**Received: 07/11/14 9:35**						
Diesel Range Organics	**950**	70	11	mg/kg dry	5	B4G1403	07/14/14	07/15/14	WI(95) DRO	L1
Surrogate: Triacontane (C-30)	*84.6*			*70-130 %*		"	"	"	"	

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St Paul, MN 55103
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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

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

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement Stockpile-01 (1403025-01) Soil Sampled: 07/10/14 11:00 Received: 07/11/14 9:35										
Benzene	<0.0067	0.058	0.0067	mg/kg dry	1	B4G1406	07/14/14	07/14/14	WI(95) GRO	
Ethylbenzene	**0.044**	0.058	0.015	mg/kg dry	1	"	"	"	"	B-01, J
Toluene	<0.0095	0.058	0.0095	mg/kg dry	1	"	"	"	"	
Xylenes (total)	**0.083**	0.17	0.033	mg/kg dry	1	"	"	"	"	J
Surrogate: 4-Fluorochlorobenzene	*94.7*			*80-150 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement Stockpile-01 (1403025-01) Soil	**Sampled: 07/10/14 11:00**			**Received: 07/11/14 9:35**						
% Solids	**43**			%	1	B4G1428	07/14/14	07/15/14	% calculation	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

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 B4G1403 - Sonication (Wisc DRO)											
Blank (B4G1403-BLK1)					Prepared & Analyzed: 07/14/14						
Diesel Range Organics	< 1.3	8.0	1.3	mg/kg wet							
Surrogate: Triacontane (C-30)	*15.1*			*mg/kg wet*	*16.0*		*94.2*	*70-130*			
LCS (B4G1403-BS1)					Prepared & Analyzed: 07/14/14						
Diesel Range Organics	69.8	8.0	1.3	mg/kg wet	64.0		109	70-120			
Surrogate: Triacontane (C-30)	*13.8*			*mg/kg wet*	*16.0*		*86.3*	*70-130*			
LCS Dup (B4G1403-BSD1)					Prepared: 07/14/14 Analyzed: 07/15/14						
Diesel Range Organics	70.4	8.0	1.3	mg/kg wet	64.0		110	70-120	0.888	20	
Surrogate: Triacontane (C-30)	*15.9*			*mg/kg wet*	*16.0*		*99.2*	*70-130*			

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

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 B4G1406 - EPA 5035 Soil (Purge and Trap)											
Blank (B4G1406-BLK1)					Prepared & Analyzed: 07/14/14						
Benzene	< 0.0029	0.025	0.0029	mg/kg wet							
Ethylbenzene	0.00699	0.025	0.0064	mg/kg wet							B-02, 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	*22.9*			*ug/L*	*25.0*		*91.8*	*80-150*			
LCS (B4G1406-BS1)					Prepared & Analyzed: 07/14/14						
Benzene	99.2			ug/L	100		99.2	80-120			
Ethylbenzene	97.5			ug/L	100		97.5	80-120			
Toluene	99.5			ug/L	100		99.5	80-120			
Xylenes (total)	284			ug/L	300		94.7	80-120			
Surrogate: 4-Fluorochlorobenzene	*23.3*			*ug/L*	*25.0*		*93.0*	*80-150*			
LCS Dup (B4G1406-BSD1)					Prepared: 07/14/14 Analyzed: 07/15/14						
Benzene	96.9			ug/L	100		96.9	80-120	2.33	20	
Ethylbenzene	94.1			ug/L	100		94.1	80-120	3.47	20	
Toluene	96.5			ug/L	100		96.5	80-120	3.11	20	
Xylenes (total)	276			ug/L	300		92.1	80-120	2.83	20	
Surrogate: 4-Fluorochlorobenzene	*23.2*			*ug/L*	*25.0*		*92.9*	*80-150*			
Matrix Spike (B4G1406-MS1)		**Source: 1403026-02**			Prepared: 07/14/14 Analyzed: 07/15/14						
Benzene	94.9			ug/L	100	<	94.9	80-120			
Ethylbenzene	92.3			ug/L	100	0.245	92.0	80-120			
Toluene	95.1			ug/L	100	<	95.1	80-120			
Xylenes (total)	271			ug/L	300	<	90.3	80-120			
Surrogate: 4-Fluorochlorobenzene	*23.3*			*ug/L*	*25.0*		*93.1*	*80-150*			

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St Paul, MN 55103
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Fax: 651-642-1239

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

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 B4G1428 - General Preparation											
Duplicate (B4G1428-DUP1)		**Source: 1403001-02**			Prepared: 07/14/14	Analyzed: 07/15/14					
% Solids	81.0			%		78.0			3.77	20	
Duplicate (B4G1428-DUP2)		**Source: 1403045-01**			Prepared: 07/14/14	Analyzed: 07/15/14					
% Solids	84.0			%		84.0			0.00	20	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 001 001	Work Order #: 1403025
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 07/15/14

Notes and Definitions

L1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
J	Parameter was present between the MDL and RL and should be considered an estimated value
B-02	Target analyte was present in the method blank between the MDL and RL.
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)

L E G E N D
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www.legend-group.com

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

Chain of Custody

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

1403025

COC 1 of 1

Project Number: 49161286.001.001

Project Name: Tank 17 Environmental Assistance

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

COC Number: № 41231

Project Manager: REE

Project QC Contact: AAN

Sampled by: TTS

Laboratory: Legend

	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	Soil	Total Number Of Containers	
1.	SUP ENHANCEMENT STOCKPILE-01	-	-	-	7/10/2014	11:00		X	X				1 1 1	3	[BTEX, DRO, % Solids]
2.															
3.															
4.															ASAP TAT
5.															
6.															
7.															
8.															
9.															
10.															

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.)

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

	On Ice?	Date	Time		Date	Time
Relinquished By:	(Y) N			Received by:		
Relinquished By:	On Ice? Y	Date	Time	Received by:	Date 7/11/14	Time 735

Samples Shipped VIA: ☐ Air Freight ☑ Federal Express ☐ Sampler ☐ Other: _____

Air Bill Number: 2.44, cust

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

H:\RLG\STDFORMS\Chain Of Custody Form 2008 RLG Rev. 09/01/09

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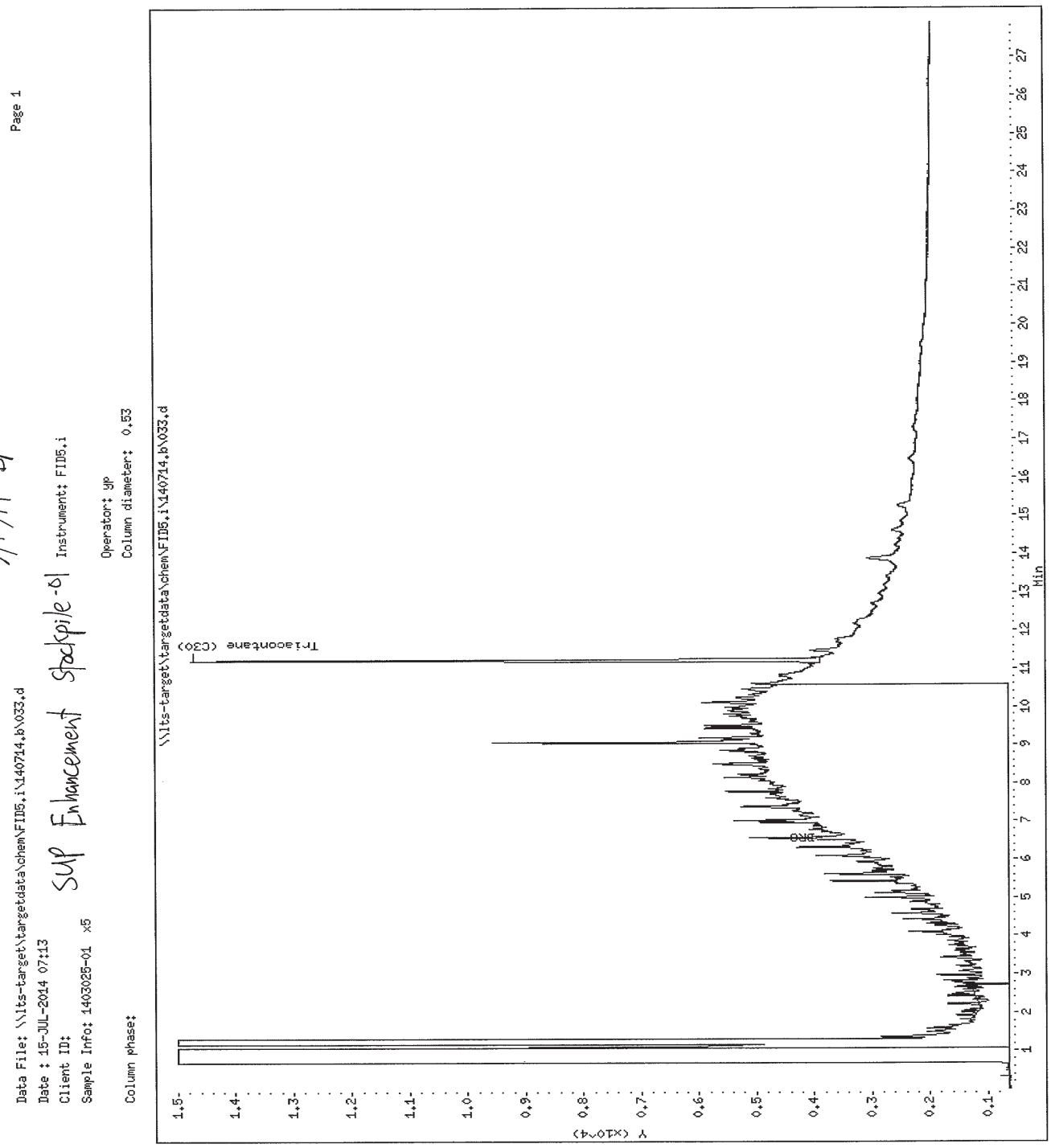
www.legend-group.com

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



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

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

August 07, 2014

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

Work Order Number: 1403432
RE: 49161286

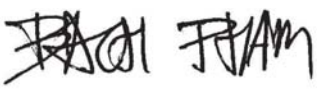
Enclosed are the results of analyses for samples received by the laboratory on 08/05/14. If you have any questions concerning this report, please feel free to contact me.

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



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

Kelly French
Chemist III/Department Manager
kfrench@legend-group.com

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

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SUP-Enhancement-Stockpile-2	1403432-01	Soil	08/04/14 13:45	08/05/14 09:05

Shipping Container Information

Default Cooler Temperature (°C): 3.9

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:

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.

DRO surrogate recovery was not available due to sample dilution from high analyte concentration for the sample. The DRO chromatogram for the sample is attached.

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St Paul, MN 55103
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Fax: 651-642-1239

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP-Enhancement-Stockpile-2 (1403432-01) Soil Sampled: 08/04/14 13:45 Received: 08/05/14 9:05										
Diesel Range Organics	**3200**	1000	170	mg/kg dry	100	B4H0605	08/06/14	08/07/14	WI(95) DRO	L1
Surrogate: Triacontane (C-30)				*70-130 %*		"	"	"	"	*D-1*

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St Paul, MN 55103
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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

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

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP-Enhancement-Stockpile-2 (1403432-01) Soil Sampled: 08/04/14 13:45 Received: 08/05/14 9:05										
Benzene	<0.0037	0.032	0.0037	mg/kg dry	1	B4H0608	08/06/14	08/06/14	WI(95) GRO	
Ethylbenzene	**0.052**	0.032	0.0082	mg/kg dry	1	"	"	"	"	B-01
Toluene	**0.016**	0.032	0.0053	mg/kg dry	1	"	"	"	"	J
Xylenes (total)	**0.063**	0.096	0.018	mg/kg dry	1	"	"	"	"	J
Surrogate: 4-Fluorochlorobenzene	*96.4*			*80-150 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP-Enhancement-Stockpile-2 (1403432-01) Soil	**Sampled: 08/04/14 13:45**			**Received: 08/05/14 9:05**						
% Solids	**78**			%	1	B4H0611	08/06/14	08/06/14	% calculation	

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

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 B4H0605 - Sonication (Wisc DRO)											
Blank (B4H0605-BLK1)					Prepared: 08/06/14 Analyzed: 08/07/14						
Diesel Range Organics	< 8.0	8.0	1.3	mg/kg wet							
Surrogate: Triacontane (C-30)	*14.2*			*mg/kg wet*	*16.0*		*88.9*	*70-130*			
LCS (B4H0605-BS1)					Prepared: 08/06/14 Analyzed: 08/07/14						
Diesel Range Organics	56.3	8.0	1.3	mg/kg wet	64.0		87.9	70-120			
Surrogate: Triacontane (C-30)	*13.9*			*mg/kg wet*	*16.0*		*86.9*	*70-130*			
LCS Dup (B4H0605-BSD1)					Prepared: 08/06/14 Analyzed: 08/07/14						
Diesel Range Organics	52.5	8.0	1.3	mg/kg wet	64.0		82.0	70-120	6.93	20	
Surrogate: Triacontane (C-30)	*13.1*			*mg/kg wet*	*16.0*		*82.2*	*70-130*			

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St Paul, MN 55103
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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

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 B4H0608 - EPA 5035 Soil (Purge and Trap)											
Blank (B4H0608-BLK1)					Prepared & Analyzed: 08/06/14						
Benzene	< 0.0029	0.025	0.0029	mg/kg wet							
Ethylbenzene	0.00744	0.025	0.0064	mg/kg wet							B-02, 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	*22.2*			*ug/L*	*25.0*		*88.8*	*80-150*			
LCS (B4H0608-BS1)					Prepared & Analyzed: 08/06/14						
Benzene	91.8			ug/L	100		91.8	80-120			
Ethylbenzene	92.7			ug/L	100		92.7	80-120			
Toluene	91.4			ug/L	100		91.4	80-120			
Xylenes (total)	266			ug/L	300		88.8	80-120			
Surrogate: 4-Fluorochlorobenzene	*22.1*			*ug/L*	*25.0*		*88.4*	*80-150*			
LCS Dup (B4H0608-BSD1)					Prepared & Analyzed: 08/06/14						
Benzene	97.9			ug/L	100		97.9	80-120	6.53	20	
Ethylbenzene	96.2			ug/L	100		96.2	80-120	3.70	20	
Toluene	97.7			ug/L	100		97.7	80-120	6.64	20	
Xylenes (total)	277			ug/L	300		92.4	80-120	4.02	20	
Surrogate: 4-Fluorochlorobenzene	*22.7*			*ug/L*	*25.0*		*90.8*	*80-150*			
Matrix Spike (B4H0608-MS1)		**Source: 1403407-05**			Prepared & Analyzed: 08/06/14						
Benzene	91.0			ug/L	100	<	91.0	80-120			
Ethylbenzene	88.7			ug/L	100	0.266	88.4	80-120			
Toluene	90.9			ug/L	100	<	90.9	80-120			
Xylenes (total)	260			ug/L	300	0.179	86.7	80-120			
Surrogate: 4-Fluorochlorobenzene	*22.9*			*ug/L*	*25.0*		*91.5*	*80-150*			

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

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 B4H0611 - General Preparation											
Duplicate (B4H0611-DUP1)		**Source: 1403416-04**			Prepared & Analyzed: 08/06/14						
% Solids	87.0			%		88.0			1.14	20	
Duplicate (B4H0611-DUP2)		**Source: 1403432-01**			Prepared & Analyzed: 08/06/14						
% Solids	77.0			%		78.0			1.29	20	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 003 001	Work Order #: 1403432
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/07/14

Notes and Definitions

L1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
J	Parameter was present between the MDL and RL and should be considered an estimated value
D-1	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
B-02	Target analyte was present in the method blank between the MDL and RL.
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)

L E G E N D
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St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Chain of Custody

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

1403432

COC 1 of 1

Project Number: 4916 1286.00 003 001
Project Name: Enbridge MP Enhancement Stockpile
Sample Origination State: WI (use two letter postal state abbreviation)
COC Number: № 43403

Project Manager: REG
Project QC Contact: AAN
Sampled by: CTJ2
Laboratory: Legend

	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	VOCs BTEX (tared MeOH) #1	DRO (tared unpreserved)	Metals (unpreserved)	SVOCs (unpreserved) #2	% Solids (plastic vial, unpres.)	Extra Jar - Soil	Total Number Of Containers	
1.	SUP-Enhancement-Stockpile-2				8/4/14	1345		X	X											1				1	2	5	BTEX, DRO, 2 Extra Jars - Hold
2.																											
3.																											
4.																											
5.																											ASAP TAT
6.																											
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

	On Ice?	Date	Time		Date	Time
Relinquished By:	Y N	8/4/14	1445	Received by:		
Relinquished By:	Y N	Date	Time	Received by:	8/5/14	905

Samples Shipped VIA: ☐ Air Freight ☒ Federal Express ☐ Sampler ☐ Other:
Air Bill Number: 29°C

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

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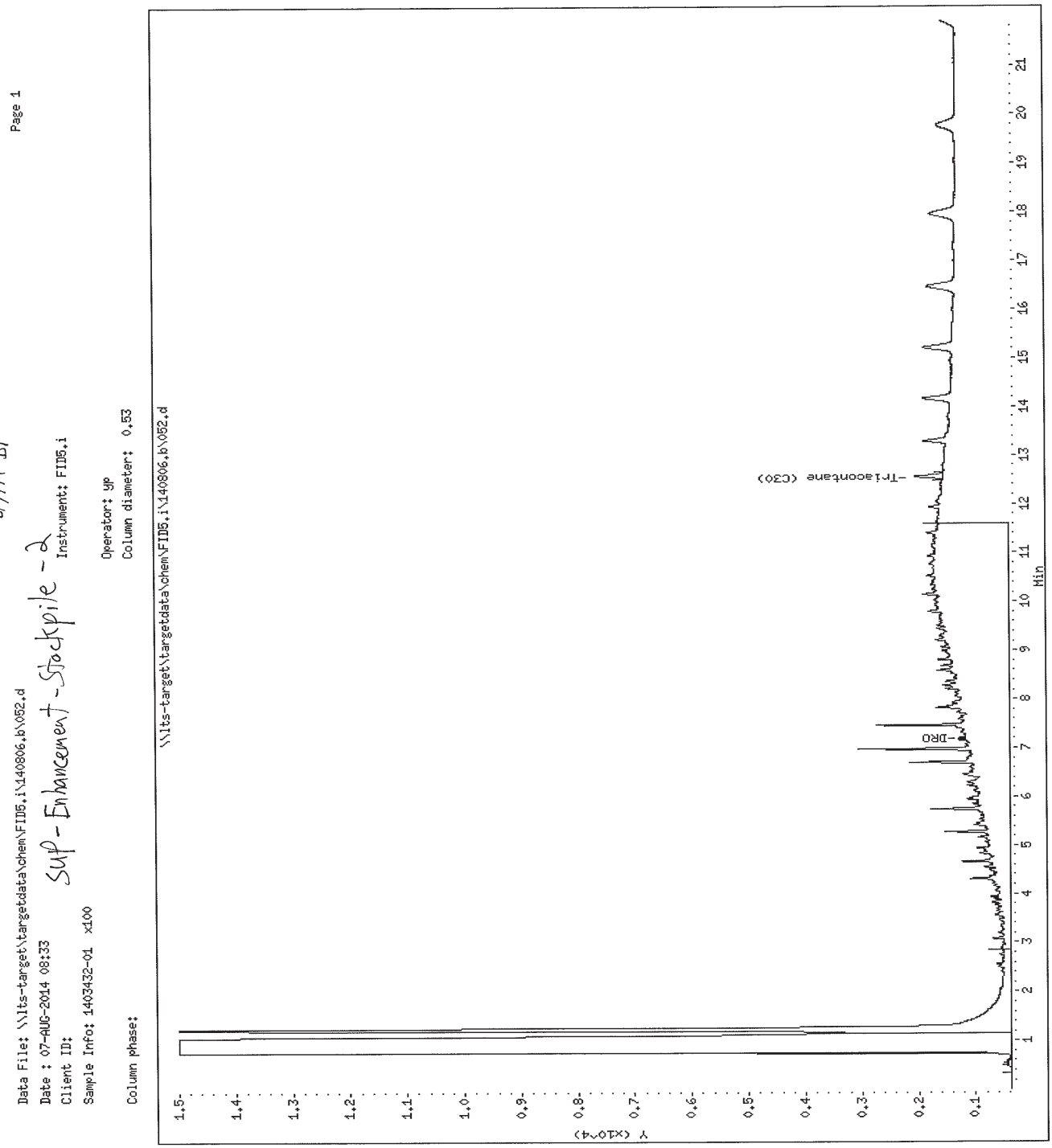
Fax: 651-642-1239



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

August 25, 2014

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

Work Order Number: 1403769
RE: 49161286

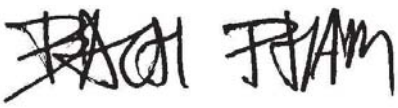
Enclosed are the results of analyses for samples received by the laboratory on 08/20/14. If you have any questions concerning this report, please feel free to contact me.

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



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

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

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SUP Enhancement-Stockpile-03	1403769-01	Soil	08/19/14 10:00	08/20/14 09:15

Shipping Container Information

Default Cooler Temperature (°C):

Received on ice: Yes
Temperature blank was not 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.

The DRO chromatogram for the sample is attached.

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement-Stockpile-03 (1403769-01) Soil	**Sampled: 08/19/14 10:00**			**Received: 08/20/14 9:15**						
Diesel Range Organics	**150**	12	2.0	mg/kg dry	1	B4H2002	08/20/14	08/21/14	WI(95) DRO	L1
Surrogate: Triacontane (C-30)	*75.5*			*70-130 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

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

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement-Stockpile-03 (1403769-01) Soil Sampled: 08/19/14 10:00 Received: 08/20/14 9:15										
Benzene	<0.0048	0.041	0.0048	mg/kg dry	1	B4H2211	08/22/14	08/23/14	WI(95) GRO	
Ethylbenzene	**0.017**	0.041	0.011	mg/kg dry	1	"	"	"	"	B-01, J
Toluene	**0.0090**	0.041	0.0068	mg/kg dry	1	"	"	"	"	J
Xylenes (total)	<0.024	0.12	0.024	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	*92.3*			*80-150 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement-Stockpile-03 (1403769-01) Soil	**Sampled: 08/19/14 10:00**			**Received: 08/20/14 9:15**						
% Solids	**66**			%	1	B4H2012	08/20/14	08/20/14	% calculation	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

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 B4H2002 - Sonication (Wisc DRO)											
Blank (B4H2002-BLK1)					Prepared & Analyzed: 08/20/14						
Diesel Range Organics	< 8.0	8.0	1.3	mg/kg wet							
Surrogate: Triacontane (C-30)	*13.4*			*mg/kg wet*	*16.0*		*83.6*	*70-130*			
LCS (B4H2002-BS1)					Prepared & Analyzed: 08/20/14						
Diesel Range Organics	62.9	8.0	1.3	mg/kg wet	64.0		98.2	70-120			
Surrogate: Triacontane (C-30)	*13.8*			*mg/kg wet*	*16.0*		*86.4*	*70-130*			
LCS Dup (B4H2002-BSD1)					Prepared: 08/20/14 Analyzed: 08/21/14						
Diesel Range Organics	59.8	8.0	1.3	mg/kg wet	64.0		93.4	70-120	4.98	20	
Surrogate: Triacontane (C-30)	*13.1*			*mg/kg wet*	*16.0*		*81.6*	*70-130*			

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

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 B4H2211 - EPA 5035 Soil (Purge and Trap)											
Blank (B4H2211-BLK1)					Prepared: 08/22/14 Analyzed: 08/23/14						
Benzene	< 0.0029	0.025	0.0029	mg/kg wet							
Ethylbenzene	0.0108	0.025	0.0064	mg/kg wet							B-02, 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*		*94.0*	*80-150*			
LCS (B4H2211-BS1)					Prepared & Analyzed: 08/22/14						
Benzene	97.9			ug/L	100		97.9	80-120			
Ethylbenzene	101			ug/L	100		101	80-120			
Toluene	98.5			ug/L	100		98.5	80-120			
Xylenes (total)	293			ug/L	300		97.8	80-120			
Surrogate: 4-Fluorochlorobenzene	*23.6*			*ug/L*	*25.0*		*94.4*	*80-150*			
LCS Dup (B4H2211-BSD1)					Prepared: 08/22/14 Analyzed: 08/23/14						
Benzene	96.2			ug/L	100		96.2	80-120	1.85	20	
Ethylbenzene	98.9			ug/L	100		98.9	80-120	2.61	20	
Toluene	95.7			ug/L	100		95.7	80-120	2.82	20	
Xylenes (total)	289			ug/L	300		96.4	80-120	1.50	20	
Surrogate: 4-Fluorochlorobenzene	*23.1*			*ug/L*	*25.0*		*92.2*	*80-150*			
Matrix Spike (B4H2211-MS1)		**Source: 1403769-01**			Prepared: 08/22/14 Analyzed: 08/23/14						
Benzene	95.4			ug/L	100	<	95.4	80-120			
Ethylbenzene	99.0			ug/L	100	0.211	98.8	80-120			
Toluene	95.3			ug/L	100	0.109	95.2	80-120			
Xylenes (total)	288			ug/L	300	0.115	95.8	80-120			
Surrogate: 4-Fluorochlorobenzene	*22.1*			*ug/L*	*25.0*		*88.5*	*80-150*			

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St Paul, MN 55103
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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

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 B4H2012 - General Preparation											
Duplicate (B4H2012-DUP1)		**Source: 1403773-01**			Prepared & Analyzed: 08/20/14						
% Solids	88.0			%		87.0			1.14	20	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286.00 006 001	Work Order #: 1403769
Minneapolis, MN 55435	Project Manager:	Ms. Andrea Nord	Date Reported: 08/25/14

Notes and Definitions

L1	Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
J	Parameter was present between the MDL and RL and should be considered an estimated value
B-02	Target analyte was present in the method blank between the MDL and RL.
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)

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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

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

1403709

COC 1 of 1

Project Number: 49/61286.00 006 001

Project Name: Enbridge Pipeline Enhancement - FB 227

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

COC Number: № 43416

Project Manager: REE

Project QC Contact: AAN

Sampled by: EJJ

Laboratory: Legend

Number of Containers/Preservative

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	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	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. SWP ENHANCEMENT-STOCKPILE-03	—			08/19/2014	1000		X	X											1	1			1	4	DRO, BTEX
2.																									
3.																									
4.																									
5.																									ASAP TAT
6.																									
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
Brad Seim	(Y) N	8/19/14	1600			
Relinquished By:	On Ice? (Y) N	Date	Time	Received by: Kelly Boehm	8/20/14	915

Samples Shipped VIA: ☐ Air Freight ☒ Federal Express ☐ Sampler ☐ Other: ______

Air Bill Number:

no temp, DRO unweighed jar

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

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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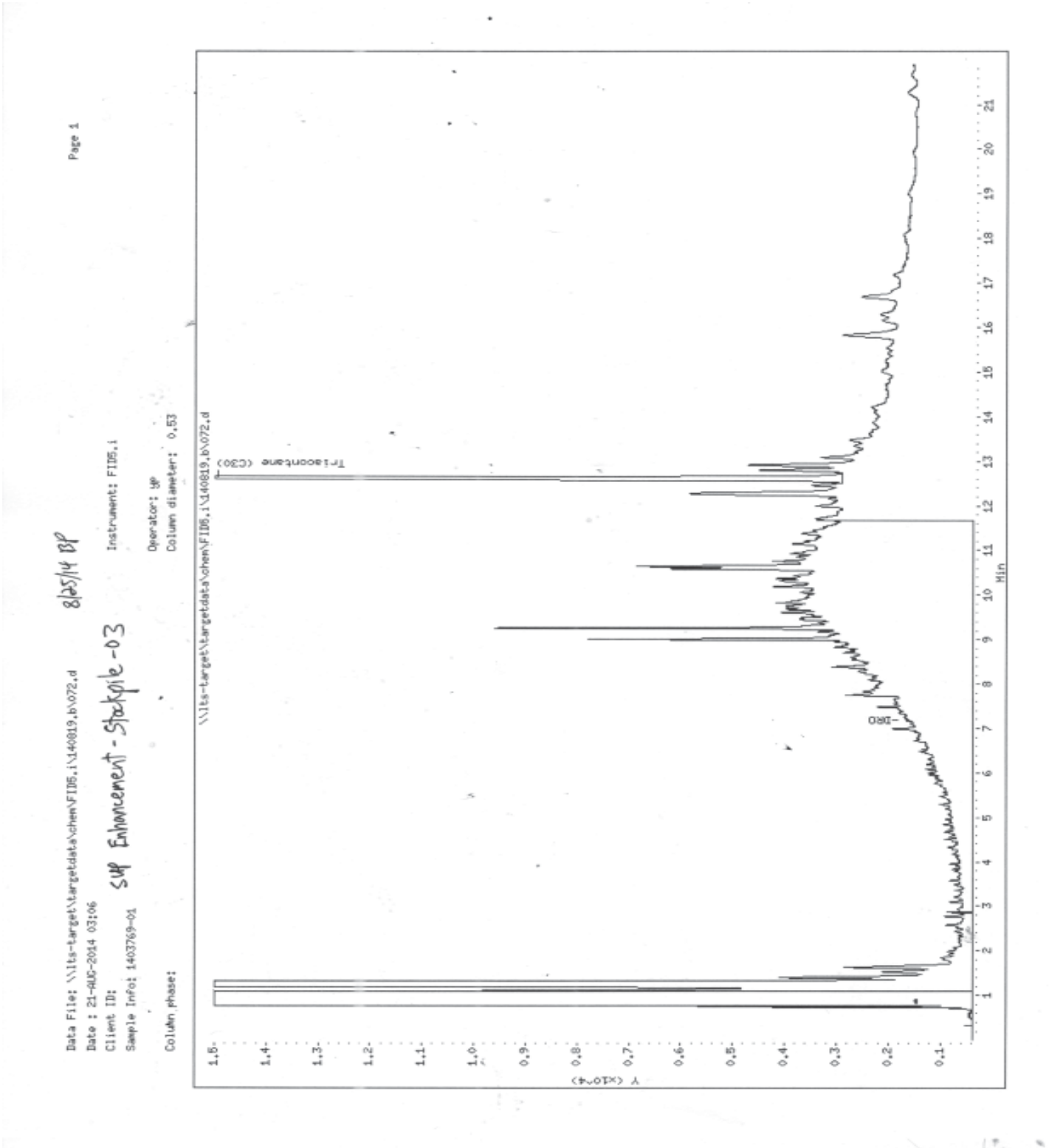
Technical Services, Inc.
www.legend-group.com

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



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St Paul, MN 55103
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Fax: 651-642-1239

October 28, 2014

Mr. James E. Taraldsen
Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Work Order Number: 1404767
RE: 49161286

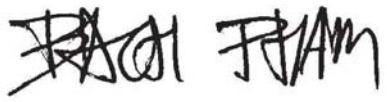
Enclosed are the results of analyses for samples received by the laboratory on 10/16/14. If you have any questions concerning this report, please feel free to contact me.

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



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

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www.legend-group.com

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 008 001	Work Order #: 1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 10/28/14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sup Enhancement-Stockpile-05	1404767-01	Soil	10/15/14 14:45	10/16/14 09:10

Shipping Container Information

Default Cooler Temperature (°C): 1.3

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.

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4700 W 77th St	Project Number:	49161286 008 001	Work Order #: 1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 10/28/14

DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sup Enhancement-Stockpile-05 (1404767-01) Soil Sampled: 10/15/14 14:45 Received: 10/16/14 9:10										
Diesel Range Organics	**400**	8.9	1.5	mg/kg dry	1	B4J2102	10/21/14	10/22/14	WI(95) DRO	
Surrogate: Triacontane (C-30)	*93.0*			*70-130 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 008 001	Work Order #: 1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 10/28/14

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

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sup Enhancement-Stockpile-05 (1404767-01) Soil Sampled: 10/15/14 14:45 Received: 10/16/14 9:10										
Benzene	<0.0037	0.032	0.0037	mg/kg dry	1	B4J1717	10/17/14	10/18/14	WI(95) GRO	
Ethylbenzene	**0.057**	0.032	0.0082	mg/kg dry	1	"	"	"	"	B-01
Toluene	**0.011**	0.032	0.0053	mg/kg dry	1	"	"	"	"	J
Xylenes (total)	**0.091**	0.096	0.018	mg/kg dry	1	"	"	"	"	J
Surrogate: 4-Fluorochlorobenzene	*100*			*80-150 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 008 001	Work Order #: 1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 10/28/14

PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sup Enhancement-Stockpile-05 (1404767-01) Soil	**Sampled: 10/15/14 14:45**			**Received: 10/16/14 9:10**						
% Solids	**78**			%	1	B4J2304	10/23/14	10/23/14	% calculation	

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4700 W 77th St	Project Number:	49161286 008 001	Work Order #: 1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 10/28/14

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 B4J2102 - Sonication (Wisc DRO)											
Blank (B4J2102-BLK1)					Prepared & Analyzed: 10/21/14						
Diesel Range Organics	< 8.0	8.0	1.3	mg/kg wet							
Surrogate: Triacontane (C-30)	*13.6*			*mg/kg wet*	*16.0*		*85.3*	*70-130*			
LCS (B4J2102-BS1)					Prepared & Analyzed: 10/21/14						
Diesel Range Organics	64.7	8.0	1.3	mg/kg wet	64.0		101	70-120			
Surrogate: Triacontane (C-30)	*16.9*			*mg/kg wet*	*16.0*		*105*	*70-130*			
LCS Dup (B4J2102-BSD1)					Prepared: 10/21/14 Analyzed: 10/22/14						
Diesel Range Organics	61.0	8.0	1.3	mg/kg wet	64.0		95.2	70-120	5.90	20	
Surrogate: Triacontane (C-30)	*16.2*			*mg/kg wet*	*16.0*		*101*	*70-130*			

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4700 W 77th St	Project Number:	49161286 008 001	Work Order #: 1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 10/28/14

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 B4J1717 - EPA 5035 Soil (Purge and Trap)											
Blank (B4J1717-BLK1)					Prepared & Analyzed: 10/17/14						
Benzene	< 0.0029	0.025	0.0029	mg/kg wet							
Ethylbenzene	0.00806	0.025	0.0064	mg/kg wet							B-02, 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	*24.0*			*ug/L*	*25.0*		*96.1*	*80-150*			
LCS (B4J1717-BS1)					Prepared & Analyzed: 10/17/14						
Benzene	89.7			ug/L	100		89.7	80-120			
Ethylbenzene	95.4			ug/L	100		95.4	80-120			
Toluene	92.3			ug/L	100		92.3	80-120			
Xylenes (total)	282			ug/L	300		93.9	80-120			
Surrogate: 4-Fluorochlorobenzene	*24.3*			*ug/L*	*25.0*		*97.4*	*80-150*			
LCS Dup (B4J1717-BSD1)					Prepared: 10/17/14		Analyzed: 10/18/14				
Benzene	94.3			ug/L	100		94.3	80-120	5.05	20	
Ethylbenzene	99.1			ug/L	100		99.1	80-120	3.81	20	
Toluene	96.3			ug/L	100		96.3	80-120	4.29	20	
Xylenes (total)	291			ug/L	300		97.1	80-120	3.38	20	
Surrogate: 4-Fluorochlorobenzene	*24.7*			*ug/L*	*25.0*		*98.8*	*80-150*			
Matrix Spike (B4J1717-MS1)		**Source: 1404783-01**			Prepared: 10/17/14		Analyzed: 10/18/14				
Benzene	92.0			ug/L	100	<	92.0	80-120			
Ethylbenzene	95.8			ug/L	100	0.268	95.5	80-120			
Toluene	93.0			ug/L	100	<	93.0	80-120			
Xylenes (total)	278			ug/L	300	0.140	92.7	80-120			
Surrogate: 4-Fluorochlorobenzene	*24.5*			*ug/L*	*25.0*		*98.0*	*80-150*			

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St Paul, MN 55103
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Fax: 651-642-1239

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 008 001	Work Order #: 1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 10/28/14

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 B4J2304 - General Preparation											
Duplicate (B4J2304-DUP1)		**Source: 1404774-09**			Prepared & Analyzed: 10/23/14						
% Solids	90.0			%		88.0			2.25	20	
Duplicate (B4J2304-DUP2)		**Source: 1404798-04**			Prepared & Analyzed: 10/23/14						
% Solids	96.0			%		95.0			1.05	20	
Duplicate (B4J2304-DUP3)		**Source: 1404798-05**			Prepared & Analyzed: 10/23/14						
% Solids	97.0			%		92.0			5.29	20	

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Barr Engineering Co.	Project:	49161286		
4700 W 77th St	Project Number:	49161286 008 001	Work Order #:	1404767
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported:	10/28/14

Notes and Definitions

J	Parameter was present between the MDL and RL and should be considered an estimated value
B-02	Target analyte was present in the method blank between the MDL and RL.
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)

Chain of Custody

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

1404767

COC 1 of 1

Project Number: 49161286 008 001

Project Name: Pipeline Enhancement Project - Tank #1

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

COC Number: № 43530

Project Manager: REE

Project QC Contact: JET

Sampled by: JET

Laboratory: Legend

Number of Containers/Preservative

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	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	Soil: BTEX (tared MeOH) #1	Soil: DRO (tared unpreserved)	Soil: Metals (unpreserved)	Soil: SVOCs (unpreserved) #2	Soil: % Solids (plastic vial, unpres.)	Soil: Hold jar - 4oz	Soil: % Moisture	Total Number Of Containers	
1. ~~Tank 1 Soil~~ JT 10/15/14	-	-	-	10/15/14	14:45		X	X													1	1				1	1		BTEX, DRO, % moisture (+4oz jar - hold)
2. Sup Enhancement - Stockpile - 05																													
3.																													
4.																													
5.																													
6.																													Standard TAT!
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
[signature]	Y / N (Y circled)	10/15/14	16:15			
Relinquished By:	On Ice? Y / N (Y circled)	Date	Time	Received by: [signature]	10/16/14	9/0

Samples Shipped VIA: ☐ Air Freight ☒ Federal Express ☐ Sampler ☐ Other:

Air Bill Number: 1.3°C

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

H:RLG\STDFORMS\Chain Of Custody Form 2009 RLG Rev. 09/21/09

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www.legend-group.com
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St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

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

June 23, 2015

Mr. James E. Taraldsen
Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Work Order Number: 1502376
RE: 49161286

Enclosed are the results of analyses for samples received by the laboratory on 06/19/15. 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

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

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

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SUP Enhancement-Stockpile-06	1502376-01	Soil	06/18/15 09:30	06/19/15 09:10

Shipping Container Information

Default Cooler Temperature (°C): 0.9

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:

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.

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Fax: 651-642-1239

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement-Stockpile-06 (1502376-01) Soil Sampled: 06/18/15 09:30 Received: 06/19/15 9:10										
Diesel Range Organics	**17**	9.4	2.0	mg/kg dry	1	B5F2205	06/22/15	06/23/15	WI(95) DRO	
Surrogate: Triacontane (C-30)	*90.6*			*70-130 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

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

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement-Stockpile-06 (1502376-01) Soil Sampled: 06/18/15 09:30 Received: 06/19/15 9:10										
Benzene	**0.22**	0.033	0.0011	mg/kg dry	1	B5F1918	06/19/15	06/20/15	WI(95) GRO	
Ethylbenzene	**0.31**	0.033	0.0047	mg/kg dry	1	"	"	"	"	
Toluene	**0.10**	0.033	0.0054	mg/kg dry	1	"	"	"	"	
Xylenes (total)	**9.6**	0.10	0.019	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	*118*			*80-150 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SUP Enhancement-Stockpile-06 (1502376-01) Soil	**Sampled: 06/18/15 09:30**			**Received: 06/19/15 9:10**						
% Solids	**75**			%	1	B5F2304	06/23/15	06/23/15	% calculation	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

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 B5F2205 - Sonication (Wisc DRO)											
Blank (B5F2205-BLK1)					Prepared: 06/22/15 Analyzed: 06/23/15						
Diesel Range Organics	< 8.0	8.0	1.7	mg/kg wet							
Surrogate: Triacontane (C-30)	*15.7*			*mg/kg wet*	*16.0*		*97.8*	*70-130*			
LCS (B5F2205-BS1)					Prepared: 06/22/15 Analyzed: 06/23/15						
Diesel Range Organics	62.6	8.0	1.7	mg/kg wet	64.0		97.8	70-120			
Surrogate: Triacontane (C-30)	*16.6*			*mg/kg wet*	*16.0*		*104*	*70-130*			
LCS Dup (B5F2205-BSD1)					Prepared: 06/22/15 Analyzed: 06/23/15						
Diesel Range Organics	56.0	8.0	1.7	mg/kg wet	64.0		87.5	70-120	11.1	20	
Surrogate: Triacontane (C-30)	*15.8*			*mg/kg wet*	*16.0*		*99.0*	*70-130*			

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4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

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 B5F1918 - EPA 5035 Soil (Purge and Trap)											
Blank (B5F1918-BLK1)					Prepared & Analyzed: 06/19/15						
Benzene	< 0.00082	0.025	0.00082	mg/kg wet							
Ethylbenzene	0.0144	0.025	0.0035	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	*23.1*			*ug/L*	*25.0*		*92.5*	*80-150*			
LCS (B5F1918-BS1)					Prepared & Analyzed: 06/19/15						
Benzene	96.5			ug/L	100		96.5	80-120			
Ethylbenzene	97.1			ug/L	100		97.1	80-120			
Toluene	98.9			ug/L	100		98.9	80-120			
Xylenes (total)	302			ug/L	300		101	80-120			
Surrogate: 4-Fluorochlorobenzene	*25.6*			*ug/L*	*25.0*		*102*	*80-150*			
LCS Dup (B5F1918-BSD1)					Prepared: 06/19/15 Analyzed: 06/20/15						
Benzene	95.5			ug/L	100		95.5	80-120	1.07	20	
Ethylbenzene	95.4			ug/L	100		95.4	80-120	1.74	20	
Toluene	97.0			ug/L	100		97.0	80-120	1.85	20	
Xylenes (total)	293			ug/L	300		97.6	80-120	3.21	20	
Surrogate: 4-Fluorochlorobenzene	*24.9*			*ug/L*	*25.0*		*99.6*	*80-150*			
Matrix Spike (B5F1918-MS1)		**Source: 1502347-01**			Prepared: 06/19/15 Analyzed: 06/20/15						
Benzene	93.9			ug/L	100	<	93.9	80-120			
Ethylbenzene	95.2			ug/L	100	0.239	94.9	80-120			
Toluene	96.5			ug/L	100	<	96.5	80-120			
Xylenes (total)	293			ug/L	300	0.146	97.7	80-120			
Surrogate: 4-Fluorochlorobenzene	*25.1*			*ug/L*	*25.0*		*100*	*80-150*			

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

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

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 B5F2304 - General Preparation											
Duplicate (B5F2304-DUP1)		**Source: 1502397-02**			Prepared & Analyzed: 06/23/15						
% Solids	95.0			%		95.0			0.00	20	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 014 001	Work Order #: 1502376
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 06/23/15

Notes and Definitions

J	Parameter was present between the MDL and RL and should be considered an estimated value
<	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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88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

Chain of Custody

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

1502376

Project Number: 49161286 014 001

Project Name: ~~Pipeline~~ Enbridge Pipeline Enhancement - Tank 20

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

COC Number: Nº 45046

COC 1 of 1

Project Manager: REE

Project QC Contact: JET

Sampled by: REE

Laboratory: Legend

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. SUP ENHANCEMENT - STOCKPILE - 06	—			06/18/15	930		X	X				21	11	BTEX, DRO, Moisture
2.														
3.														ASAP TAT
4.														
5.														
6.														
7.														
8.														
9.														
10.														

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 (Jared MeOH) #1; GRO, BTEX (Jared MeOH) #1; DRO (Jared unpreserved); Metals (unpreserved); SVOCs (unpreserved) #2; % Solids (plastic vial, ampes.); Hold

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
	Y N	6/18/15	1400			
Relinquished By:	On Ice?	Date	Time	Received by:	Date	Time
	Y N				6/19/15	910

Samples Shipped VIA: ☐ Air Freight ☒ Federal Express ☐ Sampler ☐ Other: _____

Air Bill Number: 0.90

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

25-Aug-2015

Ryan Erickson
Barr Engineering Company
4700 West 77th Street
Minneapolis, MN 55435-4803

Re: **Enbridge - Tank 21 (49161253.30)** Work Order: **15081052**

Dear Ryan,

ALS Environmental received 2 samples on 20-Aug-2015 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

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

Sincerely,

Electronically approved by: Tom Beamish

Tom Beamish
Client Services Coordinator

Certificate No: WI: 399084510

Report of Laboratory Analysis

ALS Group USA, Corp

Date: 25-Aug-15

Client: Barr Engineering Company
Project: Enbridge - Tank 21 (49161253.30)
Work Order: **15081052**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15081052-01	Tank 21 - Stockpile-1	Soil		08/17/15 16:00	08/20/15 09:00	☐
15081052-02	Trip Blank	Soil		08/17/15	08/20/15 09:00	☐

ALS Group USA, Corp

Date: 25-Aug-15

Client: Barr Engineering Company
Project: Enbridge - Tank 21 (49161253.30)
WorkOrder: **15081052**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: 25-Aug-15

Client: Barr Engineering Company
Project: Enbridge - Tank 21 (49161253.30)
Work Order: 15081052

Case Narrative

Samples for the above noted Work Order were received on 08/20/15. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No deviations or anomalies were noted.

Extractable Organics:
No deviations or anomalies were noted.

Wet Chemistry:
No deviations or anomalies were noted.

ALS Group USA, Corp

Date: *25-Aug-15*

Client: Barr Engineering Company
Project: Enbridge - Tank 21 (49161253.30)
Sample ID: Tank 21 - Stockpile-1
Collection Date: 08/17/15 04:00 PM

Work Order: 15081052
Lab ID: 15081052-01
Matrix: SOIL

Analyses	Result	Qual	MDL	PQL	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID		Method: **PUBL-SW-141**			Prep: PUBL-SW-141 / 8/21/15		Analyst: **IT**
DRO (C10-C28)	**380**		**4.2**	**10**	**mg/Kg-dry**	1	08/24/15 11:12
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**			Prep: SW5035 / 8/20/15		Analyst: **BG**
Benzene	ND		25	63	µg/Kg-dry	1	08/23/15 18:55
Ethylbenzene	ND		23	63	µg/Kg-dry	1	08/23/15 18:55
m,p-Xylene	ND		47	130	µg/Kg-dry	1	08/23/15 18:55
o-Xylene	ND		27	63	µg/Kg-dry	1	08/23/15 18:55
Toluene	ND		23	63	µg/Kg-dry	1	08/23/15 18:55
Xylenes, Total	ND		74	190	µg/Kg-dry	1	08/23/15 18:55
Surr: 1,2-Dichloroethane-d4	*102*			*70-130*	*%REC*	1	08/23/15 18:55
Surr: 4-Bromofluorobenzene	*99.8*			*70-130*	*%REC*	1	08/23/15 18:55
Surr: Dibromofluoromethane	*99.8*			*70-130*	*%REC*	1	08/23/15 18:55
Surr: Toluene-d8	*98.0*			*70-130*	*%REC*	1	08/23/15 18:55
MOISTURE		Method: **E160.3M**					Analyst: **EVB**
Moisture	**52**		**0.025**	**0.050**	**% of sample**	1	08/21/15 14:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *25-Aug-15*

Client: Barr Engineering Company
Project: Enbridge - Tank 21 (49161253.30)
Sample ID: Trip Blank
Collection Date: 08/17/15

Work Order: 15081052
Lab ID: 15081052-02
Matrix: SOIL

Analyses	Result	Qual	MDL	PQL	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260B**			Prep: SW5035 / 8/20/15		Analyst: **AK**
Benzene	ND		12	30	µg/Kg	1	08/21/15 20:53
Ethylbenzene	ND		11	30	µg/Kg	1	08/21/15 20:53
m,p-Xylene	ND		23	60	µg/Kg	1	08/21/15 20:53
o-Xylene	ND		13	30	µg/Kg	1	08/21/15 20:53
Toluene	ND		11	30	µg/Kg	1	08/21/15 20:53
Xylenes, Total	ND		35	90	µg/Kg	1	08/21/15 20:53
Surr: 1,2-Dichloroethane-d4	*96.6*			*70-130*	*%REC*	1	08/21/15 20:53
Surr: 4-Bromofluorobenzene	*94.3*			*70-130*	*%REC*	1	08/21/15 20:53
Surr: Dibromofluoromethane	*95.5*			*70-130*	*%REC*	1	08/21/15 20:53
Surr: Toluene-d8	*98.0*			*70-130*	*%REC*	1	08/21/15 20:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 25-Aug-15

Client: Barr Engineering Company

QC BATCH REPORT

Work Order: 15081052

Project: Enbridge - Tank 21 (49161253.30)

Batch ID: **75077** Instrument ID **GC8** Method: **PUBL-SW-141**

MBLK	Sample ID: **DBLKS1-75077-75077**				Units: **mg/Kg**			Analysis Date: **08/24/15 10:42 AM**			
Client ID:		Run ID: **GC8_150824A**			SeqNo: **3429147**			Prep Date: **08/21/15**		DF: **1**	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	2	5.0								

LCS	Sample ID: **DLCSS1-75077-75077**				Units: **mg/Kg**			Analysis Date: **08/24/15 10:12 AM**			
Client ID:		Run ID: **GC8_150824A**			SeqNo: **3429146**			Prep Date: **08/21/15**		DF: **1**	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	179.2	2	5.0	200	0	89.6	70-120	0			

LCSD	Sample ID: **DLCSDS1-75077-75077**				Units: **mg/Kg**			Analysis Date: **08/24/15 12:41 PM**			
Client ID:		Run ID: **GC8_150824A**			SeqNo: **3429151**			Prep Date: **08/21/15**		DF: **1**	
Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	191.4	2	5.0	200	0	95.7	70-120	179.2	6.61	20	

The following samples were analyzed in this batch: 15081052-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Barr Engineering Company
Work Order: 15081052
Project: Enbridge - Tank 21 (49161253.30)

QC BATCH REPORT

Batch ID: **75058** Instrument ID **VMS9** Method: **SW8260B**

MBLK Sample ID: **MBLK-75058-75058** Units: **µg/Kg** Analysis Date: **08/20/15 04:43 PM**
Client ID: Run ID: **VMS9_150820A** SeqNo: **3426777** Prep Date: **08/20/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	12	30								
Ethylbenzene	ND	11	30								
m,p-Xylene	ND	23	60								
o-Xylene	ND	13	30								
Toluene	ND	11	30								
Xylenes, Total	ND	35	90								
Surr: 1,2-Dichloroethane-d4	*933*	0	0	*1000*	0	*93.3*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*914.5*	0	0	*1000*	0	*91.4*	*70-130*	0			
Surr: Dibromofluoromethane	*907.5*	0	0	*1000*	0	*90.8*	*70-130*	0			
Surr: Toluene-d8	*975.5*	0	0	*1000*	0	*97.6*	*70-130*	0			

LCS Sample ID: **LCS-75058-75058** Units: **µg/Kg** Analysis Date: **08/20/15 03:01 PM**
Client ID: Run ID: **VMS9_150820A** SeqNo: **3426775** Prep Date: **08/20/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	993.5	12	30	1000	0	99.4	75-125	0			
Ethylbenzene	992	11	30	1000	0	99.2	75-125	0			
m,p-Xylene	2036	23	60	2000	0	102	80-125	0			
o-Xylene	992.5	13	30	1000	0	99.2	75-125	0			
Toluene	1016	11	30	1000	0	102	70-125	0			
Xylenes, Total	3029	35	90	3000	0	101	75-125	0			
Surr: 1,2-Dichloroethane-d4	*924*	0	0	*1000*	0	*92.4*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1059*	0	0	*1000*	0	*106*	*70-130*	0			
Surr: Dibromofluoromethane	*917.5*	0	0	*1000*	0	*91.8*	*70-130*	0			
Surr: Toluene-d8	*1010*	0	0	*1000*	0	*101*	*70-130*	0			

MS Sample ID: **15081076-09A MS** Units: **µg/Kg** Analysis Date: **08/25/15 12:06 PM**
Client ID: Run ID: **VMS9_150824A** SeqNo: **3430710** Prep Date: **08/20/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1145	14	34	1132	0	101	75-125	0			
Ethylbenzene	1175	13	34	1132	0	104	75-125	0			
m,p-Xylene	2299	26	68	2264	0	102	80-125	0			
o-Xylene	1121	14	34	1132	0	99	75-125	0			
Toluene	1146	13	34	1132	0	101	70-125	0			
Xylenes, Total	3420	40	100	3397	0	101	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1104*	0	0	*1132*	0	*97.5*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1213*	0	0	*1132*	0	*107*	*70-130*	0			
Surr: Dibromofluoromethane	*1082*	0	0	*1132*	0	*95.6*	*70-130*	0			
Surr: Toluene-d8	*1151*	0	0	*1132*	0	*102*	*70-130*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Barr Engineering Company
Work Order: 15081052
Project: Enbridge - Tank 21 (49161253.30)

QC BATCH REPORT

Batch ID: **75058** Instrument ID **VMS9** Method: **SW8260B**

MSD Sample ID: **15081076-09A MSD** Units: **µg/Kg** Analysis Date: **08/25/15 12:32 PM**

Client ID: Run ID: **VMS9_150824A** SeqNo: **3430711** Prep Date: **08/20/15** DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1094	14	34	1132	0	96.6	75-125	1145	4.5	30	
Ethylbenzene	1115	13	34	1132	0	98.5	75-125	1175	5.19	30	
m,p-Xylene	2265	26	68	2264	0	100	80-125	2299	1.51	30	
o-Xylene	1094	14	34	1132	0	96.6	75-125	1121	2.4	30	
Toluene	1132	13	34	1132	0	100	70-125	1146	1.19	30	
Xylenes, Total	3359	40	100	3397	0	98.9	75-125	3420	1.8	30	
Surr: 1,2-Dichloroethane-d4	*1104*	0	0	*1132*	0	*97.6*	*70-130*	1104	*0.0513*	*30*	
Surr: 4-Bromofluorobenzene	*1201*	0	0	*1132*	0	*106*	*70-130*	1213	*0.985*	*30*	
Surr: Dibromofluoromethane	*1097*	0	0	*1132*	0	*96.8*	*70-130*	1082	*1.3*	*30*	
Surr: Toluene-d8	*1157*	0	0	*1132*	0	*102*	*70-130*	1151	*0.491*	*30*	

The following samples were analyzed in this batch: 15081052-01A 15081052-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Barr Engineering Company
Work Order: 15081052
Project: Enbridge - Tank 21 (49161253.30)

QC BATCH REPORT

Batch ID: **R170180** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R170180** Units: **% of sample** Analysis Date: **08/21/15 02:45 PM**
Client ID: Run ID: **MOIST_150821A** SeqNo: **3428821** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.025	0.050								

LCS Sample ID: **LCS-R170180** Units: **% of sample** Analysis Date: **08/21/15 02:45 PM**
Client ID: Run ID: **MOIST_150821A** SeqNo: **3428820** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.025	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15081099-01B DUP** Units: **% of sample** Analysis Date: **08/21/15 02:45 PM**
Client ID: Run ID: **MOIST_150821A** SeqNo: **3428807** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	6.58	0.025	0.050	0	0	0		6.17	6.43	20	

DUP Sample ID: **15081123-01A DUP** Units: **% of sample** Analysis Date: **08/21/15 02:45 PM**
Client ID: Run ID: **MOIST_150821A** SeqNo: **3428814** Prep Date: DF: **1**

Analyte	Result	MDL	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	7.1	0.025	0.050	0	0	0		7.08	0.282	20	

The following samples were analyzed in this batch: 15081052-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

1508052

Chain of Custody

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

COC 1 of 1

Project Number: & 49161253.30 001 001

Project Name: EnBridge - Tank ~~20~~ 20

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

COC Number: № 45051

Project Manager: REE

Project QC Contact: JET

Sampled by: NRS2

Laboratory: ALS Holland

	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	Soil: ~~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.	Tank 21-STOCKPILE-1			—	08/17/15	1600		X	X										2	1			1	4	BTEX, DRO
2.																									
3.	Temp Blank										X													1	
4.	Trip Blank										X								1					1	
5.																									
6.																									
7.																									ASAP TAT
8.																									
9.																									
10.																									

2

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
[signature]	(Y) N	08/18/15	16:30			
Relinquished By:	On Ice? Y N	Date	Time	Received by: [signature]	Date 8/20/15	Time 0900

Samples Shipped VIA: ☐ Air Freight ☑ Federal Express ☐ Sampler ☐ Other: _____

Air Bill Number:

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

12 °C

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

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **BARRENG-MN** Date/Time Received: **20-Aug-15 09:00**

Work Order: **15081052** Received by: **NML**

Checklist completed by Diane Shaw (eSignature) 20-Aug-15 (Date) Reviewed by: Tom Bramish (eSignature) 20-Aug-15 (Date)

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2/1.2 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	8/20/2015 11:10:38 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	_		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

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

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

December 01, 2015

Mr. James E. Taraldsen
Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Work Order Number: 1505276
RE: 49161286

Enclosed are the results of analyses for samples received by the laboratory on 11/25/15. 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

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

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

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

Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 015 001 Field Booster 23	Work Order #: 1505276
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 12/01/15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FB 23 Stockpile-1	1505276-01	Soil	11/24/15 13:45	11/25/15 09:30

Shipping Container Information

Default Cooler Temperature (°C): 1.4

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: Yes

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.

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Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 12/01/15

DRO/8015D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FB 23 Stockpile-1 (1505276-01) Soil	**Sampled: 11/24/15 13:45**			**Received: 11/25/15 9:30**						
Diesel Range Organics	**7.2**	7.7	2.3	mg/kg dry	1	B5L0107	12/01/15	12/01/15	WI(95) DRO	J
Surrogate: Triacontane (C-30)	*110*			*70-130 %*		"	"	"	"	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 015 001 Field Booster 23	Work Order #: 1505276
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 12/01/15

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

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FB 23 Stockpile-1 (1505276-01) Soil	**Sampled: 11/24/15 13:45**			**Received: 11/25/15 9:30**						
Benzene	<0.0011	0.0037	0.0011	mg/kg dry	1	B5K2508	11/25/15	11/25/15	WI(95) GRO	
Ethylbenzene	**0.019**	0.016	0.0048	mg/kg dry	1	"	"	"	"	B-01
Toluene	<0.0056	0.018	0.0056	mg/kg dry	1	"	"	"	"	
Xylenes (total)	<0.019	0.065	0.019	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Fluorochlorobenzene	*103*			*80-150 %*		"	"	"	"	

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4700 W 77th St	Project Number:	49161286 015 001 Field Booster 23	Work Order #: 1505276
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 12/01/15

PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FB 23 Stockpile-1 (1505276-01) Soil	**Sampled: 11/24/15 13:45**			**Received: 11/25/15 9:30**						
% Solids	**73**			%	1	B5L0112	12/01/15	12/01/15	% calculation	

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 015 001 Field Booster 23	Work Order #: 1505276
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 12/01/15

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 B5L0107 - Sonication (Wisc DRO)											
Blank (B5L0107-BLK1)					Prepared & Analyzed: 12/01/15						
Diesel Range Organics	< 1.7	5.6	1.7	mg/kg wet							
Surrogate: Triacontane (C-30)	*18.2*			*mg/kg wet*	*16.0*		*114*	*70-130*			
LCS (B5L0107-BS1)					Prepared & Analyzed: 12/01/15						
Diesel Range Organics	66.8	5.6	1.7	mg/kg wet	64.0		104	70-120			
Surrogate: Triacontane (C-30)	*17.1*			*mg/kg wet*	*16.0*		*107*	*70-130*			
LCS Dup (B5L0107-BSD1)					Prepared & Analyzed: 12/01/15						
Diesel Range Organics	67.4	5.6	1.7	mg/kg wet	64.0		105	70-120	0.832	20	
Surrogate: Triacontane (C-30)	*17.7*			*mg/kg wet*	*16.0*		*111*	*70-130*			

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 015 001 Field Booster 23	Work Order #: 1505276
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 12/01/15

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 B5K2508 - EPA 5035 Soil (Purge and Trap)											
Blank (B5K2508-BLK1)					Prepared & Analyzed: 11/25/15						
Benzene	< 0.00082	0.0027	0.00082	mg/kg wet							
Ethylbenzene	0.00951	0.012	0.0035	mg/kg wet							B-02, J
Toluene	< 0.0041	0.014	0.0041	mg/kg wet							
Xylenes (total)	< 0.014	0.047	0.014	mg/kg wet							
Surrogate: 4-Fluorochlorobenzene	*19.9*			*ug/L*	*20.0*		*99.3*	*80-150*			
LCS (B5K2508-BS1)					Prepared & Analyzed: 11/25/15						
Benzene	106			ug/L	100		106	80-120			
Ethylbenzene	109			ug/L	100		109	80-120			
Toluene	110			ug/L	100		110	80-120			
Xylenes (total)	338			ug/L	300		113	80-120			
Surrogate: 4-Fluorochlorobenzene	*21.6*			*ug/L*	*20.0*		*108*	*80-150*			
LCS Dup (B5K2508-BSD1)					Prepared: 11/25/15 Analyzed: 11/26/15						
Benzene	104			ug/L	100		104	80-120	2.26	20	
Ethylbenzene	106			ug/L	100		106	80-120	3.10	20	
Toluene	108			ug/L	100		108	80-120	2.14	20	
Xylenes (total)	328			ug/L	300		109	80-120	2.74	20	
Surrogate: 4-Fluorochlorobenzene	*21.6*			*ug/L*	*20.0*		*108*	*80-150*			
Matrix Spike (B5K2508-MS1)		**Source: 1505276-01**			Prepared & Analyzed: 11/25/15						
Benzene	106			ug/L	100	<	106	80-120			
Ethylbenzene	110			ug/L	100	0.277	110	80-120			
Toluene	111			ug/L	100	<	111	80-120			
Xylenes (total)	343			ug/L	300	0.129	114	80-120			
Surrogate: 4-Fluorochlorobenzene	*21.8*			*ug/L*	*20.0*		*109*	*80-150*			

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Barr Engineering Co.	Project:	49161286	
4700 W 77th St	Project Number:	49161286 015 001 Field Booster 23	Work Order #: 1505276
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported: 12/01/15

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 B5L0112 - General Preparation											
Duplicate (B5L0112-DUP1)		**Source: 1505198-02**			Prepared & Analyzed: 12/01/15						
% Solids	86.0			%		86.0			0.00	20	
Duplicate (B5L0112-DUP2)		**Source: 1505274-01**			Prepared & Analyzed: 12/01/15						
% Solids	54.0			%		51.0			5.71	20	
Duplicate (B5L0112-DUP3)		**Source: 1505276-01**			Prepared & Analyzed: 12/01/15						
% Solids	74.0			%		73.0			1.36	20	

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4700 W 77th St	Project Number:	49161286 015 001 Field Booster 23	Work Order #:	1505276
Minneapolis, MN 55435	Project Manager:	Mr. James E. Taraldsen	Date Reported:	12/01/15

Notes and Definitions

J	Parameter was present between the MDL and RL and should be considered an estimated value
B-02	Target analyte was present in the method blank between the MDL and RL.
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; Equivalent to the method LOD (Limit of Detection)
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

1505276

Project Number: 49161328 per BP 11/25/15 KR
Project Name: FB 23 Stockpile-1
Sample Origination State: WI (use two letter postal state abbreviation)
COC Number: № 45407

COC 1 of 1
Project Manager: REE
Project QC Contact: JET
Sampled by: JET, PLL
Laboratory: Legend-Technical

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: VOCs (HCl) #1	SVOCs (unpreserved) #2	Dissolved Metals (HNO3)	Total Metals (HNO3)	General (unpreserved) #3	Diesel Range Organics (HCl)	Nutrients (H2SO4) #4	Number of Containers/Preservative: Soil: VOCs (Jared MeOH) #1 BTEX	GRO (Jared MeOH) #1	Metals (unpreserved)	SVOCs (unpreserved) #2	Solids (plastic vial, unpres.) hold sample	Total Number Of Containers
1. FB 23 Stockpile-1	—			11/24/15	13:45		X	X										1	1			1	4
2.																							
3.																							
4.																							
5.																							
6.																							
7.																							
8.																							
9.																							
10.																							

BTEX, DRO, % Moisture & hold samp

ASAP TAT

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
James Lockard	Y N	11/24/15	15:00			
Relinquished By:	On Ice?	Date	Time	Received by:	Date	Time
	Y N				11/25/15	930

Samples Shipped VIA: ☐ Air Freight ☒ Federal Express ☐ Sampler ☐ Other: X
Air Bill Number: Cust 1.42

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

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