02-16-558987

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Rend 9/25/14

Technical Memorandum

To:Alex Smith, Enbridge EnergyFrom:Ryan EricksonSubject:Superior Terminal Manifold 211 Maintenance Excavation Memo/
Tank 9 Release BRRTS File AddendumDate:September 25, 2014BRRTS Site #:216558987 and 216552700Barr Project #:49161253.12

This memorandum summarizes the field screening, analytical sampling and waste management assistance conducted by Barr Engineering (Barr) at the request of Enbridge Energy (Enbridge) in response to the discovery of historical, crude oil contaminated soil at the Enbridge Superior Terminal in Superior, Wisconsin (Figure 1) in July of 2014.

Background

In the summer of 2014, Enbridge contractors excavated and removed pipeline infrastructure from the western corner of the Tank 9 containment basin (Figure 2) as part of ongoing Superior Terminal infrastructure maintenance activities. During the excavation, soil with historical crude oil contamination was encountered by the contractors. Enbridge Environment was notified of the contamination and the excavated contaminated soil was managed in the contaminated section of the Superior Terminal soil management area (SMA) facility (Figure 2) until off-site disposal options could be coordinated.

Enbridge requested that Barr complete the following actions:

- review historical release information for this location
- assess the environmental site conditions
- document residual contamination in the final excavation, if applicable
- assist with the identification and segregation of excavated contaminated soil
- assist with the off-site disposal coordination of contaminated soil
- prepare a memorandum summarizing the extent of impacts and response actions completed

Enbridge indicated that the crude oil contamination discovered during the maintenance excavation was likely historical based on the location and characteristics of the contaminated soil. Barr checked the Wisconsin Department of Natural Resources (WDNR) Bureau for Remediation and Redevelopment Tracking System (BRRTS) database for nearby release sites. A 2008 115-gallon crude oil release (BRRTS# 216558987) was identified in the western corner of the Tank 9 basin ("Tank 9 Pressure Relief Line Release"). Additional historical impacts, likely associated with the 2008 release, were also identified in this location in 2012 and a new number was set up for response action (BRRTS# 216552700). The BRRTS sites

listed above were closed by the WDNR in 2008 and 2012. Historical site figures and analytical data tables associated with these projects are included in Attachment A.

Field Methods

Barr was onsite multiple times during the maintenance and site restoration activities that were completed in this area between July and September 2014. Site activities included assessing existing environmental conditions and conducting field screening, soil sampling and soil disposal coordination. Barr field screened excavated soil for the presence of organic vapors using a photoionization detector (PID) and documented other potential indicators of crude oil impacts such as odor, discoloration and sheen (Attachment B). Excavated soil with PID headspace readings greater than ten parts per million (ppm), or other evidence of crude oil impacts, was segregated and transported to the Superior Terminal Soil Management Area (SMA) for storage until it could be characterized and approved for off-site disposal. Excavated soil with no evidence of contamination was managed in the clean soil section of the SMA, was field screened and sampled with other clean terminal soil and was managed off-site at the Udeen's gravel pit facility south of Superior, WI.

On July 10, 2014, Barr collected field screening soil samples from the final excavation extents to identify whether residual soil impacts were present. Residual soil impacts were considered present if a headspace greater than 10 ppm was identified, as discussed in the pending Enbridge Superior Terminal *Site Investigation and Response Action Plan* (2014). Where residual impacts were identified and the impacted soil could not be excavated, analytical soil samples were collected from the excavation to document the residual soil impacts. Soil samples were submitted to Legend Technical Services for laboratory analyses of petroleum volatile organic compounds (PVOCs) plus naphthalene. Analytical results from each location were input into the WDNR Web Calculator to compare analyte detections to groundwater residual contaminant levels (RCL) and industrial direct contact RCL's and determine whether the soil passes the Cumulative Hazard Index criteria. Soil sample locations are shown in Figure 2, field screening data is provided in Attachment B, and laboratory reports are provided in Attachment C.

The excavation was backfilled and the berm was restored with clean fill material after maintenance activities were completed (Photo 3).

Results

The final maintenance excavation was approximately 30 feet wide by 40 feet long and up to 8 feet deep (Photo 1; Figure 2; Attachment B). Excavated material consisted of fat clay and some sandy backfill material located around pipeline infrastructure. Crude oil impacted soil was identified on the eastern end of the excavation at approximately 3 to 4 feet below ground surface (bgs) near the location of the removed infrastructure, and the 2008 Tank 9 Pressure Relief Line Release (BRRTS# 216558987). The identified impacted soil had a headspace detection of up to 598.8 ppm, dark staining, a petroleum odor

and residual free product (Photo 2). Additional excavation of the contaminated material was limited by the presence of station infrastructure. Analytical sample *Manifold 211-S-01* was collected from where the contaminated soil that was left in place and *Manifold 211-B-01* was collected from a deeper location to identify whether contaminants were present at depth.

Analyte concentrations from *Manifold 211-S-01* and *Manifold 211-B-01* were below the groundwater RCL and the direct contact pathway RCL, as shown in Table 1, and passed the Cumulative Hazard Index criteria. The laboratory reports are presented in Attachment C.

Sample ID	Sample Date	Sample Depth (ft)	Benzene	Ethyl benzene	Toluene	Xylenes	Naphth alene	1,2,4- Trimethyl benzene	1,3,5- Trimethyl benzene
Industrial RCL's			7.41	37	818	258	26	219	182
Groundwater RCL's			0.0051	0.785	0.5536	1.97	0.3294	1.3793	1.3793
Manifold 211-S-01	7/10/14	3-3.5	<0.0040	0.023	< 0.0056	<0.020	<0.68	< 0.034	< 0.034
Manifold 211-B-01	7/10/14	8	<0.0038	0.016	<0.0054	< 0.019	<0.66	< 0.033	< 0.033

Table 1: Analytical Soil Sample Laboratory Results (Units, mg/kg)

BOLD = analyte detections NA = Not applicable

Discussion

Analyte concentrations detected in the Manifold 211 excavation sidewall soil sample (*Manifold 211-S-01*) and the western platform base of excavation soil sample (*Manifold 211-B-01*) were below the groundwater RCL and industrial direct contact RCL concentrations and passed the Cumulative Hazard Index criteria (Table 1).

Additional excavation of the soil with elevated headspace readings encountered in the zero to four foot bgs direct contact zone was not possible due to the presence of the pipeline infrastructure. Following the completion of the maintenance activity, the excavations were backfilled with clean fill and no crude oil impacted soil is exposed at the ground surface (Photo 3).

Waste Disposal Coordination and Documentation

Barr collected two analytical waste characterization samples from the crude oil impacted soil stockpile (*Manifold 211 Stockpile-1* and *Manifold 211 Stockpile-2*) for laboratory analysis at Legend Technical Services (Attachment D). The samples were analyzed for diesel range organics (DRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX). Laboratory reports are included in the Shamrock Landfill Waste Profile application in Attachment D. A waste profile application with the laboratory results was submitted to the Shamrock Landfill near Cloquet, Minnesota and the soil was accepted under waste profile #CL14-0028 (Attachment D). A total of 143.47 tons of crude oil impacted soil was hauled to the Shamrock Landfill.

Conclusions and Recommendations

The crude oil impacts that were encountered during the Manifold 211 maintenance project were limited to sheen and a trace amount of product near the closed BRRTS #216558987 release site. No new crude oil source was identified. No residual crude oil impacts were observed at the excavation extents. The contaminated soil that was removed from the excavation was properly disposed of at an off-site facility. The excavation has been backfilled with clean fill.

Analyte concentrations in the soil samples collected from the maintenance excavation did not exceed the groundwater RCL's or the industrial direct contact RCL's and passed the Cumulative Hazard Index criteria. Barr believes that no further response action or documentation beyond this report will be required by the WDNR. The figures and tables attached to this memo can be used to update the existing BRRTS file.

Attachments

Site Photos	1 through 3
Figure 1	Site Location
Figure 2	Site Layout Map
Attachment A	WDNR Historical Release Documents
Attachment B	Enbridge Site Investigation Field Sampling and Screening Log
Attachment C	Legend Technical Services Laboratory Report for Excavation Soil Samples
Attachment D	Waste Disposal Documentation

Site Photos



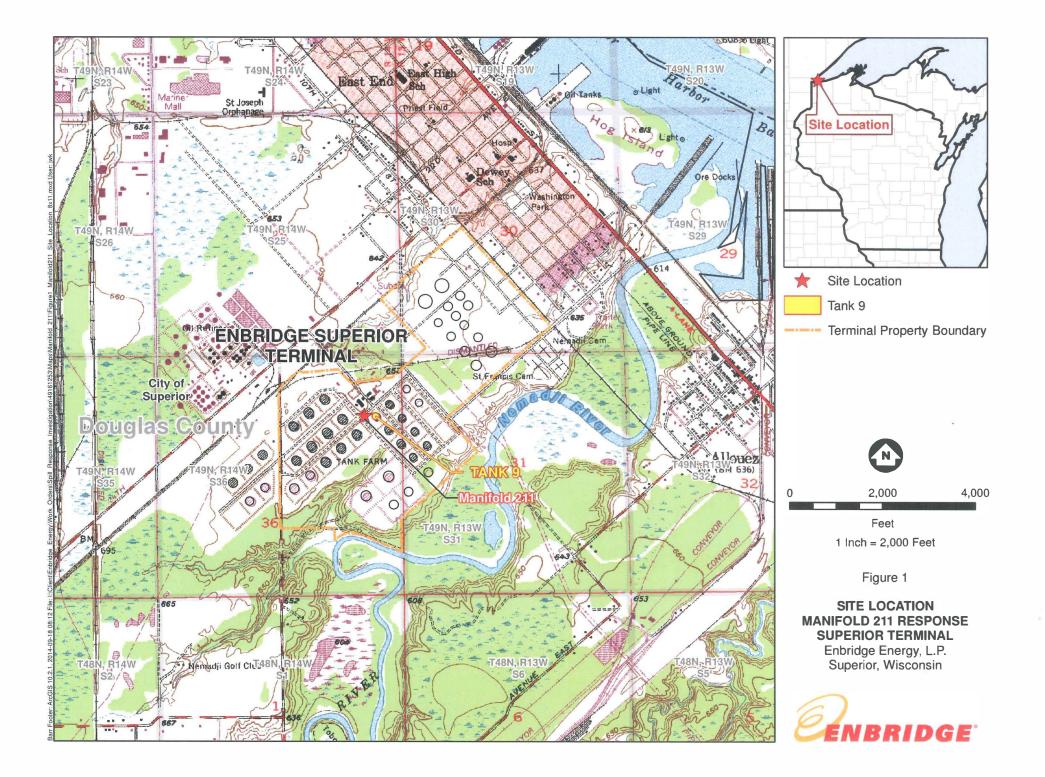


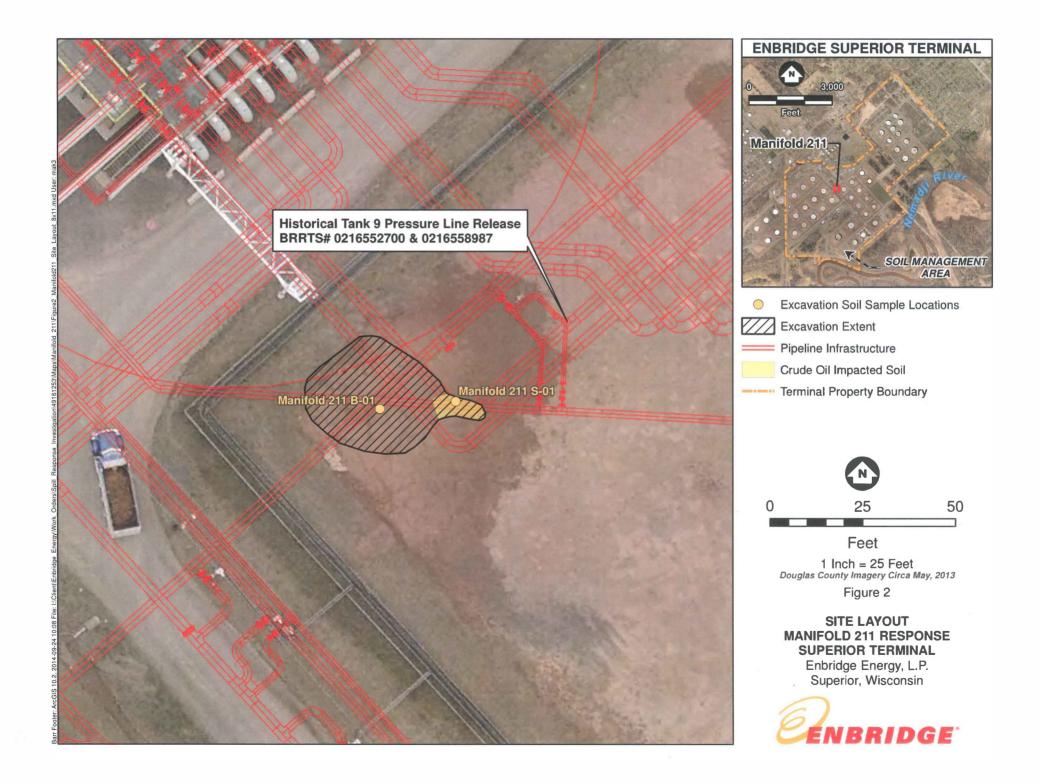
Photo 2

Photo 1: Manifold 211 maintenance excavation. Photo taken facing east on July 10, 2014. **Photo 2:** A small volume of free-product observed in the Manifold 211 maintenance excavation. Photo taken on July 10, 2014.



Photo 3: Restored Manifold 211 maintenance excavation site (center right side of photo). Tank 9 is shown on the left side of the photo. Photo taken facing west on September 2, 2014.





Attachment A

WDNR Historical Release Documents



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Matthew J. Frank, Secretary John Gozdzialski, Regional Director Ashland Service Center 2501 Golf Course Road Ashland, Wisconsin 54806 Telephone 715-685-2900 FAX 715-685-2909

FILE COPY

November 14, 2008

MS KRISTEN BENSON ENBRIDGE ENERGY LIMITED PARTNERSHIP 119 N 25TH ST E SUPERIOR WI 54880

SUBJECT:

Final Case Closure Enbridge Superior Terminal – Tank 9 Pressure Relief Line Release 119 North 25th Street East, Superior, Wisconsin WDNR BRRTS Activity #02-16-552700

Dear Ms. Benson:

The Department of Natural Resources' Northern Region Closure Committee recently reviewed your request for closure of the case described above. The Northern Region Closure Committee reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases.

Based on the correspondence and data provided, it appears that your case meets the requirements of ch. NR 726, Wisconsin Administrative Code. The Department considers this case closed and no further investigation or remediation is required at this time.

Please be aware that this case may be reopened pursuant to s. NR 726.09, Wisconsin Administrative Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety or welfare, or the environment.

Remaining Residual Soil Contamination

Residual soil contamination remains at post-excavation soil sample locations SS-2 and SS-6 along the clay containment berm, as depicted on the attached Figure 3: Soil Contamination Contour Map submitted to the Department of Natural Resources. If soil in the specific locations described above is excavated in the future, then pursuant to ch. NR 718 or, if applicable, ch. 289, Stats., and chs. 500 to 536, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material would be considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.



Ms. Kristen Benson – November 14, 2008 Page 2

GIS Registry

Due to the presence of the contaminated soil described above, the site will be listed on the Remediation and Redevelopment Program's GIS Registry. The specific reasons are summarized below:

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

The Department appreciates your efforts to restore the environment at this site. If you have any questions concerning this letter or the project in general, please do not hesitate to write or call me at 715-685-2920. I can also be reached by e-mail at Christopher.Saari@Wisconsin.gov.

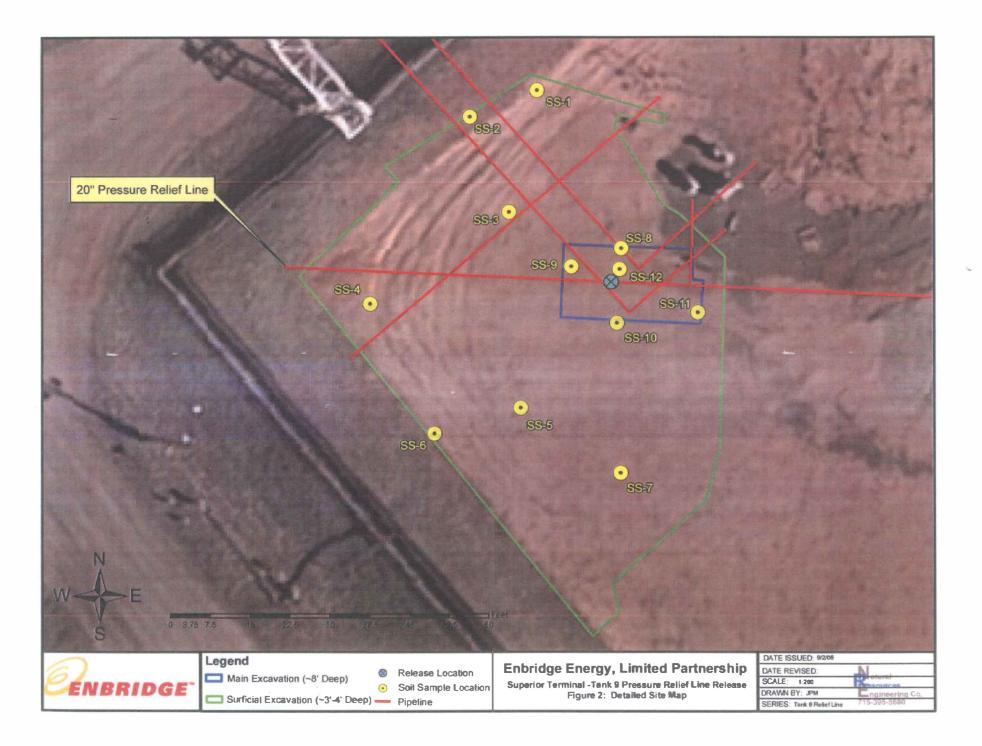
Sincerely,

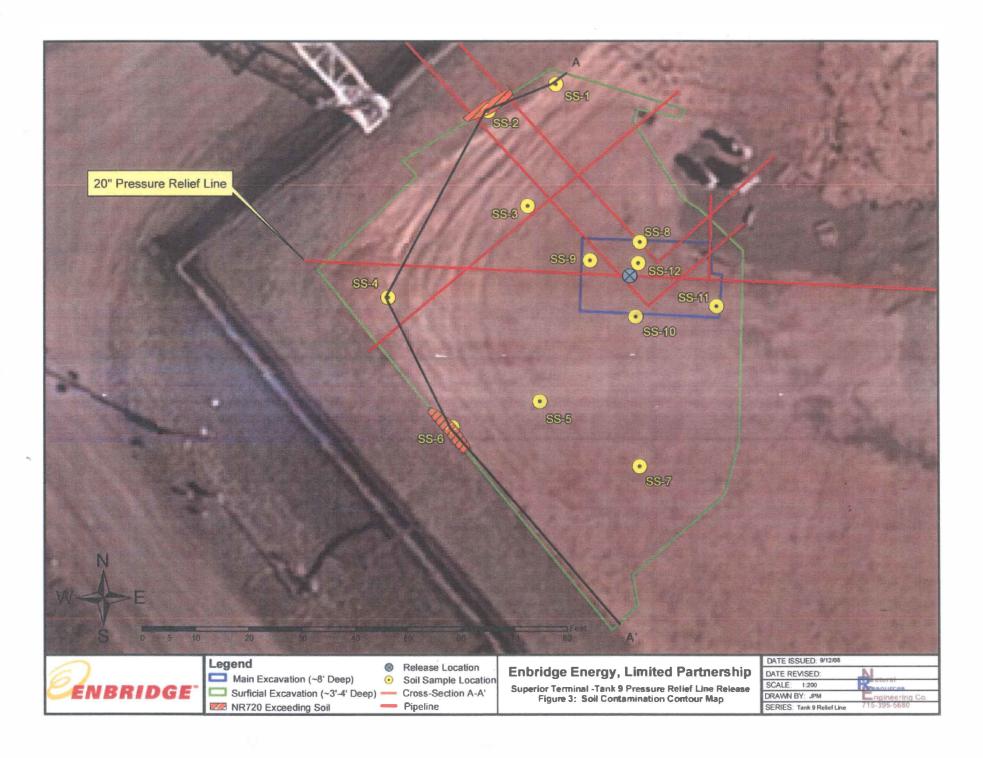
Sam

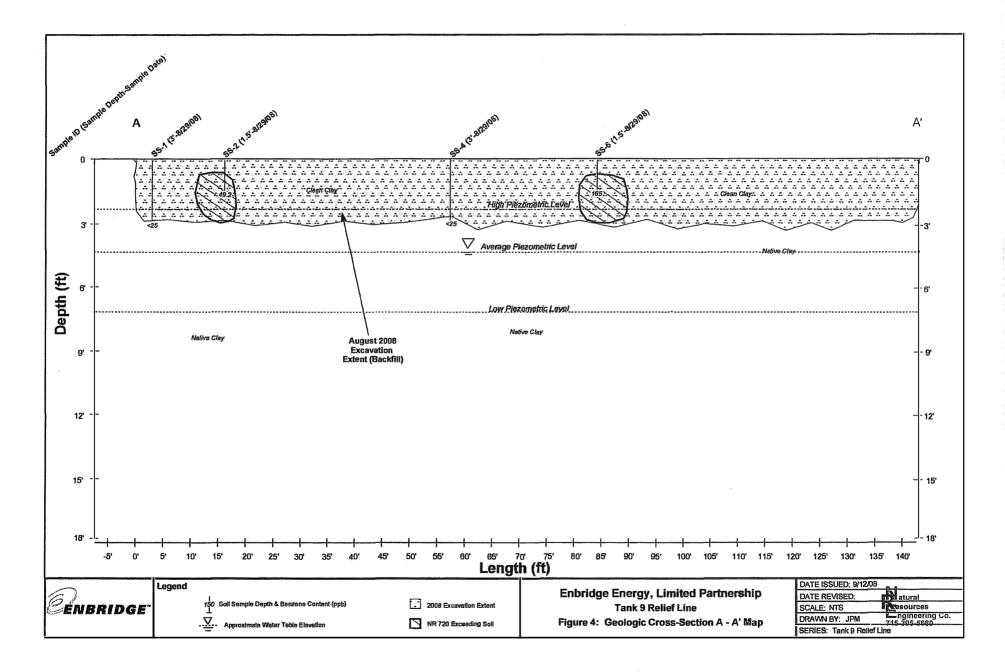
Christopher A. Saari Hydrogeologist

attach. - Figure 3: Soil Contamination Contour Map

cc: Barry Power - Natural Resources Engineering Co.







Soil Analytical Results: PVOC Enbridge Energry, Limited Partnership - Tank 9 Pressure Relief Line Release All results are in µg/Kg.

Location	Base/Sidewall	Depth <u>(fi)</u>	Date	PID	Berten	Emple	heene hein	Hertowsteiner	8 2 2	Timetulent	rinessybent	+1/8/16.0
NR 720 Generic RCL					5.5	2,900		1,500				(total)
Direct Contact industrial RCL					1,100							
SS-1	Base	3.0	8/29/2008	< 10	<25	<25	<25	<25	<25	<25	<50	<25
SS-2	Sidewall	1.5	8/29/2008	< 10	49.2	<25	<25	68.3	<25	<25	<50	<25
SS-3	Base	3.0	8/29/2008	< 10	<25	<25	<25	<25	<25	<25	<50	<25
SS-4	Base	3.0	8/29/2008	< 10	<25	82.5	<25	<26	164	122	<50	<25
SS-5	Base	3.0	8/29/2008	< 10	<25	<25	<25	<25	<25	<25	<50	<25
SS-6	Sidewall	1.5	8/29/2008	< 10	165	114	<25	286	146	63.7	233	94.1
SS-7	Base	3.0	8/29/2008	< 10	<25	<25	<25	<25	<25	<25	<50	<25
SS-8	Sidewall	6.5	8/29/2008	< 10	<25	<25	<25	<25	39	<25	<50	<25
SS-9	Sidewall	6.5	8/29/2008	< 10	<25	<25	<25	<25	<25	<25	<50	<25
SS-10	Sidewall	6.5	8/29/2008	< 10	<25	<25	<25	<25	<25	<25	<50	<25
SS-11	Sidewall	6.5	8/29/2008	45	<25	45.9	<25	<25	91.2	177	<50	<25
SS-12	Base	8.0	8/29/2008	447	<25	<25	<25	<25	<25	<25	<50	<25
MeOH Blank			8/29/2008	NA	<25	<25	<25	<25	<25	<25	<50	<25

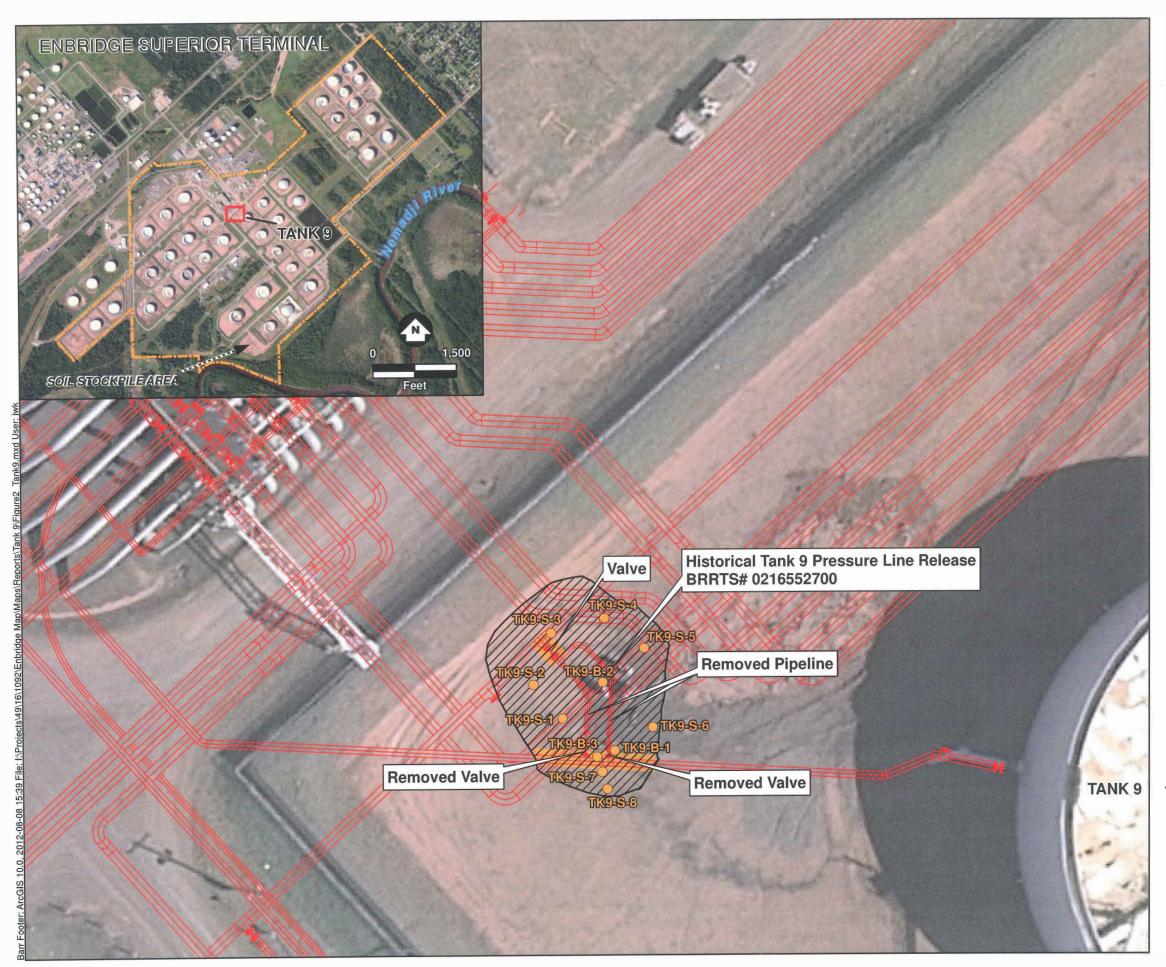
Bold results Indicate NR 720 Generic RCL exceedences.

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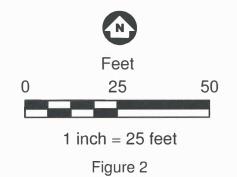
Soil Analytical Results: PAH Enbridge Energy, Limited Partnership - Tank 9 Pressure Relief Line Release All results are in µg/Kg.

J

Location	Base/Sidewall	Depth (fi)	Date	Acatept	thene Posnaph	mi ^{ene} Anthrac	ne Banzole	Benthecone	Barzolo	Ruorentrana Banzolgi	n.IPeriere Berzolt	uoranthana Indanoi	2.3colphone	oipanz	ole mentinece	ne nere Fluorer	a 240 m	Inspittalene	hapithalana	Jene Pratent	nene Frene
Protection of Groundwater RCL				3.8 x 10 ⁴	700	3.6 x 10 ⁸	1.7 x 10 ⁴	4.8 x 10 ⁴	3.6x 10 ⁶	6.8 x 10 ⁵	8.7 x 10 ⁶	6.8 x 10 ⁶	3.7 x 10 ⁴			1 x 10 ⁵	2 x 10 ⁴	2.3 x 10 ⁴	400	1.8 x 10 ³	8.7 x 10 ⁶
Direct Contact Industrial RCL				6 x 10 ⁷	3.6 x 10 ⁵	3 x 10 ⁸	3.9 x 10 ³	390	3.9 x 10 ³	3.9 x 10 ⁴	3.9 x 10 ⁶	3.9 x 10 ³	3.9 x 10 ⁴	390	4.0 x 10 ⁷	4.0 x 10 ⁷	4.0 x 10 ⁷	7.0 x 10 ⁷	1.1 x 10 ⁶	3.9 x 10 ⁶	3.0 x 10 ⁷
SS-1	Base	3.0	6/29/2008	<1.3	<2.5	<6.6	<12.0	<5.2	<8.2	<6.1	<8.9	<6.1	<5.0	<6.7	<1.6	<1.3	3.7	⊲.7	2.3	<2.9	<1.5
SS-2	Sidewall	1.5	8/29/2008	<1.2	<22	<5.8	<10.7	8.8	8.1	7.5	<7.9	<5.4	11.0	<6.0	8.6	<12	<2.4	<2.4	2.0	3.9	72
SS-3	Base	3.0	8/29/2008	<1.2	<2.3	<6.1	<11.2	<4.8	<7.6	<5,6	<8.3	<5.6	<4.6	<62	3.4	12	4.5	3.1	2.7	3.0	3.0
S S-4	Base	3.0	8/29/2008	2.7	<2.4	+6.3	<11.6	<5.0	<7.9	<5.8	<8.6	<5.8	<4.8	<6.5	6.1	20.2	19.7	19.7	14.5	19.2	4.0
SS-5	Base	3.0	8/29/2008	<1.3	<2.3	<6.3	<11.4	<5.0	<7.8	<5.8	<8.5	<5.8	<4.7	<6.4	<1.5	<1.2	<25	<2,5	<1.7	<2.7	<1.4
SS-6	Sidewall	1.5	8/29/2008	<1.3	<2.3	<6.3	<11.5	<5.0	<7.8	<5.8	<8.5	<5.8	<4.7	<6.4	<1.5	2.7	14.6	12.0	6.6	6.2	<1.4
SS-7	Base	3.0	8/29/2008	<12	~22	<6.0	<11.0	<4.8	<7.4	<5.5	<8.2	<5.5	<4.5	<6.1	7.1	<12	<2.4	<2.4	2.1	3.2	4.9
SS-8	Sidewall	6.5	8/29/2008	<1.3	<2.4	<6.4	<11.7	<5.1	<8.0	<5,9	<8.7	<5.9	<4.8	<6.6	12.1	1.6	8.5	5.2	5.9	4.1	8.6
SS-9	Sidewall	6.5	8/29/2008	2.3	<2.4	19.1	<11.8	6.3	<8.0	<6.0	<8.8	<5.9	8.5	<6,6	19.7	3.0	20.9	12.8	25.2	14.7	14.2
SS-10	Sidewall	6.5	8/29/2008	<1.3	<2.4	<6.4	<11.7	<5.1	<7.9	<5.9	<8.7	<5.9	<4.8	<6.5	2.8	<1.3	<2.6	<2.6	1.7	<3.2	2.1
SS-11	Sklewall	6.5	8/29/2008	3,3	<2.4	<6.4	<11.8	<5.1	<8.0	<5.9	<8.7	<5.9	<4.8	<6.6	<1.6	14.3	46.8	60.0	13.9	20.8	1.6
SS-12	Base	8.0	8/29/2008	<1.3	<2.4	<6.6	<12.0	<5.2	<8.1	<6.0	<8.9	<6.0	<4.9	<6,7	9.7	3.8	13,5	7.9	15.7	7.0	6.9







TANK 9 HISTORICAL RELEASE ASSESSMENT AND EXCAVATION AREA Enbridge Superior Terminal Superior, Wisconsin



Table 1Soil Analytical Data SummaryPVOC and DROTank 9 Soil Boring InvestigationEnbridge Energy Terminal - Superior, Wisconsin

		Chemical Name	Moisture, percent	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Benzene	Ethyl benzene	Toluene	Xylenes, total	Diesel Range Organics
	Effective Date	Exceedance Key								
Wisconsin Generic Residual Contaminan Levels NR 720.09	09/01/2007	No Exceed				0.0055 mg/kg	2.9 mg/kg	1.5 mg/kg	4.1 mg/kg	250 mg/kg
Wisconsin Soil Screening Levels for Ingestion (Carcinogenic)		No Exceed				104 mg/kg				
Wisconsin Soil Screening Levels for Ingestion (Non-Carcinogenic)		No Exceed					102000 mg/kg	81800 mg/kg	204000 mg/kg	
Sys Loc Code	Depth Interval (ft)	Sample Date								
				Geoprob	e Samples					
ТК9-В-1	9-9	5/17/2012	28.1%	< 0.069 mg/kg	< 0.069 mg/kg	< 0.069 mg/kg	< 0.069 mg/kg	< 0.069 mg/kg	< 0.21 mg/kg	53.2 mg/kg
ТК9-В-2	9 - 9	5/17/2012	28.8%	< 0.067 mg/kg	< 0.067 mg/kg	< 0.067 mg/kg	< 0.067 mg/kg	< 0.067 mg/kg	< 0.20 mg/kg	< 10.4 mg/kg
ТК9-В-3	11 - 12	7/18/2012	23.9%	< 0.063 mg/kg	< 0.063 mg/kg	< 0.063 mg/kg	< 0.063 mg/kg	< 0.063 mg/kg	< 0.19 mg/kg	< 12.9 mg/kg
ТК9-S-1	3.5 - 3.5	5/17/2012	27.2%	< 0.085 mg/kg	< 0.085 mg/kg	< 0.085 mg/kg	< 0.085 mg/kg	< 0.085 mg/kg	< 0.25 mg/kg	< 13.3 mg/kg
ТК9-S-2	5 - 5	5/17/2012	27.6%	< 0.086 mg/kg	< 0.086 mg/kg	< 0.086 mg/kg	< 0.086 mg/kg	< 0.086 mg/kg	< 0.26 mg/kg	< 12.7 mg/kg
ТК9-S-3	2 - 2	5/17/2012	25.4%	< 0.072 mg/kg	< 0.072 mg/kg	< 0.072 mg/kg	< 0.072 mg/kg	< 0.072 mg/kg	< 0.22 mg/kg	< 11.9 mg/kg
ТК9-S-4	2 - 2	5/17/2012	22.3%							< 11.0 mg/kg
ТК9-S-5	6 - 6	5/17/2012	29.5%	< 0.070 mg/kg	< 0.070 mg/kg	< 0.070 mg/kg	< 0.070 mg/kg	< 0.070 mg/kg	< 0.21 mg/kg	< 14.2 mg/kg
TK9-S-6	3 - 3	5/17/2012	16.1%	< 0.058 mg/kg	< 0.058 mg/kg	< 0.058 mg/kg	< 0.058 mg/kg	< 0.058 mg/kg	< 0.17 mg/kg	< 9.4 mg/kg
ТК9-S-7	4 - 4	5/17/2012	26.2%	< 0.068 mg/kg	< 0.068 mg/kg	< 0.068 mg/kg	< 0.068 mg/kg	< 0.068 mg/kg	< 0.21 mg/kg	< 11.3 mg/kg
ТК9-S-8	2 - 2	7/18/2012	25.0%	< 0.069 mg/kg	< 0.069 mg/kg	< 0.069 mg/kg	< 0.069 mg/kg	< 0.069 mg/kg	< 0.21 mg/kg	19.7 mg/kg

Attachment B

Enbridge Site Investigation Field Sampling and Screening Log

SITE INVESTIGATI Location: <i>Milepost</i> Equipment used: Sample Nomenclatu Soil Sample Types: R	or Facilit <u>hoto</u> -ic ure (Loco	y <u>PR</u> onization ation - san	<u>Ret;</u> detector aple type	ement <u>M</u> with <u>11.7</u> e-#):	an:fold eV lamp		Background Headspace: 0.0 ppm Date: 7/10/2014 Page _ of _2_ Background Headspace: 0.0 ppm Date: 7/10/2014 BARR pile = Stockpile Sample Calibration Time: 0930 BARR
Sample ID	Depth (FT)	Time (military)	Soil Type (uscs)	Color/ Discolor	Odor/ Sheen	Headspace Reading (ppm)	SITE SKETCH: north is up; excavation extents & depths, impacted areas, sample locations, borings, wells, structures, utilities, natural features 1 inch/grid = 10 FEET
Example: Stockpile-1	4	<u>16:30</u>	<u>CL</u>	<u>Reddish brown</u>	<u>Petroleum/</u> Rainbow	275	
R-1	2	1320	CH	Reddish	NN	0.0	Manifold area 27
R-Z	2	I	1	brown		.0.0	
R-3)					0.0	Maintenance Road
R-4	4					0.0	
R-5	Z					0.0	Shallow
R-6	8					0.0	R-3: Al R-2 Shallow excavetion area (d= 2-4 ft bgs)
R-7	8	1325				0.0	1 Canoloneol
R-8	4	1			Petro/Mainho W/product	598.8	Rey (Ø: 12 m) Analytical
R-9	4				NIN	6.0	Analytical Analytical
R-10	3				Farat/Mod.	44.9	New welded Flange R-1 Collector
R-11	3				i	0.8	fap literation
R-12	3					0.0	1. 1.6
R-13	2					1.7	
R-14	2	1415				0.0	Manifold 211 D-5 B-07 B-5 B-07 B-5 B-07
R-15	7	1				0.0	R-5 B-0M Prz
R-16	4	L_				0.0	R.BR-10
							Manifold 211
Manifold 211	3	1410		Kaja por se a companya de la company	NIN	0.0	Tank 9 K-19 S-br Tank 9
5-01 Manifold 211 13-01	8	1412			NN	0.0	Bern Area of R-11 12-9 R-13
15-01		· · · · · · ·			/ 		Visual impacts Old pipe
							onsite Stachpile (p.Z)
L	<u> </u>			1	I	1	

sample Nomenciat	ure froce	uuun - sun	s = Sidev	= - #);		ample ; Stock	Acsponse_ Page Zof 2 Background Headspace: 0.0 ppm Date: 7.10.2014 Sampler: 717.5 Backpile Sample Calibration Time:
Sample ID	Depth (FT)	Time (military)	Soil Type (USCS)	Color/ Discolor	Odor/ Sheen	Headspace Reading (PPm)	SITE SKETCH: n orth is up; e xcavation extents & depths, impacted areas, sample locations, borings, wells, structures, utilities, natural features 1 inch/grid = 1 FEET
Example: Stockpile-1	4	<u>16:30</u>	<u>CL</u>	Reddish brown	Petroleum/ Rainbow	275	\uparrow
R-17	0.5	0945	C.14	Reddish bra	NN	0.0	marche 12
N-18	1	.]				0.9	•R-17 ZII excavation
R-19					www.cooperate	0.0	strukenile
R-70	a constant of the second		CH/SP			0.0	extent
R-21		Ŀ		•		0.0	· R-19 R-26
R-22		0950	n and a second sec	n fancasenannekout quilinearannear		0.0	·R-19 R-26
N-23		1			-	0.0	+= 50cy A-25
12-24						0.0	3
N-25	* *****					0.0	Tant 9 "R-20 R-24
R-26			x valennensi niutsussasuan	-		0.0	Tant 9 R-20 Bern R-24
R-27	5	i,		-	Ļ	0.0	R-23
	 And Anti-Anti-Anti-Anti-Anti-Anti-Anti-Anti-		AMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAALAMAGAAALAMAGAAALAMAGAAALAMAGAAALAMAGAAALAMAGAAALAMAGAAALAMAGAAALAMAGAAAAAAAA	a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a			Bern R-23 R-22 R-22
							Notes · Stocky, led material to be reused for bern reconstruction.
allen an	SS Internetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingenetingeneting	ann a stain an tha ann an t					reused for berm reconstruction.
Padilla de la construcción de la co		20000246252446-10-0101040-00-00					

Attachment C

Legend Technical Services Laboratory Report for Excavation Soil Samples



July 16, 2014

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

Work Order Number: 1403026 RE: 49161253

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 relained 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

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

Tour Bart

Tom Barrett Vice President, Strategic Analytical Services tbarretl@legend-group.com

88 Empire Drive St Paul, MN 55103 Tol: 651-642-1150 Fax: 651-642-1235

Legend Technical Services, Inc

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 entirely.

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		al Se				

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

Barr Engineering Co. 4700 W 77th St	Project: Project Number:	49161253 49161253.12 001 001		Wedt	der#: 1403026		
Minneapolis, MN 55435		Ms. Andrea Nord		Date Reported: 07/10			
	ANALYTICAL P	EPORT FOR SAM	PLES				
Sample ID		Laboratory ID	Matrix	Date Sampled	Date Received		
Aanitold 211 S-01_3-3.5		1403026-01	Soil	07/10/14 14:10	07/11/14 09 35		
Aanifold 2118-01 8-8		1403026-02	Soil	07/10/14 14:12	07/11/14 09:35		

Default Cooler Temperature (°C): 2.4 Received on ice: Yes Received on melt water; No Custody seals; Yes Temperature blank was present Ambient: No Received on ice pack: No Acceptable (IH/ISO only): 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

Legend Technical Services Inc

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be repreduced in its entirety. Page 2 ol 8

LEGE Technical Serv	ices, Inc.		88 Empire Drive St Paul, MN 55103 Tel: 651-642-1150 Fax: 651-642-1239			
www.legend-gi	roup.com					
	Desirate					
Barr Engineering Co.	Project:	61253				
Barr Engineering Co. 4700 W 77th St	Project: Project Number:		Work Order #: 1403026			

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Manifold 211 S-01_3-3.5 (1403026-	01) Soil Sam	pled: 07	710/14 14:10	Receive	d: 07/11/1	4 9:35				
1.2.4-Trime(hylbenzene	<0 034	0 034	0.0037	mg/kg dry	1	64G1403	07/14/14	07/14/14	W1(95) GRO	
1.3.5-Trimethylbonzono	<0.034	0.034	0.0085	mgikg dry	1	-				
Benzene	<0.0040	0.034	0.0040	mg/kg dry	1	-				
Ethylbenzene	0.023	0.034	0.0058	mg:kg ary	,					B-01. J
Naphthalene	<0.65	0.68	0.030	mgilig dry	1					T-1
Taluena	<0.0056	0.034	0.0056	mgikg dry	1		-	-		
Xylenes (total)	<0.020	0.10	0 020	mg/kg dry	1			-		
Surregate: 4 Fluorochlorobenzerie	94,1			60.150 %					-	
Manifold 211 B-01_8-8 (1403026-0)	2)Soil Samp	led: 07/1	0/14 14:12	Received	07/11/14	9:35				
1.2.4-Trimethyibenzene	<0.033	0.033	0.0036	mg:kg dzy	1	B4G1405	07/14/14	07/14/14	WI(95) GRO	
1.3.5-Trimethylbenzene	<0.033	0.033	0.0082	mgikg dry	1					
Benzene	<0.0036	0.033	0.0038	mg/kg dry	1	~				
Ethylbenzene	0.016	0.033	0.0084	mgikg dry	1			-		8-01.
Naphlhatene	<0.86	0.66	0.629	mg/kg dry	1					T-3
Toluene	<0.0054	0.033	0.0054	mg/kg diy	1					
Xylenes (tola3)	<0.019	990.0	0.019	m¢/kg dry	1					
Surregate: 4-Fluorochiorobenzene	93.1			80-150 %		-				

EGEND Technical Services, Inc. legend-group.com

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

Barr Engineering Co.		Projec	t:	4916125	3					
4700 W 77th St		Projec	Number:	4916 1253	3.12 00100	1		Wo	rk Order #: 1	03026
Minneapolis, MN 55435		Projec	Manager:	Ms. Andr	ea Nord			Dat	e Reparted: 0	7/16/14
		Le		CENT S	OLIDS Services	Inc.				
Analyle	Result	RL	MDL	Units	Dilution	Balch	Prepared	Analyzed	Method	Noles
Manifold 211 S-01_3-3.5 (1403026-01)	Soll Sam	pled: 07/1	0/14 14:10	Receive	ad: 07/11/14	9:35				
% Solids	73			26	1	B401513	07/15/14	07/16/14	% calculation	
Manifold 211 8-01_8-8 (1403026-02) S	ail Samol	ed: 07/10	14 14-12	Receiver	1.07/11/14	9:35				
	ounp.	eu. 01110.								

Legend Technical Services. Inc.

Legend Technical Services. Inc



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

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	F		imber:	49161253 49161253 Ms. Andre		101			Work O Date Re	rder#: 1 eported (1403025 07/16/14
	w			15D - Q inical Se							
Analylo	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B4G1406 - EPA 5035 Soil (Purge and Trac)									
Blank (B4G1406-BLK1)		,			Prepared	i & Analyze	d: 07/14/	14			
2.4-Trimethytbenzene	< 0.025	0.025	0 0027	mg/kg wet							
3.5-Trimethylbenzene	< 0.025	0.025		mg/kg wel							
Benzene	< 0.0029	0 025	0.0029	mg/kg wet							
Ihylbenzene	0.00699	0.025	0.0064	mg/kg wet							B+02.
Vaphthalene	< 0.50	0.50	0.022	mg/kg wel							
folusne	< 0.0041	0 025	0.0041	mg/kg wet							
vylones (total)	< C 014	0.075	0.014	mg/kg wel							
Surragate: 4-Fluorechlorebenzene	22.9			4912	25.0		01.8	80-150			
LCS (B4G1406-BS1)					Prepared	& Analyz	ed: 07/14/	14			
2,4-Trimethylbenzene	92.5			սց։Ն	100		92.5	80-120			
3.5-Trimethylbonzene	91.4			ug·L	100		91.4	80+120			
Benzene	99.2			ug'L	100		99.2	80-120			
Inglenzene	975			ug'L	100		97.5	80-120			
Naphthaleno	84 9			ug:L	100		84.9	60-120			
Toluene	99.5			ug:L	100		99.5	60-120			
Kylenes (total)	284			ug:L	300		94.7	BC-120			
Surregate: 4-Fluorachlorebenzene	23 3			ugit	250		93.0	60.150			
LCS Dup (B4G1406-BSD1)					Preparec	1:07/14/14	Analyzed	1:07/15/14			
.2.4-Trimethylbenzene	89.4			ugiL	100		89.4	60-120	3.44	20	
3.5-Trimethylbenzene	68 0			ug/L	100		85.0	B0-120	3 78	20	
Senzene	96.9			ug:L	100		96.9	60+120	2 33	20	
Elhylbenzene	94 1			ugiL	100		94.1	80-120	3 47	20	
Naphihalone	82.2			ug:L	100		\$2.2	80+120	3.21	20	
Foluene	96.5			ug:L	100		96.5	60-120	3.11	20	
Kylenes (total)	276			ug:L	300		92.1	80-120	2.63	20	
Surregate: 4-Fluorechlorebenzene	23.2			ug-L	26.6		92.9	80-150			
Matrix Spike (B4G1406-MS1)	s	iource: 1	403026-	02	Prepared	1:07/14/14	Analyzed	1: 07/15/14			
1.2.4-Trimethylbenzene	55.8			ug:1,	100	<	86.5	80-120			
1.3.5-Trimethylbenzene	87.3			ug/L	100	<	87.3	86-120			
Benzene	94.9			ug:L	160	~	94.9	80-120			
Ethylbenzene	92.3			ugil.	100	0.245	92.0	80+120			
Vaphthalens	80 4			ug:L	100	*	50.4	80-120			
foluene	95.1			նելի	100	٢	95.1	80-120			
Kylenes (total)	271			ug:L	300	<	90.3	80-120			
Surrogate, 4-Fluorochlorobenzene	23.3			ug/L	25.0		93.1	EO-150			

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	Page 5

EGEND

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

Batr Engineeting Co. 4700 W 77th St Minneapolis, MN 55435 Project: 49161253 Project Number: 49161253.12.001.001 Project Manager: Ms. Andrea Nord

Notes and Definitions

- T-1 J B-02 B-01
- Notes and Definitions

 MDH does not offercertification for this parameter.

 Parameter was present between the MDL and RL and should be considered en estimated value

 Target analyte was present in the method bank between the MDL and RL.

 Analyte was present in the method bank between the MDL and RL.

 Analyte was present in the method bank. Semple result is less than or equal to 10 times the blank concentration.

 Less than value listed

 Sample results reported on and yw weight basis.

 Not applicable.

 Not applicable.

 Reporting Limit

 Reporting Limit

 Reporting Limit

 Reporting Limit

 Reparting Limit O Spike Elaboration (Spike Laboration y Fontilied Blank, (LFB)

 Matix Spike = Laboratory Fontiled Matrix (LFM)

< NA MDL RL RPD LCS MS

Legend Technical Services. Inc.

L F



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

		Legend Te							
		ERCENT S							
Minneapolis, MN 55435	P	roject Manage	er: Ms. Ando	ea Nord			Date Re	eported; 0	7/16/14
4700 W 77th St		roject Number			101		Work O		403026
Barr Engineering Co.	P	roject:	4916125	3					

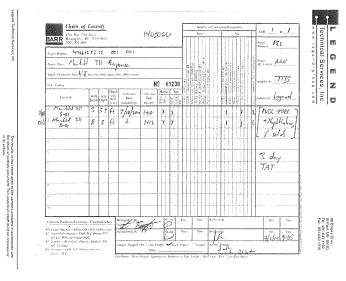
Duplicate (B4G1513-DUP1)	Source: 1403068-02		Prepared: 07/15/14 Analyzed: 07/16/14			
% Solids	84.0	56	54.D	0.00	20	
						_



Page 5of 8

Work Order #: 1403026 Date Reported: 07/16/14

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 the optical. Page 6 of 8



Legend Technical Services, Inc

Page ¢ of

Attachment D

Waste Disposal Documentation

Shamrock . Landfill

July 16, 2014

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

RE: CI14-0028 Crude contaminated soil - Manifold 211 Dear Mr. Smith.

This agreement will confirm the price and length of service for disposal and /or transportation of yoar mm-hazardous industrial naterial at our facility. This agreement is for the term of the Waste Approval granied by Shaurock Landfill and is for all services ordered and performance initiated within such period and does include the disposal workhape fees which yoar ac obligated to pay as of the date of this greement. Shanrock Landfill may new additional costs including but not limited to increases in state and local taxes. Shanrock Landfill may news these costs on to the customer only after notification to the Customer. This agreement grants Shanrock Landfill the sechsive right to dispose of the referenced waste for the term of this agreement. This agreement shanlot Landfill the sechsive right to dispose of the referenced waste for the term of this agreement. This agreement shanrock Landfill the sechsive right to dispose of the referenced waste for the term of this agreement. This agreement shannock Landfill the sechsive right to dispose of the referenced waste for the term of this agreement. This agreement shannock Landfill the renew thereafter for an additional term of 24 months "Renewal Term" unless either party agrees the other party written to the customer only affect and the termination of the the-two-sitting term. Shannock Landfill the Term

Inothy the customer prior to the expiration of the ageement of any rate changes prior to the start of the Kenewal Payment and terms are net thiny (30) days. Interest will be charged at a rate of 1 ½% per month (18% annually) on any unpadabance 30 days aller the date of the invoice. In the event (Sustainer termanes this Agreement for to is expiration other than as a result of a hreach by Shanrock Landfill or Sharmock Landfill terminates this agreement for Customer's breach (including nonpargement) Customer agrees to pay to Sharmock Landfill as liquidated damages a sum calculated as follows: (1) if the remaining term under this agreement is extended as the start of the months Customer's head by the start of the start o

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, whenapplicable.

To accept this agreement, please sign one copy and return it to our S1 Paul, MN office at Shamrock Landfill; 251 Starkey St., St. Paul, MN 55107 or Via Fax at 651-223-8197 or email to jonp(gishamrocklandfill.com

Shamroek Landfill

Customer ACCEPTED BY: (nome, position) DATE

WASTE APPROVAL Period: ___7/16/2014 to 7/16/2016

P.O. Rox 338 • Esku, MN 55733-0338 Main, 218,575,0112 • Fax: 216,879,2120



Notification of Waste Acceptance

INVOICE INFORMATION

Enbridge Pipelines Limited Partnership, Accounts Payable

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

Bif[#: 2133

PAGE 1 of 2

CUSTOMER INFORMATION EPA ID#: WID981092133 Enbridge Pipelines Limited Parmership, Enbridge Superior Tenninal/Manifold 2

1320 Grand Ave Superior Terminal Manifest 211 Superior, W1 54880 Contact: Alex Smith Phone: (715) 398-4795

Profile Sheet #: Waste Stream #: C114-0028 Waste Name: Crude contaminated soil - Manifold 211

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 infimmation provided in the profile since mmber listed above and conditions below. Our facility has the necessary permits to allow the storage, treatment, or disposal of this waste. The holve reference acceptance number should be listed on all shipping documents and correspondence. Pleuse retain these documents for your records and future reference.

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

ACCEPTANCE INFORMATION

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

This waste is acceptable for delivery heginning on 7/16/2014 thru 7/16/2016 at which time the material will

need to be reunalyzed and recertified.

PCB Statement: The Minnesota Pollution Control Agency encourages generators of non-hazardous PCB waste to volublarily 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 he solidified either prior to shipment to Shamrock Landfill or at Shamrock I andfill.

Shipping Requirements A NON-HAZARIDUS certificate is required to he 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.



Bill To Customer

Enbridge Pipelines Linnited Parinership, LLC Accounts Payable 1100 Lenisiana A vc. Ste 330() Houston, TX (27002

Disposal

Waste Description: Crude contaminated soil - Manifold 211 Estimated Volume: 100 YARDS / ONE TIME ONLY Disposal Method: Secure Non-Hazardous Landfill

Treatment Method: None Expected For Conforming Waste

Pricing

Disposal

\$16.00 Per Ton Crude contaminated soil - Manifold 211

Service For Generator Enbridge Pipelines Linuled Partnership, LUC 1320 Grand Ave Superior Terminal Manifest 211

Superior, WI 54880

P.O. Box 335 + Esko, MAI 59733-0338 Main: 218.878.0112 + Fax. 218.879.2120



PAGE 2 of 2 7/15/2014

WASTE STREAM ANALYSIS INFORMATION Waste Name: Crude contaminated soil - Manifuld 211 Physical State: Solid Process Producing Waste: Pipeline tenninal activities

PRE-ACCEPTANCE SAMPLE RESULTS

Color:		Physical State:	
Dust Present:	0	Free Liquids:	0
Paint Filter Test:	0	Odor:	
Fiash 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

Date: 7/ V. (i Y

P.O. Humber Cationer Code SKB Representative CL L Generation Name: EnDridge Pipelines Limited Generator EPAID Number StiC Code Description, LLC Generator EPAID Number StiC Code Description, LLC Generator EPAID Number StiC Code Superior, Misling Addess (Indition. Douglas Phone. 715-398-4795 Fas: 832-325-5511 Generator Enand Addess. (Indition. 1320 Grand Ave. Generator Enal Address: alex.smith/genbridge.com StiC Code Bill To Name & Address: Enbridge Bill To Alm Billing Contact. Alex Smith Fas: 832-325-5511 Woole Contact Link Contact Mark Status Contact Not Status Stice Contact Woole Contact Link Contact Mark Status Contact Not Status Stice Contact Not Status Mark Nume: Contact Not Contact Link Status Stice Contact Not Status Stice Contact Not Status Description and Constituents (at all known) Actual Range Not Status Not Status <th>Shamro Landfi</th> <th></th> <th></th> <th></th> <th></th> <th>Was</th> <th>ste Pr</th> <th>ofile Sheet</th> <th></th> <th>Shan Lar</th> <th>nroc ndfill</th> <th></th>	Shamro Landfi					Was	ste Pr	ofile Sheet		Sh a n Lar	nroc ndfill	
Generator Kame: Enbridge Sci C code Partnarsing, LLC Generator Exation: Enbridge Sci C code Generator Location: Enbridge Generator Contact: Alex Smith Supprior Terminal: Manifold 211 County Generator Contact: Alex Smith Supprior: Will Setter Terminal: Alex Smith Sci C code Supprior: Will Setter Bill To Alex Struct Alex Smith Generator Contact: Supprior: Will Setter Bill To Alex Struct Alex Smith Generator Contact: Supprior: VII 100 Contact: Alex Smith@enbridge Contact: Supprior: VII 100 Contact: Alex Smith@enbridge Contact: Supprior: VII 100 Contact: Alex Smith Supprior Supprior: VIII 100 Phone: 715-398-4795 Faz: B32-325-5511 Billing Contact: Alex Smith@enbridge Contact: Alex Smith@enbridge Contact: Supprior: TOUC Proce: Toues: Tou	P.O. Number		Cust	omer Code		SKB	Represe	nlative		CL		
Partnerstip, LLC Generator Control: Enbridge Generator Control: Alex Smith Superior Terminal - Manifold 211 Douglas Phame: 715-398-4795 Fax: 832-325-5511 Concritor Maing Address (I offision: 1320 Grand Ave, Streight Address: alex Smith @enbridge.com Energy (100 Louisians Ave, Streight Address: alex Smith @enbridge.com Bill To Name & Address: Enbridge Bill To Rame & Address: Enbridge Billing Email Address: alex Smith @enbridge.com Bill To Name & Address: Enbridge Bill To Rame & Address: alex Smith @enbridge.com Image: Address: alex Smith @enbridge.com Store Contact Bill To Rame & Address: alex Smith @enbridge.com Image: Address: alex Smith @enbridge.com Image: The Store Contact Address: alex Smith @enbridge.com Image: Address: alex Smith @enbridge.com Image: The Store Contact Address: alex Smith @enbridge.com Image: Address: alex Smith @enbridge.com Image: The Store Contact Address: Address: alex Smith @enbridge.com Image: Address: alex Smith @enbridge.com Image: The Store Contact Address: Address: alex Smith @enbridge.com Image: Address: Address: alex Smith @enbridge.com Image: The Store Contact Address: Address: alex Smith @enbridge.com Image: Address: Address: alex Smith @enbridge.com Image: The Store Contact Address: Address: alex Smith @enbridge.com Image: Address:				limit-d	10		10.41	h			10.0.4	
Superior Terminal - Manifold 211 Douglas Phome: 715-398-4795 Fax: 832-325-5511 Generator Maling Address: Cenerator Enail Address: alex smith@enbridge.com Buil To kinne & Address: Enbridge Enail X Buil To kinne & Address: Billing Enail Address: alex smith@enbridge.com Inne & Address: Cenerator Enail X Science (1) Cenerator Enail X Wash Mark: Cubics Intervention Intervention Intervention Intervention Wash Mark: Cubics Intervention Intervention Intervention Intervention Intervention Billing Enail Address: alex smith@enbridge Intervention Intervention Intervention Intervention Wash Mark: Cubics Intervention Intervention Intervention Intervention Intervention Intervention Generator Facility Operations Intervention Intervention Intervention Intervention Intervention Intervention Bil	Partnership	LLC	pelines	Limited							SIC Code	•
Phome: 715-398-4795 Fax: 832-325-5511 Concentror Mailing Address: Enbridge Cenerator Email Address: alex.smith@enbridge.com Supportor, WL St880 Cenerator Email Address: alex.smith@enbridge.com Suit To Name & Address: Enbridge Phone: 715-398-4795 Fax: 832-325-5511 Builting Email: Address: alex.smith@enbridge.com Fax: 832-325-5511 Involse Contact: Builting Email: Address: alex.smith@enbridge.com Involse Contact: Rest Contact: Alex.smith@enbridge.com evertv Cenerator Facility Operations and/or Site Histery: Enbridge Pipeline Terminal Cenerator Facility Operations and/or Site Histery: Enbridge Pipeline Terminal Address: 000 or cettime Mailes Contactinnaled Solid Outcomtaminated solid/abits and/or weste: Pipeline Terminal Address: 000 for west Milling Email: Wests Contactinnaled Solid 010 alex.smith@enbridge for west Milling Email: Wests Contactinnaled Solid 000 for west alex.smith@enbridge for west Milling Email: Wests Contactinnaled Solid 0100 for west fo	Generator Loc	ation: Enbridge	d 211		Generat	or Cont	tact: Ale	ax Smith				
Superior, WI 54880 Bill To Nams & Address: Entridge Bill To Nams & Address: Extramation Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: Bill To Sums & Address: Extensition Bill To Sums & Address: B												
Energy, 1100 Louisian Ave, STE. / Phone: 715-398-4795 Fac: 832-325-5511 Billing Email Address: alex smith@enbridge.com L Wate Generation Information Wate Generation Information into a set of the set	Generator Mai Superior, W	ling Address (if dilfe 1 54880	irent. 13	20 Grand Ave,	General	or Ema	iil Addre	ss: alex.smlth@e	nbridg	je.com		
Implace Contact: Billing Email Address: alex smith@enbridge.com k. Waste Generation Information	Bill To Name & Energy, 110	Address: Enbrid O Louisiana Ave	ige , STE.	Bill To#:	ł.							
Involue Corrate: Image: Second S	3300, Hous	ton, TX 77002			Phone:	715-3	398-47	95	Fax	832-325-5511		
L Waste Generation Information Waste Anne: Crude contaminated soil - Manifold 211 Lts. ltons S cy dnims vertw Generator Factoly Operations and/or Site History: Enbridge Pipeline Terminal Describe the generating opposed for the source of the sour	Involas Contar	2			Billing E	mail Ad	idress;	alex.smith@enbr	dge.c	om		
Generator Facility Operations and/or Site History: Enbridge Pipeline Terminal Describe the generating quotes of Jobust of contaminated solidebia and/or waste Pipeline Terminal Activities III. Wests Composition and Constituents (at all known) Actual Range Cruide contaminated Soli 100 000 M. Wests Composition and Constituents (at all known) Actual Range Physical state 100 100 Solid Liquid Free Liquids. pH Range. Solid Liquid Free Liquids. pH Range. Solid Liquid 1.2 2.4 Wests Steam poperfile (annew rALL quotstions) Does this waste contain absorbents? Ptes Does this waste stream contain any D. F. K. U or Pisted as non-poperfile (annew contain any D. F. K. U or Pisted as non-poperfile (annew contain any D. F. K. U or Pisted as non-poperfile (annew contain any D. F. K. U or Pisted as non-poperfile (annew contain any D. F. K. U or Pisted as non-poperfile (annew contain contain contain any D. F. K. U or Pisted as non-poperfile (annew contain any D. F. K. U or Pisted as non-poperfile (annew contain Contain and Conta	1.	Waste Generation			i							
Generator Facility Operations and/or Site History: Entringe Pipeline Terminal Describe the generating <u>Opusparol Source</u> of ontaminated sol/debis and/or waste Pipeline Terminal Activities III. Weste Composition and Constituents (at all known) Actual Range Crude contaminated solid 100 100 Weste Composition and Constituents (at all known) Actual Range Provisition and Constituents (at all known) Actual Range Weste Contaminated solid Provisition and Constituents (at all known) Color: Weste Contaminated solid Provisition and Constituents (at all known) Color: Weste Contaminate Solid Provisition and Constituents (at all known) Color: Weste Contaminate Solid Provisition and Constituents (at all known) Color: Does this wate Internation (at all known) Provisition (at all known) Provisition (at all known) Weste Stream Contain and Solid Provisition (at all known) Color: Provisition (at all known) Does this wate stream contain APCB material Yes: No Tots this wate stream contain APCB material Yes: No Does this wate stream contain APCB material Yes: No Tots this wate sterecyclable? Yes: No	Waste Name:	Crude contami	nated s	oil - Manifold 211		Τ						
II. Wests Composition and Constituents (st all known) Actual Range portions Crude contaminated soil 100 W. Westa Properties Prystain state Free Liquid: State Free Liquid: State General State General State General Vests State Free Liquid: Vests State General Vests State State Does Ibits wate stream contain any D. F. K. U or P listed as State stream contain PCB material Vests Does Ibits wate stream contain PCB material Vests Does Ibits wate stream contain an PCB material Vests Does Ibits wate stream contain stream contain PCB material Vests Does Ibits wate stream contain stream conta	Generator Fac	dity Operations and	/or Site H	istory. Enbridge Pi	oeline Te	minal		<u>ر س</u>			. –	
Crude contaminated soil % pcm M. Westa Properties 100 M. Westa Properties 100 M. Westa Properties Free Liquids: Studge Gas 120 Studge Gas 120 Obes this waste chastlections: 120 Obes this waste stream properties (anew rALL questions) 125 Does this waste stream contain rAD p. F.K. U or Pisted as hazardous waste, either in pure form, as a moture, or 128 Does this waste stream contain rAD material 128 If yes, contain abtorbents? 158 Does this waste stream contain RAD material 128 Does this waste stream contain rAD material 128 If yes, contain abtorbents? 128 Does this waste stream contain rAD material 128 If yes, contain abtorbents? 128 Does this waste stream contain rAD material 128 Does this waste contain obdoctive material 128 Does this waste stream contain rAD 128 Does this waste stream contain rAD 128 Does this waste contain obdoctive material 128 Does this waste contain obdoctive material 128 Does this waste stream contain rAD 128 Preacional reductive material 128	Describe the g	enerating <u>process</u> o	or source o	of contaminated soil/o	lebils and/	orwasi	ke: Pip	eline Terminal Activ	ities			
Crüde contaminated soil 100 M. Westa Properties Free Liquids PH Range Solid Liquid Free Liquids PH Range Solid Liquid Free Liquids PH Range Solid Liquid Free Liquids PH Range Wasta Classification Context + 2 2 4 V Wasta Classification PH Range Valies stream propriets (annuer ALL quotions) Does this waste contain absorbents? Yes No Does this waste transmit of the material Does this waste recyclable? Yes No Is this waste stream contain RPD. F. K. U or Plisted as No Is this waste recyclable? Yes No continue to contain absorbents? Pres No Is this waste recyclable? Yes No Does this wate stream contain RCB material Pres No Is this waste recyclable? Yes No Does this wate stream contain Absorbert? Pres No Is this waste recyclable? Yes No Does this wate stream contain Absorbert? Pres No Is this waste recyclable? Yes No Does this wate stream contain Absorbert? Pres No Is this waste recyclable? Yes No Does this wate stream contain Absorbard? P	NI.	Wests Compositio	on and Ci	onstituents (st ell k	nown)					,	Actual R	
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Sold Lugid Yes No 22 24 circer Brown Defr Studge Gass Content + 22 24 circer Brown Defr Defr Weste Classification Content + 22 24 circer Brown Defr Defr Weste Classification Content + 125 - 2200*F Brown Defr No Defr			Free Lig	uids all all	200e:		Flash	noint	10	olar	Odor	(describe):
V. Weake Classification Westa steam properties (nower ALL questions) Does this wate text and properties (nower ALL questions) Is this waste stream contain any D. F. K. J or P listed as Is this waste lethal (by Min. Rules, it has a moture, or lethal stream contain any D. F. K. J or P listed as Does this wate stream contain any D. F. K. J or P listed as No Totat for the stream contain any D. F. K. J or P listed as No Does this wate stream contain PCB material Yes No Does this wate explosive? Yes No Does this wate explosive? Yes No Does this wate explosive? Yes No Does this wate contain absetsor? Yes No Is this wate fear dictors? Yes No Does this wate contain objecter? Yes No Is this wate fear dictors? Yes No Does this wate contain objecter? Yes No Is this wate fear divestination in the water and water and the water and the water and water and water and water and water and the water and water and the water and wate	Solid Solid	Liquid	□ Yes		<2 🛛	2-4 8-12,4		140°F 140°F to < 200°F	В	rown		
Does this wasts stream contain any D. F. K. U or Pisted as hourdown as a moture, or treatment residue? Is this waste lethal (by Minn. Rules 7045.0131 Subp. 6)? Yes No Does this waste stream contain PCB material obset this waste stream contain PCB material by sconcentration Yes No To 45.0131 Subp. 6)? Yes No Does this waste stream contain PCB material by sconcentration	v.	Weste Classificat		<u>%</u>	>12.5		14 >	2004			-	
http://doi.org/doi.org/active/ Image: Control of the set of the											U Ye	es 🛛 No
Does this waste stream contain FCB material Yes No Is this waste recyclable? Yes No If yes Concentration ppm Is this waste recyclable? Yes No Does this waste stream contain furning acids? Yes No Is this waste infectious? Yes No Does this waste stream contain furning acids? Yes No Is this waste infectious? Yes No Does this waste contain acidscream Yes No Is this waste demolition debris? Yes No Does this waste contain acidscream Yes No Is this waste stream collable? Yes No Does this waste contain acidscream Yes No Is this waste stream collable? Yes No Does this waste contain acidscream or analytical test results that have previously been parformed on this waste that substantiates these determining material Yes No Pope Io D1 Singing Name (setCFA 172 101) where applicable Parching Group Parching Group Method of packaging drums titzz Alend of acidscream Parching Group Method of packaging in drums titzz Does of this debries. Does of this debries. Does of this debries. Does of this deb						res				finn. Rules		es 🖾 No
If yes, concentration			in PCB m	naterial		Yes		Is this waste recy	clable?	,	ПУ	es 🖂 No
Does this wate contain asbesto? Yes No Is this put/reschie wate? Yes No Does this wate contain asbesto? Yes No Is this put/reschie wate? Yes No Does this wate contain asbesto? Yes No Is this wate feasible of this wate deamination of the this wate deaminations. Include MSDS's and any Information from other agencies (I.e., MPCA, USEPA) Yes No Plaze attach any variable information or analytical test results that have previously been parformed on this wase that substantiates these deaminations. Include MSDS's and any Information from other agencies (I.e., MPCA, USEPA) Yes No Yu. Shipping Information Month SDS's and any Information from other agencies (I.e., MPCA, USEPA) Yes No Proper COT Shipping Name (petCFR 172.101) where applicable Repicable Mithod of alignment Packing Group Method of apiceging drums tiste Month StardOver Stard Class UNI/NANamber Packing Group Vit. Certification of Non Hazardover Weste & Approval Conditions No Share Code Scalin 6903, Minnecide Status Scalin 113, add/or any visa a doried in Tile A Quines Share Code Scalin 6903, Minnecide Status Scalin 113, add/or any visa adopted by the Minnecial Patient of Agency inderVind Agency inderVinderScien 116, no. 13, and/or any visa adopted by the Minnecial Patient of Agency inderVindeges andiset (I the oreal and the condition of the	lfyes,	concentration:	рр	m	_		-	Is this waste expl	osive?		- 🗆 Ye	es 🖾 No
Does this waste contain redioactive material? □ Yes SNo Is this waste sever abudge? □ Yes No SNo Is this waste sever abudge? □ Yes SNo Plesse attach any variable information include MSDS's and any information from other agancies (i.e., MPCA, USEPA) Vi. Sho Is this waste that substantiates these advantages the material of the maste that substantiates these advantages and the master advantage of the master that substantiates these advantages and the master advantage of the master advantages of th				acids?								
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Please attach any svallable information or analytical test results that have previously been performed on this waste that substantiates these determinations. Include MSD's and any Information from other agencies (i.e., MPCA, USEPA) N. Shibpine Information Proper DOT Shipping Name (perCFR 172 101) where applicable Repolable Countinity DOT Hazard Class UNI/NA Namber Packing Group Method of packaging drums tisze Method of packaging drums tisze VI. Certification of Non tizzardow Weete & Approval Conditions VI. Certification of Non tizzardow Weete & Approval Conditions VI. Certification of Non tizzardow Weete & Approval Conditions And/of any view and this in onhazerdow as defined in Tile 42, Unites States Code Section 6803. Minnesole States Section 118 (05. Studervision 13. and/of any view adopted by the Minnesola Politation Agency inderfinescula States Section 118 (05. Studervision 13. and/of any view state and this any approval is no longer vidil (there are any changes in the process generalizing the waste or there have been changes in the composition of the wasts therefull, in the composition of the wasts therefull, in the proving on the other statem changes or polentially changes in the process generalizing the waste or there have been changes in the process generalizing the waste or there have been changes in the composition of the wasts therefull, in the composition of the wasts therefull, in the composition of the state statem changes or polentially changes and/or code in conealing therealing the composition of the wasts theref				aterial?							HY	
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Exit Biak Solds Dows state The more strated on the standows Wester & Approval Conditions Write Conditions Thereby certify and vermain, on behalf of the operation and myself list. Is the best of my knowledge and beieft, the Information contained herein is accurate, and rue and that the wate is non-hardrodus as defended in Title 4.2, Unites States Code Section 6000, Minecode Statula Section 116 06, Subdivision 13, and/or any wites adopted by the Minesotia Politician Control Agency, under Minnesota Statute Section 116 07 Indexistent that any approval is no longer vialif Unites are any changes in the process generating the wate is non-hardroge in the composition of the wate. Therefore, of the composition of the wate. Therefore, the com	Method of pac	keging: 🔲 drums	(size		Metho	d of sh	ipment			that (Pasaile)		
I hendly certify and vermal, on behalf of the generation and myself that, to the best of my knowledge and beket, the Mornalson contained hervin is accurate, and rue and that the wate is in onbardandous as defined in Title 4.2, Unites States Code Section 600, Mincecke Status Section 116, 06, Subdivision 13, and/or any rules adopted by the Menescia Polition Control Agency, underMinnestola Status Section 116,07 Lindrestend that any approval is no longer valid (Hore are any changes in the process generating) the valid or there have been changes in the composition of the water. Therefore, if the composition of the waste steam changes or potentially changes. For someone representing the generator, will immediately notify SKB Environmental. I. on behalf of the generator, hereby agree to fully indemnity SKB Environmental for any demages and/or costs lineured as a result of his definition.												
	I hereby certify and true and it and/or any rule I understend to of the waste. notify SKB En	y and warrant, on be hat the waste is non es adopted by the M hat any approval is i Therefore, if the com wironmental. 1, on be	half of the hazardou linnesota no longer Toosition o ehalf of th	e generator and myse s as defined in Title 4 Pollution Control Age valid If the re are any o of the wasta stream d e generator, hereby a	if that, to ti 2, Unites S ncy under changes in hanges or	he best States C Minnes I the pro potentia	Code Se ota Stati ocess ge atly chan	ction 6903, Minnesole ute Section 116.07, meraling the waste or iges, For someone rej	Statule there h present	e Section 116.06, ave been change ing the generator,	Subdivit s in the o will imm	sion 13, composition rediately
Image: Image of the second s		-	leor untru								- 7	1. 7 - 11
		1900							tal An	aiyst /*	> <i>] //</i> Da	te coly

LEG Technical Ser	vices, Inc.			St Paul, Tel: 651	ke Dave MN 55103 1-842-1150 1-642-1239
Barr Engineering Co. 1700 W 77th St Minneapolis, MN 55435		49161253 er. 49161253.12001 001 jer: Ms Andrea Nord			rder#: 1402999 ported: 07/14/14
	ANALYTICA	L REPORT FOR SAM	IPLES		
Sample ID		Laboratory ID	Matrix	Date Sampled	Date Received
Manifold 211 Stockpile-1		1402999-01	Soll	07/09/1411:05	07/10/14 09:15
Manifold 211 Stockpile-2		1402999-02	Soil	07/09/14 11;10	07/10/14 09:15
Shipping Container Informa					
Default Cooler	Temperature (*C): 2.6				
Received on ice: Yes	Temperature blar	nk was present		don ice pack [.] No	
Received on melt water: No Custody seals: Yes	Ambient: No		Acceptal	ole (IH/ISO only): No	0

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

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



July 14. 2014

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

Work Order Number: 1402999 RE: 49161253

Enclosed are the results of analyses for samples received by the laboratory on 07/10/14. 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



Soule Jule

Samantha Jaworski Manager, Organics sjaworski@legend-gro

Legand Technical Services, Inc.

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

88 Empire Drive SIPaul. MN 55103 Tel: 651-642-1150 Fax: 651-642-1239

Work Order#: 1402999 DateReported: 07/14/14

LEGE	N D		
Technical Servi	ices, Inc.		
www.legend-gr	oup.com		
Barr Engineering Co.	Project:	49161253	
4700 W 77th St	Project Number	1; 49161253,12001001	
4700 W 77m St			

DRO/8015D Legend Technical Services, Inc.										
Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Manilold 211 Stockpile-1 (1402999	-01) Soil San	pled: (7/09/14 11:	06 Receive	ed: 07/10/1	4 9:15				
DieselRange Organics	11	27	4.4	mgilig dry	1	B4G1103	07/11/14	07/11/14	W((95)DRO	J
Surrogala:TriacontenetC-30)	76.4			70-130 %		•	•	•	-	
Manifold 211 Stockpile-2 (1402899	-02)Soil San	npled: (7/09/1411:	10 Receive	d: 07/10/1	14 9:15				
Diesel Range Organics	9.6	20	3.2	mg/kgdry	t	84G1103	07/11/14	07/11/14	WI(95)DRO	J
Startogals: Thiscontene(C-30)	78.4			70-130 %		-		-		

LegendTechnical Services, Inc

88 EmpireDrive StPaul, MN 55103 Tel: 651-642-1150



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

Barr Engineering Co.		Proje	ect.	49161253							
4700 W 77th St		Proje	ct Number.	49161253	1200100	1	Work Order #: 1402999				
Minneapolis, MN 55435		Proje	ct Manage	r: Ms. Andre	a Nord			Dat	DateReported: 07		
				95) GRO/ chnical S		Inc					
Analyte	Result	RL	MDL	Unite	Dilution	Betch	Prepared	Analyzed	Method	Notes	
Manifold 211 Stockpile-1 (1402999	-01) Soit San	npled: 0	7/09/1411:	05 Receiv	ed: 07/10/	14 9:15					
Benzena	<0.013	0.11	0.013	mg/kg dry	1	84G1013	07/10/14	07/10/14	WI(95)GRO		
Ethylbenzene	0.054	D.11	0.028	mp/kg dry	1	•	-	-	-	B-01, .	
Tolucno	<0.018	0.11	0.018	mg/kg dry	1	-	•	-	-		
Xylones (total)	<0.062	0.33	0.062	morkg dry	1	-		•			
Surrogale: 4-Fluorochiotobenzene	93.6			80-150 %			•		-		
Manifold 211 Stockpile-2 (1402999	02) Soil San	npied: 0	7/09/1411:	10 Receiv	ed: 07/10/1	4 9:15					
Benzena	< 9.012	0.10	0.012	mgakg dry	1	84G1013	07/10/14	07/10/14	WI(95) GRO		
Ethylbenzene	0.055	0.10	0.026	mg/kg dey	1	-	•	•	•	B-01.	
Toluene	<0.016	0.10	0.016	mgikg dry	+		•	•	·		
Xylanes(total)	<0.057	0.33	0.057	mg/kg dry	1			•	•		
Surrogate: 4-Fluoroch/orobanzene	93,5			80-150 %							



Legend Technical Services, Inc

LegendTechnical Services, Inc

88EmpireDnve StPaul. MN 55103 Tel: 651-642-1150 Fax: 651-642-1239

Barr Engineering Co.		Pro	ect.	4916125	3					
4700 W 77th St		Pro	ect Number:	4916125	3.12001 00	1		Wo	rk Order #:	1402999
Minneapolis, MN 55435		Proj	ject Manager:	Ms. And	rea Nord			Dat	e Reported;	07/14/14
		ι	PERC egend Tec		SOLIDS Services	, Inc.				
Anaiyte	Result	RL	MDL	Unils	Dilution	Batch	Prepared	Analyzed	Method	Notes
Manifold 211 Slockpile-1 (1402999	9.01)Soll Sam	pted: (07/09/14 11:05	Recei	ved:07/10/	4 9:15				
% Solids	23			%	,	B4G1106	07/11/14	07/11/14	% calculation	
Manifold 211 Stockpile-2 (1402999	-02)Soil Sam	pfed: (07/09/14 11:10	Recei	/ed: 07/10/	4 9:15				
% Solids	25			%	1	B4G1108	07/11/14	07/11/14	% calculation	

LegendTechnical Services, Inc					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 entroliv.							
											Pege 4 o I 1	
LEGE	ND								88 Emp	ireDrive		
		-							StPaul	MN 5510		
Technical Servic	ces, Inc									1-642-1150 51-642-123		
Barr Engineering Co.	F	roject:		49161253								
4700 W 77th St	P	rojectNi	umber,	49161253.	120010	01			Work O	rder#: 1	402999	
Minneapolis. MN 55435	F	rajectM	anager:	Ms, Andre	aNord				Date Re	eported; 0	7/14/14	
) - Qualit Inical Se								
Analyte	Result						%REC	%REC Limits	%RPD	%RPD Limit	Notes	
	Result	Legen	d Tech	nical Se	fvices Spike	, Inc. Source	%REC		%RPD		Notes	
Batch B4G1103 -Sonication (Wisc Blank (B4G1103-BLK1)	Result DRO)	RL RL	MDL	Units	Spike Level	, Inc. Source		Limits	%RPD		Notes	
Batch B4G1103 -Sonication (Wisc Blank (B4G1103-BLK1) Disco Range Organics	Result DRO) < 1.3	Legen	d Tech	Units Units Mp/kg.wat	Spike Level	, Inc. Source Result	ed: 07/11/1	Limits	%RPD		Notes	
Batch B4G1103 -Sonication (Wisc Blank (B4G1103-BLK1) Ness: RangeOrganics WTrighte: Thecontane (C-30)	Result DRO)	RL RL	MDL	Units Units mg/kg wet <i>mg/kg</i> wet	Spike Level Prepared	, Inc. Source Result & Analyze	ed: 07/11/1 79.9	Limits 14 70-130	%RPD		Notes	
Batch B4G1103 -Sonication (Wisc) Slank (B4G1103-BLK1) Jises RangeOrganics Wrogele: Theconiane (C-30) LCS (B4G1103-BS1)	Result DRO) < 1.3 12.8	RL 8.0	MDL 1.3	Units Units mp/kg wet mp/kg wet F	Spike Level Prepared 16.0 Prepared	, Inc. Source Result	rd: 07/11/1 79.9 rd:07/11/1	Limits 14 70-130	%RPD		Notes	
Batch B4G1103 - Sonication (Wisc) Blank (B4G1103-BLK1) Bises Range Organics WringMis: Thecontaine (C-30) CS (B4G1103-BS1) Bises Range Organics	Result DRO) <1.3 12.8 58.7	RL RL	MDL	Units Units mp/kg wat mp/kg wat F mg/kg wat	Frices Spike Level Prepared 16.0 Prepared 64.0	, Inc. Source Result & Analyze	rg 9 79.9 ed:07/11/1 91.7	Limits 14 70-139 14 70-120	%RPD		Notes	
Batch B4G1103 -Sonication (Wisc) Blank (B4G1103-BLK1) Jese: RangeOrganics JumpMic: Theconiane (C-30) LCS (B4G1103-BS1) Jisee: RangeOrganics Jumpgate: Theconiane(C-30)	Result DRO) < 1.3 12.8	RL 8.0	MDL 1.3	Units Units mg/kg wet mg/kg wet mg/kgwet mg/kgwet	Frices Spike Level Prepared 16.0 Prepared 64.0 16.0	, Inc. Source Result & Analyze	ed: 07/11/1 79.9 ed:07/11/1 91.7 83.6	Limits 14 70-130 14 70-120 70-130	%RPD		Notes	
Batch B4G1103 -Sonication (Wisc Blank (B4G1103-BLK1) Ness: RangeOrganics WTrighte: Thecontane (C-30)	Result DRO) <1.3 12.8 58.7	RL 8.0	MDL 1.3	Units Units mg/kg wet mg/kg wet mg/kgwet mg/kgwet	FVICES Spike Level Prepared 16.0 Prepared 64.0 16.0 Prepared	, Inc. Source Result & Analyze	ed: 07/11/1 79.9 ed:07/11/1 91.7 83.6	Limits 14 70-130 14 70-120 70-130	%RPD		Notes	

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Page 5 of 10

Technical Serv	rices, Inc	-							St Paul Tel: 65	ire Drive MN 551 1-642-115 51-642-12	0
Barr Engineering Co.		Project:		49161253							
4700 W 77th St	F	roject N	umber:	49161253	120010	01			Work O	rder#:	1402999
Minneapolis, MN 55435	F	Project M	anager:	Ms. Andre	a Nord				Date Re	ported:	07/14/14
	w			116D - Qu Inical Se							
Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Límil	Notes
Batch B4G1013 - EPA 5035 Soll (Purge and Trap	»}									
Blank (B4G1013-BLK1)					Prepared	& Analyz	ed: 07/10/1	14			
Benzene	< 0.0029	0.025	0.0029	mg/kgwet							
thylbenzene	0.00721	0.025	0.0064	mg/kgwet							B-02, J
loluene	< 0.0041	0.025	0 004 1	mp kg wet							
(yiones(total)	< 0.014	0.075	0014	mg/kgwet							
Surrogale: 4-Fluorochiorobenzene	22.9			ug/L	25.0		91.5	80-150			
LCS (B4G1013-BS1)				1	Prepared	& Analyz	ed: 07/10/1	4			
Benzene	98.0			ug/L	100		98.0	80-120			
Ethylbenzana	95.4			սց/է	100		95.4	80-120			
loluene	97.7			ugit	100		97.7	\$0-120			
(vienes(total)	284			મહુતી.	300		94.6	80-120			
Surrogate: A-Pluorocatorationzono	23.5			ugn.	25.0		94.2	60-150			
CS Dup (B4G1013-BSD1)					Prepared	: 07/10/14	Analyzed	: 07/11/14			
Banzena	104			ug/L	100		104	86-120	5.61	20	
Elhyibenzene	103			ug/L	100		103	80-120	7.84	20	
foluane	103			ug/L	100		103	80-120	5.03	20	
(ylenes(total)	297			ugit	300		99.1	80-120	4.62	20	
Surrogale:4-Fluorochlorobenzana	22.9			ug/L	25 O		91.6	80-150			
Natrix Spike(B4G1013-MS1)	-	iource: 1	402998-	01 0	Prepared	: 07/10/14	Analyzed	07/11/14			
Benzene	112			ug/L	100	<	112	80-120			
Elhyibenzane	111			00j/L	100	0.284	110	80-120			
loluane	111			ug/L	100	0.101	111	80-120			
(ylenas(total)	326			ug/L	300	0.317	108	80 120			
Surrogate: 4 - Fluorochiorobenzene	22.9			ug/L	25.0		91.7	60-150			

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

Barr Engineering Co.	F	Project		4916125	3						
4700 W 77th St	F	rojectN	lumber.	4916125	3.12001	001			Work C	order#; 1	402999
Minneapolis, MN 55435	F	Project N	Aanager:	Ms. Andr	ea Nord				Date R	eported:	07/14/14
	P				Quality (Services						
Analyle	Result	RL	MDL	Units	Späke Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Noles
Batch B4G1106 - General Preparation											
Duplicate (B4G1106-DUP1)	e	ource:	1403000-	22	Prepared	i & Analyze	ed: 07/11/1	14			
ú Salide	90.08			%		89.0			1.12	20	
Duplicate (B4G1106-DUP2)	6	Source:	1403000-	03	Prepared	i & Analyze	ed: 07/11/1	14			





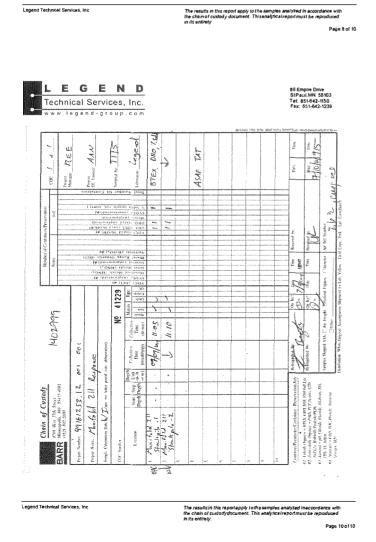
Barr Engineering Co.	Project: 49161253	
4700 W 77th St	Project Number: 49161253.12001001	WorkOrder #. 1402999
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 07/14/14

Notes and Definitions

Parameter was present between the MDL and RL and should be considered an estimated value Target analyte was present in the method blank between the MDL and RL. Analyte was present in the method blank. Sample rasult is less then or equal to 10 trines the blank concentration J B-02 B-01 ≺

Nature was inserts in the method balm. Cample insults has been of equal to bit in Less harvalue listed Sample results reported on a dryweight basic Not applicable. The SkRPD is not calculated from values less than the reporting limit Method Detection Limit Reporting Limit Relative Percent Difference Ladoratory Control Spice – Blank Spike (SS) – Laboratory Forkied Blank (LFB) Mathx Spike – Laboratory Forkied Matrix (LFM)

dry NA MDL RL RPD LCS MS



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C114-0028

REPORT NAME: Tons Each Load By WSID DESCRPTION: Tonsage for EACH LOAD, grouped by cur DATER ANGE: 05m5/2014.0.09/04/2014				ົກຫຼຸດຕ				
PRINTEDON		Thursday,Srptrmber						
ENBS7								
Enbridge Pi	pelines Lin	lited Partnership,						
1320Grand	Ave							
Superior	WI	54880						
LOAD #	MANIPES	T ARRIV	D WASTE STREAM	WASTE NAME	CELL	SPOT.	LIFT	TON
21653 (A)	52003	7/17/2	014 CL14-0028	Crude contaminated soll - Manifold 2	2A	P44	1190	19.7
21669(A)	52051	7/18/20	014 CL14-0028	Crude contaminated soil - Manifold 2	2A	P44	1190	21.4
	52052	7/18/20	014 CL14-0028	Crude conteminated soll - Manifold 2	2A	P44	1190	24.1
	52052							
21672 (A)	52052	7/18/20	014 CL14-0028	Crude contaminated soll - Manifold 2	2A	P44	1180	18.9
21672 (A) 21680(A)		7/18/20 8/6/20		Crude contaminated soll - Manifold 2 Crude contaminated soll - Manifold 2	2A 2A	P44 P44		
21672 (A) 21680(A) 22250 (A) 22256 (A)	52053		14 CL14-0028				1190 1190 1190	18.9 19.3 19.4
21672 (A) 21680(A) 22250 (A)	52053 52055	8/6/20	014 CL14-0028 014 CL14-0028	Ciude conterninated soil - Manifold 2	2A	P44	1190	19.3
21672 (A) 21680(A) 22250 (A) 22256 (A)	52053 52055 52056	8/6/20 8/6/20	014 CL14-0028 014 CL14-0028	Crude contaminated soll - Manifold 2 Crude contaminated soll - Manifold 2	2A 2A	P44 P44 P44	1190 1190	19.3 19.4

Grand Total (Tons): Grand Total (Loads):