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Technical Memorandum

To: Joseph Pearson, Superior Refining Company, LLC
From: Lynette Carney and Kaitlin Montz
Subject: Platformer Concrete Replacement
Date: February 28, 2023
Project: 49161468.03 100 104
WDNR BRRTS: 02-16-591050

This memorandum summarizes the environmental response activities performed by Superior Refining Company LLC (SRC) following the discovery of historical petroleum impacts in the Platformer Unit at the SRC Refinery in Superior, Wisconsin (Figure 1).

Background

On December 6, 2022, SRC contractors removing concrete and replacing a catch basin encountered an apparent petroleum odor and petroleum impacted soil in the Platformer Unit (hereafter referred to as the Site; Figure 2). SRC personal did not identify an active spill in the area.

The Wisconsin Department of Natural Resources (WDNR) was notified of the historical petroleum impacts by SRC on December 7, 2022. The WDNR assigned the BRRTS Activity # 02-16-591050 to the Site. The associated WDNR *Hazardous Substance Discharge Notification Form,* copy of submitted WDNR notification form 4400-225 and site contact information is provided in Attachment A.

Field Activity Summary

On December 7, 2022, Insight Environmental (Insight) was on site to document response cleanup activities and to collect soil field screening samples from the excavation (Photo 1 and Photo 2). A soil headspace screening sample was collected from the bottom of the excavation and tested for the presence of organic vapors using a 10.6 eV photoionization detector (PID). PID readings and other evidence of petroleum impacts, such as odor, were recorded on the field sampling and screening log provided in Attachment B.

The final excavation extent was approximately 8 feet (northeast to southwest) by 10 feet (northwest to southeast) and up to 3.5 feet below ground surface (bgs) (Attachment B). Clay soil was observed in the excavation sidewalls and bottom.

Insight collected one field screening soil sample and one analytical confirmation soil sample (*S1*). The soil analytical sample was submitted to Pace Analytical (Pace) in Duluth, Minnesota for analysis of petroleum volatile organic compounds (PVOCs) and polycyclic aromatic hydrocarbons (PAHs). The analytical confirmation soil sample location is shown on Figure 2.

The field headspace screening results for the soil sample collected from the final excavation extent resulted in a concentration of 8,289 parts per million. Laboratory results from the correlating sample collected at the final excavation extent resulted in PVOC and PAH analyte detections above the Wisconsin groundwater residual contaminant levels (RCLs) but there were not concentrations exceeding the Wisconsin Direct Contact Industrial RCLs. The analytical results are summarized in Table 1 and the Pace laboratory report is provided in Attachment C.

Upon completion of the project activities, the excavation was backfilled with clean fill and the concrete was replaced.

Receptor Survey

No direct contact risks were identified in underlying soil based on the response activities. No impacts to surface water were identified and there is no risk of future surface water impacts based on the site's location within the refinery. Laboratory results from analytical sample *S1* exceeded the Wisconsin groundwater RCLs for several analytes. Groundwater pathway at the SRC Refinery is addressed on a facility-wide basis through the established hydrogeologic performance standard approved by the WDNR. As part of this program, SRC samples the Refinery monitoring well network (shown on Figure 3) on a semiannual basis and provides the data to the WDNR. No historical petroleum impacts have been documented as part of the semiannual facility-wide groundwater monitoring activities (Figure 3) or in the closest downgradient monitoring well MW-12. In addition, there are no water supply wells located within 500 feet of the Platformer location.

The nearest enclosed structure is a slab-on-grade refinery building approximately 6-feet to the northeast. There is no risk of hazardous vapor accumulation in the structure due to the slab-on-grade construction and the clay soil conditions. SRC Refinery and contractors are also required to wear gas detector that would alert them to a potentially hazardous atmosphere.

Material Management

During the response excavation, the petroleum impacted material was transported to SRC's permitted onsite storage building for secure and temporary staging prior to arranging for offsite disposal. Approximately seven cubic yards of petroleum impacted material was subsequently disposed of at Shamrock Environmental, LLC (Shamrock) landfill in Cloquet, Minnesota under an existing facility waste profile number. The petroleum impacted material was not quantified separately from other similar materials awaiting disposal and was included in a combined load transported to the Shamrock landfill on January 4, 2023. The non-hazardous industrial waste shipping manifests from this date are included in Attachment D.

Conclusions

Evidence of historical petroleum impacts were identified during the concrete replacement project in the Platformer Unit in December 2022. No active release was identified during the work. Soil with evidence of

petroleum impacts that was removed from the excavation was managed at a landfill. Based on results of sampling, the soil with residual historical impacts in the final excavation had PVOC and PAH analyte concentrations below the Wisconsin Direct Contact Industrial RCLs and clean backfill was used to backfill the excavation and concrete was poured over the excavation area. Based on the analytical results and concrete cover, no direct contact risk remains. No surface water impacts or vapor risks to nearby buildings was identified. In addition, the industrial land use at the facility is not expected to change and the native underlying soil in the vicinity of the historical impacts is documented to be low permeable clay material.

Although residual soil contamination exceeds the WDNR Groundwater RCLs, no nearby groundwater receptors were identified and since groundwater is handled on a facility-wide basis no nearby historical groundwater impacts have been identified. SRC believes no additional soil or groundwater investigation activities will be required and recommends that the WDNR transfer this site to the facility wide BRRTS site 16-16-559511.

Site Photographs

Photo 1 Excavation area in Platformer Unit. Photo taken on December 7, 2022, by Insight.
Photo 2 Excavation extent in Platformer Unit. Photo taken on December 7, 2022, by Insight.

Tables

Table 1 Soil Analytical Data Summary

Figures

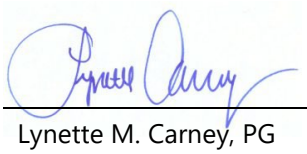
Figure 1 Site Location
Figure 2 Site Layout
Figure 3 Receptor Survey

Attachments

Attachment A WDNR Hazardous Substance Discharge Notification Form, WDNR Notification From 4400-225, and Site Contact Information
Attachment B Site Investigation Field Sampling and Screening Log
Attachment C Pace Laboratory Report for Confirmation Soil Sample
Attachment D Material Management Documentation

CERTIFICATION

"I, Lynette M. Carney, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code; and that, to the best of my knowledge, all of the information contained in this document is correct, and the document was prepared in compliance with all applicable requirements in Chapters NR 700 to 726, Wis. Adm. Code."



Lynette M. Carney, PG
Reg #: 1138

February 28, 2023
Date

Site Photographs

Photo 1 Excavation area in Platformer Unit. Photo taken on December 7, 2022, by Insight.

Photo 2 Excavation extent in Platformer Unit. Photo taken on December 7, 2022, by Insight.

Tables

Table 1
Soil Analytical Data Summary
Superior Refining Company Platformer Concrete Replacement
Superior, WI

		Location	S1
		Date	12/07/2022
Parameter	Wisconsin Groundwater RCLs, DF=2	Wisconsin Not to Exceed Direct Contact Industrial RCLs	
Last Updated	12/01/2018	12/01/2018	
Exceedance Key	**Bold**	No Exceedances	
General Parameters			
% Moisture			22.4
Semivolatile Organic Compounds			
1-Methylnaphthalene		72.7	0.609
2-Methylnaphthalene		3010	1.32
Acenaphthene		45200	0.165
Acenaphthylene			0.0355
Anthracene	196.9492	100000	0.514
Benz(a)anthracene		20.8	0.906
Benzo(a)pyrene	**0.47**	2.11	**0.655**
Benzo(b)fluoranthene	**0.4781**	21.1	**0.903**
Benzo(g,h,i)perylene			0.356
Benzo(k)fluoranthene		211	0.281
Chrysene	**0.1442**	2110	**0.781**
Dibenz(a,h)anthracene		2.11	0.102
Fluoranthene	88.8778	30100	2.19
Fluorene	14.8299	30100	0.24
Indeno(1,2,3-cd)pyrene		21.1	0.421
Naphthalene	**0.6582**	24.1	**0.774**
Phenanthrene			2.06
Pyrene	54.5455	22600	1.83
Volatile Organic Compounds			
1,2,4-Trimethylbenzene	**1.3787 (1)**	219	**8.45**
1,3,5-Trimethylbenzene	**1.3787 (1)**	182	**3.18**
Benzene	**0.0051**	7.07	**0.628**
Ethyl benzene	**1.57**	35.4	**2.28**
Methyl tertiary butyl ether (MTBE)	0.027	282	< 0.0228 U
Toluene	**1.1072**	818	**3.14**
Xylene, total	**3.96**	260	**11.2**

Note:
All values in mg/kg unless otherwise noted

Figures

Site Location

Approximate SRC Property Boundaries for Contiguous Operations

Approximate Fenceline Boundaries for Refining-Related Activities

Platformer Concrete Replacement

Newton Creek

Nemadji River

Douglas County

RICHARD BONG AIRPORT

Superior Harbor Basin

Hog Island

East End

Central Park

Allouez (BM 636)

Nemadji Golf Club

Copyright © 2013 National Geographic Society, i-cubed

0 750 1,500

Feet

SITE LOCATION
Superior Refining Company LLC (SRC)
Superior, WI

FIGURE 1

BARR

Barr Footer: ArcGIS 10.8.1, 2023-01-24 08:12 File: I:\Client\Cenovus_Energy\Superior_Refinery\Maps\Spill_Response\Platformer_Concrete_Replacement\Figure 1 Site Location.mxd User: EMA

Analytical Sample Location

Excavation Extent

Nearmap Imagery, 5/7/2022

N

0 20 40

Feet

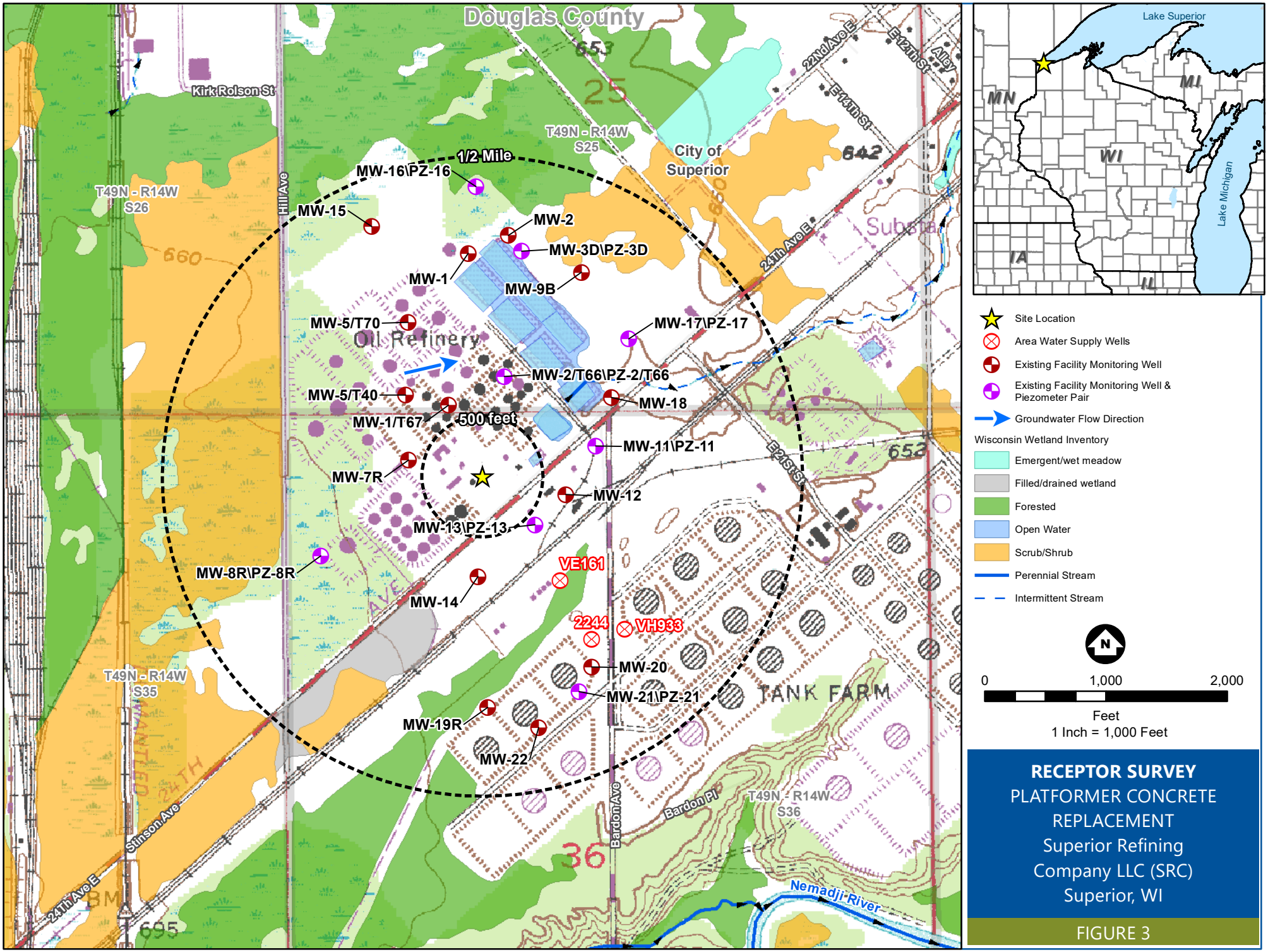
SITE LAYOUT

PLATFORMER CONCRETE REPLACEMENT

Superior Refining Company LLC (SRC)

Superior, WI

FIGURE 2



RECEPTOR SURVEY
PLATFORMER CONCRETE REPLACEMENT
Superior Refining Company LLC (SRC)
Superior, WI

FIGURE 3

Barr Footer: ArcGIS 10.8.1, 2023-01-24 08:56 File: I:\Client\Cenovus_Energy\Superior_Refinery\Maps\Spill_Response\Platformer_Concrete_Replacement\Figure 3 Receptor Survey.mxd User: EMA

Attachments

Attachment A

WDNR Hazardous Substance Discharge Notification Form, WDNR Notification From 4400-225, and Site Contact Information

Platformer Concrete Replacement
Site and Facility Contact Information

Site Information:

WDNR BRRTS Number: 02-16-591050
Facility Identification Number: 816009590
Superior Refining Company LLC
2407 Stinson Avenue
Superior, Wisconsin
Douglas County, Wisconsin
NE ¼, NW ¼ of Section 36, T49N, R14W
Latitude / Longitude: 46.690167 / 92.0704029
WTM91 Coordinates: X: 361690, Y: 692816

Responsible Party:

Superior Refining Company LLC
Attn: Joseph Pearson, Environmental Advisor
2407 Stinson Avenue
Superior, WI 54880
Phone: (763) 218-9982
Email: joseph.pearson@cenovus.com

Environmental Consultant:

Barr Engineering Co.
Attn: Lynette Carney, Project Manager
325 South Lake Avenue, Suite 700
Duluth, MN 55802
Phone: (218) 529-7141
Email: lcarney@barr.com

Hazardous Substance Discharge Notification Form - NR 706.05

Superior Refining Company LLC
2407 Stinson Ave., Superior, WI 54880
Phone: (715) 398-3533 Fax: (715) 398-8209

Refinery Map Coordinates: NW1/4, NW1/4, Sect. 36, T 49N, R 14N.

1) Reporting Information

Name: Joseph Pearson
Phone: 763-218-9982
Date: 12/06/2022
Position: Environmental Advisor

2) Discharge Information

Date: 12/06/2022
Time: 1630
Amount Released: NA
Duration: NA
Material/Product: Petroleum
Response Time: NA
Specific Location: Platformer
How was spill detected: Historic spill was identified during removal of concrete.
Cause: Historic release in refinery process unit.

If necessary, continue on back

3) Additional Information

Physical Characteristics (i.e. solid, liquid or gas): Petroleum saturated soil

Chemical Properties:

Possible Hazards:

Immediate Corrective Action/Clean-up:

People/Companies Performing the Action: Lakehead Construction

Speed and Movement of Discharge(if any): None

Actual/Potential Impacts to Human Health(if any):

Actual/Potential Impacts to Environment(if any):

Weather Conditions(i.e. precipitation, wind speed and direction): 15 degrees F, Overcast, E wind

Agencies On-scene During Spill(if any): None

Further action needed(if any):

Amount reaching Navigable Waters: None

Total Oil Storage Capacity of Tanks/Lines Material was Discharged From: NA

Adequate Secondary Containment: Yes

Steps taken to Reduce Possibility of Recurrence: NA

Enforcement Actions(if any): None

Effectiveness of Monitoring Equipment(if any NA

Original: Refinery Manager CC: Operations Manager, Environmental Manager

Notice: Hazardous substance discharges must be reported immediately according to Wis. Stat. § 292.11. Non-emergency hazardous substance discharges may be reported by submitting this online form, calling the Department or visiting an office in person. Under Wis. Stat. § 292.99, the penalty for violating the reporting requirement of Wis. Stat. ch. 292 shall be no less than $10 nor more than $5,000 for each violation. Each day of continued violation is a separate offense. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than program administration. However, information submitted on this form may also be made available to requesters under Wisconsin's Open Records Law (Wis. Stat. § 19.31 - 19.39). Submitting the notification as part of a Phase 1 or Phase 2 environment assessment report is not considered immediate notification under Wis. Stat. ch. 292.

To assist the DNR in processing this Hazardous Substance Discharge Notification please include any laboratory confirmation results as part of step six of this submittal. If the results are not yet available please return to the Submittal Portal, click on "Submitted Forms - Pending Attachments" and submit the labs with with the appropriate form, as soon as possible.

Discharge Reported By:

First Name * Lynette

Last Name * Carney

Company * Barr Engineering

Email * lcarney@barr.com

Phone Number * (218) 529-7141

Address 1 * 325 S Lake Ave

City * Duluth

State * MN

Zip * 55802

Site Information - Identify the area of the hazardous substance discharge

Site Name: Identify the location of the hazardous substance discharge. For example, a business name, a public facility, a road, a waterbody, etc. * Superior Refining Company LLC (SRC)

*Step 1- Enter address information

Address 2407 Stinson Ave

☐ Address unknown

Location Description: Describe the property location as precisely as possible. i.e. 1/4-mile NW of HWY 60 & 123, 100 ft east of Hwy 60 in the hayfield NW1/4, NW1/4, Sec 36, T49N, R14W

City * Superior

State * WI

Zip * 54880

*Step 2- Enter the WTM or Latitude/Longitude coordinates OR click on the map below to locate where contamination was found on the property.

WTM X * 361691

WTM Y * 692814

Latitude * 46.69015

Longitude * -92.07039

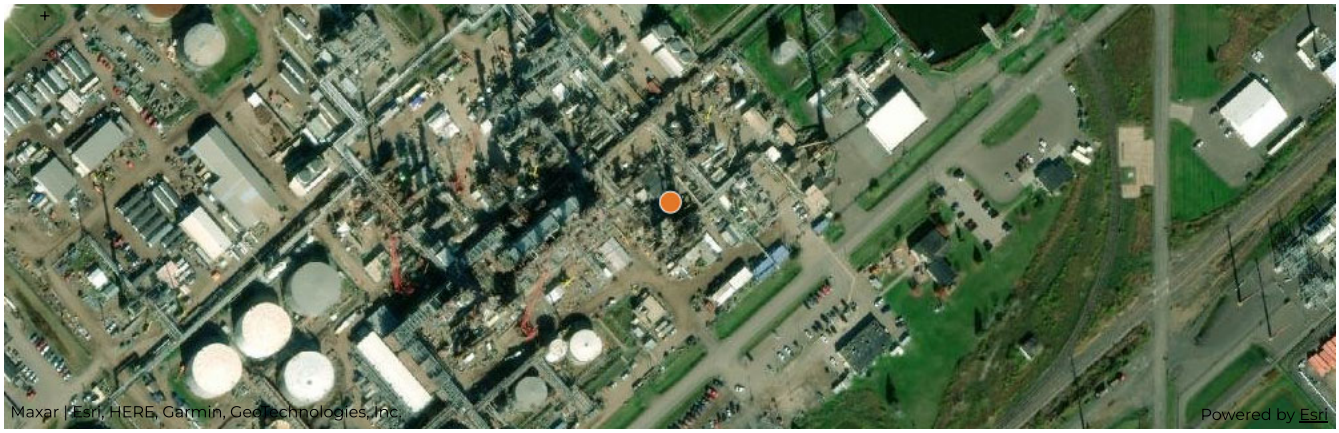
*What does the coordinate location (orange point on the map) represent? (choose one)

◉ Contamination source (preferred) ○ Center of the parcel ○ Other (explain)

Explain

County * Douglas

Municipality * Superior



Map Legend

- Address location from step 1
- Contamination location from step 2

Responsible Parties (RP)

Responsible Party Name and/or Company: Add business and/or owner name that is responsible for cleanup according to Wis. Stat § NR 700.03(51). If more than one, click on ADD ANOTHER RP.

*Is the responsible party: (choose one)

- ○ An Individual
- ◉ A Company

Company	First Name	Last Name	Phone Number *
Superior Refining Company I			(715) 398-3533

Email *	Address 1 *	City *	State *	Zip *
joseph.pearson@cenovus.cor	2407 Stinson Ave	Superior	WI	54880

ADD ANOTHER RP

- ☐ Check box if the Responsible Party is unknown.

Contact Person

Check all that apply:

- ☑ Representing the Responsible Party, Business or Property Owner
- ☐ Current Property Owner

Contact Person Information:

Select one to autofill fields below or type in information directly:

- ○ Same as Contact Reporting Discharge
- ○ Same as Responsible Party
- ◉ None of the above

Company	First Name	Last Name	Phone Number *
Superior Refining Company L	Joseph	Pearson	(763) 218-9982

Email *	Address 1 *	City *	State *	Zip *
joseph.pearson@cenovus.com	2407 Stinson Ave	Superior	WI	54880

Check all that apply

- ☐ I certify that I am submitting this form for a local governmental unit claiming an exemption from state Spill Law and Solid Waste Management responsibilities for the discharge being reported, per Wis. Stat. §§ 292.11(9)(e) and 292.23.

Please review DNR publication RR-055 and provide documentation to DNR that demonstrates compliance with the statutory requirements of the liability exemptions. Local governmental units may also request a fee-based liability clarification letter from DNR by using DNR Form 4400-237.

☐ I certify that I am submitting this form for a lender that is claiming an exemption from state Spill Law responsibilities for the discharge being reported, per Wis. Stat. § 292.21 (1)(b) or (c).

Please review DNR publication RR-508 and attach documentation of compliance with the statutory requirements of the liability exemption. Lenders may also request a fee-based liability clarification letter from DNR by using DNR Form 4400-237.

☐ I am asserting that the hazardous substance discharge being reported is migrating from another property (off-site contamination). I understand that off-site property owners may qualify for a liability exemption per Wis. Stat. § 292.13; however, the owner is not exempt from reporting requirements per Wis. Stat. § 292.11(2). I also understand that I may be required to provide additional information to document compliance with the exemption.

Please review DNR publication RR-589 for more information about the off-site liability exemption and rights and responsibilities of off-site owners. Off-site property owners may also request a fee-based off-site liability exemption or liability clarification letter from DNR by using DNR form 4400-201.

Hazardous Substance Information:

*Select the type of discharge (check all that apply):

- ☐ Aboveground Petroleum Storage Tank System
- ☐ Dry Cleaner Facility
- ☐ Underground Petroleum Storage Tank System
- ☑ Other - Describe

Discharge Comments: historical release in refinery process unit (Platformer)

*Contamination was discovered as a result of:

☐ Tank System Site Assessment (TSSA) — Tank Closure Assessment Date:

☐ Phase I Environmental Site Assessment (ESA) — Phase I Environmental Site Assessment Date:

☐ Phase II Environmental Site Assessment (ESA) — Phase II Environmental Site Assessment Date:

☑ Other Assessment - Describe — Other Assessment Date: 12/06/2022

Other Assessment Comments: Historical petroleum spill identified during removal of concrete in the Platformer Unit

Underground Petroluem Storage Tank (UST) Information

Underground Storage Tank (UST) Regulation

◯ Federally Regulated UST System ◯ Non-Federally Regulated UST System ◯ Unknown

Has a new confirmed release been verified?

◯ Yes ◯ No ◯ Unknown

Federal Energy Act Requirements(Section 9002(d) of the Solid Waste Disposal Act(SWDA))

For all confirmed releases from USTs occurring after 9/30/2007 please provide the following information:

* Source (select one):

◯ Delivery Problem ◯ Dispenser ◯ Piping ◯ Submersible Turbine Pump ◯ Tank ◯ Other (None Listed – Specify)

Specify Other Source:

*Cause (select one):

◯ Corrosion ◯ Installation Problem ◯ Overfill ◯ Physical Or Mechanical Damage ◯ Spill ◯ Other (None Listed – Specify)

Specify Other Cause:

*Identify hazardous substance discharged (Select all that apply from the list below)

Unknown Type

VOC Other Comments

Other Substance Comments

*Impacts to the environment (check all that apply)

- [ ] Contaminated Private Well
- [ ] Contaminated Public Well
- [ ] Ground Water Contamination
- [ ] Indoor Air Contamination
- [ ] Sanitary Sewer Contamination
- [ ] Sediment Contamination
- [x] Soil Contamination
- [ ] Soil Gas Contamination
- [ ] Storm Sewer Contamination
- [ ] Sub-Slab Vapor Contamination

Lab Results and Documents

*Please select one of the below:

- ( ) Lab results or report will be submitted upon receipt
- ( ) Lab results or report are attached
- ( ) Labs included in other documents attached below
- (•) No lab results or report are available

Explain

Samples will be collected as access allows. Laboratory results will be provided in a future report

Upload File *

Choose file... Browse

Additional documentation and request (select one):

Hover over selections below for more information

- ( ) Submit request for No Action Required (NAR) determination under Wis. Admin. Code s. NR 716.05 - No Letter Requested **(No Fee)**
- ( ) Submit request for No Action Required (NAR) determination under Wis. Admin. Code s. NR 716.05 - Letter requested (General liability clarification letter under Wis. Stat. s. 292.55) - Include Form 4400-237 **($700)**
- ( ) Submit request for No Further Action (NFA) determination under Wis. Admin. Code s. NR 708.09 - Letter requested - Include Form 4400-237 **($350)**
- ( ) Submit other documentation, not listed above **(No Fee)**
- (•) None of the above

Document Type

Nothing selected

Comments

Upload File *

Choose file... Browse

Additional Comments: Include a brief description of immediate actions taken to halt the release and contain or cleanup hazardous substances that have been discharged or any other information not captured in this form.

Additional Information

Historical impacts to soil were discovered during a concrete replacement project in the Platformer. Soil removed as part of this work will be managed separately. Representative soil samples will be collected from the excavation prior to concrete replacement. Concrete replacement work may happen in multiple phases.

Cart

Note: To edit or delete labs or reports go back to Tab 6 - Lab results and documents

Lab or report name	File name	Fee
None of the above	NA	0
No lab results or report are available	NA	0
Total		**0**

If you have questions please contact:

KATHLEEN SHAFEL
North Region
kathleen.shafel@wisconsin.gov
(715) 527-0116
223 E STEINFEST RD
ANTIGO, WI, 54409

Attachment B

Site Investigation Field Sampling and Screening Log

FIELD SAMPLING AND SCREENING LOG

Client: SRC Date: 12/07/2022

Location: SE Plat, W of E bldg Sampler: LCI / Insight Env

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

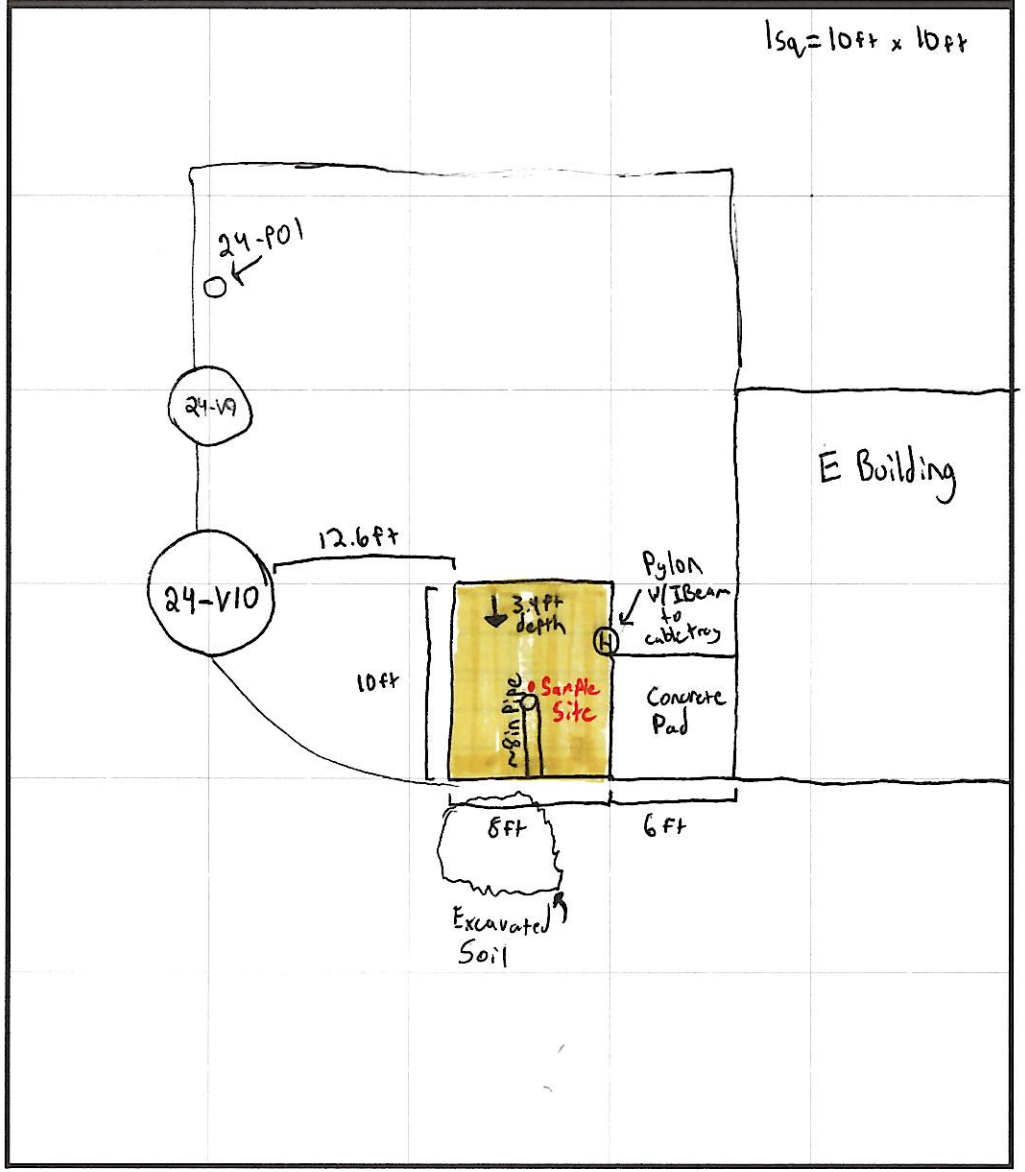
R = Removed **S** = Sidewall **B** = Bottom **Stockpile** = Stockpile

Sample ID	Depth (FT)	Time (military)	Soil Type (USCS)	Color/ Discolor	Odor/ Sheen	Headspace Reading (ppm)
Example: Stockpile-1	*4*	*16:30*	*CL*	*Reddish brown*	*Petroleum/ Rainbow*	*275*
S1	3.5	13:10	CL	Brown	Petro	8289

Equipment: Photoionization detector with _____eV bulb

	Calibration	Bump Test 1	Bump Test 2
Time	9:45	13:50	
Zero reading (ppm)	0.0	0.0	
Span reading (ppm)	100.1	119.4	
Background (ppm)	0.1	0.8	

Site Sketch: north arrow, scale, excavation extents & depths, impacted areas, sample locations ,borings, wells, structures, utilities, natural features...



Attachment C

Pace Laboratory Report for Confirmation Soil Sample

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

December 20, 2022

Jim Taraldsen
Barr Engineering Company
325 S Lake Ave
Duluth, MN 55802

RE: Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

Dear Jim Taraldsen:

Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Martha Hansen
martha.hansen@pacelabs.com
(612)607-6451
Project Manager

Enclosures

cc: Lynette Carney, Barr Engineering Co
Barr DM, Barr Engineering
Accounts Payable, Barr Engineering

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10636362001	**S1**	Solid	12/07/22 13:08	12/08/22 10:50

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SAMPLE ANALYTE COUNT

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10636362001	**S1**	ASTM D2974	JL5	1	PASI-M
		EPA 8270E by SIM	JLR, JNG	20	PASI-M
		EPA 8260D	SB2	10	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

Sample: S1 **Lab ID: 10636362001** Collected: 12/07/22 13:08 Received: 12/08/22 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**22.4**	%	0.10	0.10	1		12/12/22 14:06		N2
8270E MSSV PAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Acenaphthene	**165**	ug/kg	12.8	2.6	1	12/09/22 18:12	12/12/22 21:46	83-32-9	
Acenaphthylene	**35.5**	ug/kg	12.8	1.4	1	12/09/22 18:12	12/12/22 21:46	208-96-8	
Anthracene	**514**	ug/kg	12.8	1.2	1	12/09/22 18:12	12/12/22 21:46	120-12-7	
Benzo(a)anthracene	**906**	ug/kg	12.8	2.2	1	12/09/22 18:12	12/12/22 21:46	56-55-3	
Benzo(a)pyrene	**655**	ug/kg	12.8	1.4	1	12/09/22 18:12	12/12/22 21:46	50-32-8	
Benzo(b)fluoranthene	**903**	ug/kg	12.8	1.3	1	12/09/22 18:12	12/12/22 21:46	205-99-2	
Benzo(g,h,i)perylene	**356**	ug/kg	12.8	2.4	1	12/09/22 18:12	12/12/22 21:46	191-24-2	
Benzo(k)fluoranthene	**281**	ug/kg	12.8	1.3	1	12/09/22 18:12	12/12/22 21:46	207-08-9	
Chrysene	**781**	ug/kg	12.8	1.3	1	12/09/22 18:12	12/12/22 21:46	218-01-9	
Dibenz(a,h)anthracene	**102**	ug/kg	12.8	1.5	1	12/09/22 18:12	12/12/22 21:46	53-70-3	
Fluoranthene	**2190**	ug/kg	25.7	1.9	2	12/09/22 18:12	12/13/22 15:33	206-44-0	
Fluorene	**240**	ug/kg	12.8	1.5	1	12/09/22 18:12	12/12/22 21:46	86-73-7	
Indeno(1,2,3-cd)pyrene	**421**	ug/kg	12.8	1.0	1	12/09/22 18:12	12/12/22 21:46	193-39-5	
1-Methylnaphthalene	**609**	ug/kg	12.8	3.0	1	12/09/22 18:12	12/12/22 21:46	90-12-0	
2-Methylnaphthalene	**1320**	ug/kg	25.7	5.3	2	12/09/22 18:12	12/13/22 15:33	91-57-6	
Naphthalene	**774**	ug/kg	12.8	1.4	1	12/09/22 18:12	12/12/22 21:46	91-20-3	
Phenanthrene	**2060**	ug/kg	25.7	2.0	2	12/09/22 18:12	12/13/22 15:33	85-01-8	
Pyrene	**1830**	ug/kg	25.7	3.9	2	12/09/22 18:12	12/13/22 15:33	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	73	%.	59-125		1	12/09/22 18:12	12/12/22 21:46	321-60-8	
p-Terphenyl-d14 (S)	74	%.	65-125		1	12/09/22 18:12	12/12/22 21:46	1718-51-0	
8260D MSV UST	Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B Pace Analytical Services - Minneapolis								
Benzene	**628**	ug/kg	23.9	7.2	1	12/13/22 11:23	12/14/22 23:36	71-43-2	
Ethylbenzene	**2280**	ug/kg	59.8	10.3	1	12/13/22 11:23	12/14/22 23:36	100-41-4	
Methyl-tert-butyl ether	**<22.8**	ug/kg	59.8	22.8	1	12/13/22 11:23	12/14/22 23:36	1634-04-4	
Toluene	**3140**	ug/kg	59.8	22.6	1	12/13/22 11:23	12/14/22 23:36	108-88-3	
1,2,4-Trimethylbenzene	**8450**	ug/kg	59.8	12.5	1	12/13/22 11:23	12/14/22 23:36	95-63-6	
1,3,5-Trimethylbenzene	**3180**	ug/kg	59.8	8.1	1	12/13/22 11:23	12/14/22 23:36	108-67-8	
Xylene (Total)	**11200**	ug/kg	179	22.6	1	12/13/22 11:23	12/14/22 23:36	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	93	%.	75-125		1	12/13/22 11:23	12/14/22 23:36	460-00-4	
Toluene-d8 (S)	94	%.	75-125		1	12/13/22 11:23	12/14/22 23:36	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	80	%.	75-125		1	12/13/22 11:23	12/14/22 23:36	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

QC Batch: 857945
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight / %M by ASTM D2974
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10636362001

SAMPLE DUPLICATE: 4534619

Parameter	Units	30545665001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.1	4.1	1	30	N2

SAMPLE DUPLICATE: 4534620

Parameter	Units	30545665011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.2	7.3	1	30	N2

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
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QUALITY CONTROL DATA

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

QC Batch: 858253
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV UST
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10636362001

METHOD BLANK: 4535740 Matrix: Solid
Associated Lab Samples: 10636362001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	12.1J	50.0	12/14/22 19:40	
1,3,5-Trimethylbenzene	ug/kg	<6.8	50.0	12/14/22 19:40	
Benzene	ug/kg	10.2J	20.0	12/14/22 19:40	
Ethylbenzene	ug/kg	<8.6	50.0	12/14/22 19:40	
Methyl-tert-butyl ether	ug/kg	<19.1	50.0	12/14/22 19:40	
Toluene	ug/kg	<18.9	50.0	12/14/22 19:40	
Xylene (Total)	ug/kg	<18.9	150	12/14/22 19:40	
1,2-Dichlorobenzene-d4 (S)	%.	96	75-125	12/14/22 19:40	
4-Bromofluorobenzene (S)	%.	97	75-125	12/14/22 19:40	
Toluene-d8 (S)	%.	99	75-125	12/14/22 19:40	

LABORATORY CONTROL SAMPLE: 4535741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	890	89	63-125	
1,3,5-Trimethylbenzene	ug/kg	1000	864	86	62-125	
Benzene	ug/kg	1000	1010	101	58-126	
Ethylbenzene	ug/kg	1000	965	97	67-125	
Methyl-tert-butyl ether	ug/kg	1000	958	96	65-128	
Toluene	ug/kg	1000	962	96	57-125	
Xylene (Total)	ug/kg	3000	2780	93	64-125	
1,2-Dichlorobenzene-d4 (S)	%.			101	75-125	
4-Bromofluorobenzene (S)	%.			96	75-125	
Toluene-d8 (S)	%.			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4535743 4535744

Parameter	Units	10636378001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/kg	6260	383	383	8700	8210	639	508	59-133	6	30	E,P6
1,3,5-Trimethylbenzene	ug/kg	2330	383	383	4270	3720	507	365	62-128	14	30	P6
Benzene	ug/kg	430	383	383	726	732	77	79	52-131	1	30	
Ethylbenzene	ug/kg	3020	383	383	3270	3340	66	83	65-125	2	30	
Methyl-tert-butyl ether	ug/kg	ND	383	383	401	409	105	107	65-128	2	30	
Toluene	ug/kg	4940	383	383	4840	4850	-25	-23	56-126	0	30	E,P6
Xylene (Total)	ug/kg	13200	1140	1140	14700	14700	125	127	63-127	0	30	ES
1,2-Dichlorobenzene-d4 (S)	%.						67	95	75-125			S0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4535743 4535744

Parameter	Units	10636378001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
4-Bromofluorobenzene (S)	%.						116	111	75-125			
Toluene-d8 (S)	%.						107	107	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

QC Batch: 857812
QC Batch Method: EPA 3546
Analysis Method: EPA 8270E by SIM
Analysis Description: 8270E Solid PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10636362001

METHOD BLANK: 4533274 Matrix: Solid
Associated Lab Samples: 10636362001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	<2.4	10.0	12/20/22 10:49	
2-Methylnaphthalene	ug/kg	<2.0	10.0	12/20/22 10:49	
Acenaphthene	ug/kg	<2.0	10.0	12/20/22 10:49	
Acenaphthylene	ug/kg	<1.1	10.0	12/20/22 10:49	
Anthracene	ug/kg	<0.92	10.0	12/20/22 10:49	
Benzo(a)anthracene	ug/kg	<1.7	10.0	12/20/22 10:49	
Benzo(a)pyrene	ug/kg	<1.1	10.0	12/20/22 10:49	
Benzo(b)fluoranthene	ug/kg	<1.0	10.0	12/20/22 10:49	
Benzo(g,h,i)perylene	ug/kg	<1.9	10.0	12/20/22 10:49	
Benzo(k)fluoranthene	ug/kg	<1.0	10.0	12/20/22 10:49	
Chrysene	ug/kg	<1.0	10.0	12/20/22 10:49	
Dibenz(a,h)anthracene	ug/kg	<1.2	10.0	12/20/22 10:49	
Fluoranthene	ug/kg	<0.72	10.0	12/20/22 10:49	
Fluorene	ug/kg	<1.2	10.0	12/20/22 10:49	
Indeno(1,2,3-cd)pyrene	ug/kg	<0.80	10.0	12/20/22 10:49	
Naphthalene	ug/kg	<1.1	10.0	12/20/22 10:49	
Phenanthrene	ug/kg	<0.79	10.0	12/20/22 10:49	
Pyrene	ug/kg	<1.5	10.0	12/20/22 10:49	
2-Fluorobiphenyl (S)	%.	73	59-125	12/20/22 10:49	
p-Terphenyl-d14 (S)	%.	71	65-125	12/20/22 10:49	

LABORATORY CONTROL SAMPLE: 4533275

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	100	68.6	69	50-125	
2-Methylnaphthalene	ug/kg	100	84.5	85	55-125	
Acenaphthene	ug/kg	100	74.2	74	60-125	
Acenaphthylene	ug/kg	100	73.5	73	59-125	
Anthracene	ug/kg	100	87.9	88	62-125	
Benzo(a)anthracene	ug/kg	100	92.0	92	64-125	
Benzo(a)pyrene	ug/kg	100	89.0	89	64-125	
Benzo(b)fluoranthene	ug/kg	100	94.5	95	65-125	
Benzo(g,h,i)perylene	ug/kg	100	70.1	70	66-125	
Benzo(k)fluoranthene	ug/kg	100	83.0	83	66-125	
Chrysene	ug/kg	100	77.7	78	66-125	
Dibenz(a,h)anthracene	ug/kg	100	73.0	73	67-125	
Fluoranthene	ug/kg	100	98.7	99	65-125	
Fluorene	ug/kg	100	86.6	87	60-125	
Indeno(1,2,3-cd)pyrene	ug/kg	100	78.6	79	64-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

LABORATORY CONTROL SAMPLE: 4533275

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/kg	100	70.9	71	48-125	
Phenanthrene	ug/kg	100	89.3	89	62-125	
Pyrene	ug/kg	100	76.2	76	68-125	
2-Fluorobiphenyl (S)	%.			70	59-125	
p-Terphenyl-d14 (S)	%.			73	65-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4533276 4533277

Parameter	Units	20263475005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/kg	<0.0023 mg/kg	99.7	97.8	64.4	65.4	64	67	60-125	1	30	
2-Methylnaphthalene	ug/kg	<0.0020 mg/kg	99.7	97.8	75.4	78.7	75	80	59-125	4	30	
Acenaphthene	ug/kg	<0.0020 mg/kg	99.7	97.8	72.3	74.9	73	77	70-125	4	30	
Acenaphthylene	ug/kg	<1.1	99.7	97.8	70.0	70.6	70	72	30-150	1	30	
Anthracene	ug/kg	<0.00091 mg/kg	99.7	97.8	91.5	95.6	92	98	67-125	4	30	
Benzo(a)anthracene	ug/kg	<0.0017 mg/kg	99.7	97.8	91.8	93.1	91	94	64-125	1	30	
Benzo(a)pyrene	ug/kg	<0.0011 mg/kg	99.7	97.8	89.2	89.5	90	92	40-137	0	30	
Benzo(b)fluoranthene	ug/kg	<0.00099 mg/kg	99.7	97.8	95.0	99.6	95	102	30-150	5	30	
Benzo(g,h,i)perylene	ug/kg	<0.0019 mg/kg	99.7	97.8	76.1	75.9	76	78	69-125	0	30	
Benzo(k)fluoranthene	ug/kg	<0.0010 mg/kg	99.7	97.8	82.1	78.3	82	80	48-133	5	30	
Chrysene	ug/kg	<0.0010 mg/kg	99.7	97.8	81.6	81.9	81	83	62-125	0	30	
Dibenz(a,h)anthracene	ug/kg	<0.0012 mg/kg	99.7	97.8	78.7	79.4	79	81	57-125	1	30	
Fluoranthene	ug/kg	<0.00071 mg/kg	99.7	97.8	106	107	106	108	60-125	0	30	
Fluorene	ug/kg	<0.0011 mg/kg	99.7	97.8	85.2	86.2	85	88	53-125	1	30	
Indeno(1,2,3-cd)pyrene	ug/kg	<0.00079 mg/kg	99.7	97.8	87.7	87.0	88	89	49-130	1	30	
Naphthalene	ug/kg	<0.0011 mg/kg	99.7	97.8	63.4	67.4	63	68	46-125	6	30	
Phenanthrene	ug/kg	<0.00078 mg/kg	99.7	97.8	97.1	99.3	97	102	61-125	2	30	
Pyrene	ug/kg	<0.0015 mg/kg	99.7	97.8	74.4	76.1	74	77	58-125	2	30	
2-Fluorobiphenyl (S)	%.						32	34	59-125			S0
p-Terphenyl-d14 (S)	%.						41	41	65-125			S0

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
ES	The reported result is estimated because one or more of the constituent results are qualified as such.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 49161468.03 100 103 SRC Platfo
Pace Project No.: 10636362

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10636362001	**S1**	ASTM D2974	857945		
10636362001	**S1**	EPA 3546	857812	EPA 8270E by SIM	858007
10636362001	**S1**	EPA 5035/5030B	858253	EPA 8260D	858770

WO#: 10636362

10636362

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be complete accurately.

Section A Required Client Information:

Company: Barr Engineering
Address: 3255 Lake Av
Email To: LCARNEY@Barr.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Lynette Carney
Copy To:
Purchase Order No.:
Project Name: SRC Platformer
Project Number: 49161468.03 100 103

Section C Invoice Information:

Attention: Lynette Carney
Company Name: Barr
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WI

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: PVOC (8260D)	PAH (8270)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	S1	SL	G	12-7-22	13:08			10F	4	2						2		✓	✓		001
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Ella Irin	12/7/22	1523		12/7/22	1523	7.6	4	N	4
	Stellacial Pace	12/7/23	15:23		12/8/22	0800				
		12/8/22	1050	Nancy / Pace	12/8/22	1050	1.0	4	N	4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Seth Hamilton

SIGNATURE of SAMPLER: Seth Hamilton DATE Signed (MM/DD/YY): 12-07-22

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt

Client Name: Barr Engineering

Project #: **WO#: 10636362**
PM: MKH Due Date: 12/22/22
CLIENT: BARR

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☒ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: _____ ☐ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

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

Thermometer: ☐ T1 (0461) ☐ T2 (1336) ☒ T3 (0459) ☐ T4 (0254) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710 **Type of Ice:** ☒ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6 °C **Cooler temp Read w/Temp Blank:** 0.9 °C

Correction Factor: +0.1 **Cooler Temp Corrected w/temp blank:** 1.0 °C

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: ☐ N/A, water sample/other: _____ **Date/Initials of Person Examining Contents:** 12/8/22 NV

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☒ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Sample Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks–verify with PM first.)	☐ Yes	☐ No	☒ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☒ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☒ Yes	☐ No	☐ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
3 Trip Blanks Present?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 12/9/22

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

Labeled By: NV **Line:** 2

Attachment D

Material Management Documentation

Shamrock Landfill
761 Minnesota 45
Cloquet, MN 55720

INBOUND CHARGE

002708 LAKEHEAD CONSTRUCTORS INC
3801 WINTER ST
SUPERIOR WI 54880-5560

SITE	TICKET	GRID	WEIGHMASTER
01	00105256	LANDFILL	Janet B

DATE IN	DATE OUT	TIME IN	TIME OUT	VEHICLE	ROLL OFF
01/04/23	01/04/23	08:35	08:35	U54	19-0020-02

REFERENCE	ORIGIN
19-0020-02	VIN: 55130Z-WI-5AVLES

Scale 1 Gross Wt.	53820 LB
Stored Tare Wt.	28760 LB
Net Weight	25060 LB

QTY.	UNIT	DESCRIPTION	RATE	EXTENSION	FEE	TOTAL
12.53	TON	Industrial/ton				

NET AMOUNT

TENDERED

CHANGE

CHECK NO.

Generator: HUSKY ENERGY/SUPERIOR REFINING
Address: 2407 STINSON AVE
City/ST: SUPERIOR, WI 54880
Manifest: 3826

SKB-WCI 4410

SIGNATURE _____

Shamrock Landfill
761 Minnesota 45
Cloquet, MN 55720

INBOUND CHARGE

002708 LAKEHEAD CONSTRUCTORS INC
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SUPERIOR WI 54880-5560

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Generator: HUSKY ENERGY/SUPERIOR REFINING
Address: 2407 STINSON AVE
City/ST: SUPERIOR, WI 54880
Manifest: 3826

SKB-WCI 4410

SIGNATURE _____

SKB ENVIRONMENTAL

Shamrock Landfill

Non Hazardous Industrial Waste

3826

Shipping Manifest

1. Generator's US EPA ID No. *(if any)*

2. Page 1 of page(s)

GENERATOR

3. Generator's Name and Facility Address
HUSKY ENERGY/SUPERIOR REFINING CO
2407 STINSON AVE. SUPERIOR, WI 54880

Mailing Address
HUSKY ENERGY/SUPERIOR REFINING CO
2407 STINSON AVE. SUPERIOR, WI 54880

4. Generator's Phone: (715) 817-6621 Fax:

5. Transporter 1 Company Name
UDEEN TK #54

6. Transporter 2 Company Name
Phone:

7. Designated Facility Name and Site Address
SKB/Shamrock Environmental, LLC
761 MN Highway 45
Cloquet, MN 55720 Phone: 218-878-0112

8. U.S. DOT Description (including Proper Shipping Name)	9. Containers No.	9. Containers Type	10. Total Quantity	11. Unit Wt/Vol	12. Waste Profile Sheet#
a. Non Hazardous Industrial Waste (PETROLEUM IMPACTED SOIL)					
b.					
c.					
d.					

13. Additional Descriptions for Materials Listed Above (indicate waste stream Approval # below)
a. CL CL19-0020-02 PETROLEUM IMPACTED SOIL
b. CL
c. CL
d. CL

14. Special Handling Procedures for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Emergency Contact:

Office Use Only
Load # 105256

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

Printed/Typed Name Will Sloan | Signature William Sloan | Month 01 Day 04 Year 23

TRANSPORTER

17. Transporter 1 Acknowledged of Receipt of Materials
Printed/Typed Name [illegible] UDEEN TK #54 | Signature | Month 01 Day 04 Year 23

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space
New Plate
55130 Z -WI-SA

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this Manifest except as noted in item 19.
Printed/Typed Name Janet Balduc or Alexus Phillip | Signature | Month 01 Day 04 Year 23

White - Return to Generator **Canary** - Facility Copy
Pink - Transporter **Goldenrod** - Generator Copy

CL19-0020-02