

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone (262) 255-4468	4. Waste Tracking Number <b>05591</b>	
5. Generator's Name and Mailing Address U.S. Venture 425 Better Way Appleton WI 54915 Generator's Phone: 920 735-8228			Generator's Site Address (if different than mailing address) U.S. Oil Green Bay Buckeye Terminal 410 Prairie Avenue Green Bay WI 54303			
6. Transporter 1 Company Name North Shore Environmental Construction, Inc.				U.S. EPA ID Number WIR000117259		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address Waste Connections - Winnebago Landfill 8403 Linderwood Road Rockford IL 61109 Facility's Phone: 815 874-4805				U.S. EPA ID Number 002018080001		
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
			No.	Type		
	1.	Contaminated Soil	001	CM	00020	Y
	2.					
	3.					
	4.					
13. Special Handling Instructions and Additional Information Job #: 0U005 Approval number: WLF-21-004CN						
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
Generator's/Officer's Printed/Typed Name Mary Ellen Mortensen on behalf of U.S. Venture			Signature Mary Ellen Mortensen		Month 2	Day 8
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:						
TRANSPORTER	16. Transporter Acknowledgment of Receipt of Materials					
	Transporter 1 Printed/Typed Name Caleb Hopp		Signature Caleb Hopp		Month 2	Day 8
	Transporter 2 Printed/Typed Name Caleb Hopp		Signature Caleb Hopp		Month 2	Day 10
DESIGNATED FACILITY	17. Discrepancy					
	17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
	Manifest Reference Number:					
	17b. Alternate Facility (or Generator)				U.S. EPA ID Number	
	Facility's Phone:					
17c. Signature of Alternate Facility (or Generator)					Month	Day
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name TAMM Smith			Signature TAMM Smith		Month 2	Day 11





Ziron Environmental Services, Inc.

302 E 25th St.

Chicago Heights, IL 60411

Environmental Services

708-757-9601

## SERVICE CALL SHEET - MAINTENANCE

Date: 12-14-20

Ziron Job # 77803356

Customer PO #

## Customer Information

Name: US Oil Green Bay

Street: 410 Prairie Ave

City/State: Green Bay WI

Truck: 150-20

Trailer: 130-16

Station #

Generator #

Notify #

Shutdown - Yes / No

Reg / OT / Hol

Mileage Upon Arrival

80505

Employee Name(s)

Role

Lee

Driver / Laborer

Driver / Laborer

Vapor Recoveries

Pumped

Dispenser Pans

Pumped

Regular Vapor Recovery

Disp. 1/2

Midgrade Vapor Recovery

Disp. 3/4

Premium Vapor Recovery

Disp. 5/6

Diesel Vapor Recovery

Disp. 7/8

Kerosene Vapor Recovery

Disp. 9/10

Disp. 11/12

Disp. 13/14

Fills

Pumped

STPs

Pumped

Regular Fill

Regular STP

Midgrade Fill

Midgrade STP

Premium Fill

Premium STP

Diesel Fill

Diesel STP

Kerosene Fill

Kerosene STP

## Container Transport (Roll-Off, Frac Tank, Vac Boxes)

Container Number

Container Number

Container Number

Container Number

Incidents/Delays, etc...

Type of Material: Waste liquid

Dumped and turned in:

Yes / No

Left in unit for later disposal:

Yes / No

Transferred to:

Total Gallons: 5000

Disposal Facility &amp; Location:

Beaver Oil

Hobbs IL

Manifest

Bill of Lading

Document #

170

X

Customer Signature:

Date:

12-14-20

**THIS MEMORANDUM** is an acknowledgement that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

SHIPPER NO. 170

CARRIER NO. 15M04103281

DATE 12-19-20

BEAVER OIL COMPANY  
637 LENZI AVENUE  
HODGKINS, IL 60145

SCAC

CARRIER

<b>TO</b> CONSIGNEE		<b>FROM</b> SHIPPER	
STREET		STREET	
DESTINATION		ORIGIN	
STATE		STATE	
ZIP		ZIP	
ROUTE		VEHICLE NUMBER	
U.S. DOT Hazmat Reg. No.			

Number and Type of Packages	HM	Description of Articles	Total Quantity (mass, volume, or activity)	Weight (subject to correction)	Class or Rate
		NON-HAZARDOUS, NON-DOT REGULATED LIQUIDS (FIRE SUPPRESSANT FOAM AND WATER)	5000		

Remit COD to:	Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.	<b>COD AMT:</b> \$	<b>COD FEE:</b> Prepaid <input type="checkbox"/> Collect <input type="checkbox"/> \$
Address:			
City:	State:	Zip:	
NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding \$		<b>TOTAL CHARGES:</b> \$	<b>FREIGHT CHARGES:</b> <input type="checkbox"/> Prepaid <input type="checkbox"/> Collect

RECEIVED, subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper, on request; and all applicable state and federal regulations; the Property described above, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to delivery at said destination, if on its route, or otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said Property over all or any portion of said route to destination and as to each party at any time interested in all or any of said Property that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on the back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

NOTE: Liability Limitation for loss or damage in this shipment may be applicable. See 49 U.S.C. 14706(c)(1)(A) and (B).

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation PER: [Signature]

SHIPPER:	CARRIER:
PER:	PER:
	DATE: <u>12-19-20</u>

EMERGENCY RESPONSE TELEPHONE NUMBER:	NAME OR CONTRACT NUMBER OR OTHER UNIQUE IDENTIFIER:
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## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report

On October 22, 2020 at approximately 8:14 AM the Load Rack Fire Protection/Foam system was accidentally triggered, we believe by a driver delivering/unloading denatured ethanol. The AFFF foam flowed out of the load rack, over asphalt pavement southward and into the drainage ditch on the north side of Prairie Avenue.

Location: U.S. Oil Green Bay Buckeye Terminal, 410 Prairie Avenue, Green Bay, WI 54303  
Coordinates: Latitude: 44° 31' 58", Longitude: 88° 00' 47"

Material Discharged: Ansulite ARC, 6% foam mix

Weather: (From the National Weather Service); Rainfall = 2.72 inches, Temperatures Min=32° Max = 45°  
Average Wind Speed 12.6 mph.

### Actions Taken:

#### Timeline on October 22

- 8:14 AM Load Rack Foam System triggered.
- 8:20 AM Terminal staff made aware of incident.
- 8:24 AM U.S. Venture Environmental Department (Don Johnston) informed of release, terminal calls in contractor (Schroeder Environmental, SECSI) to help contain and clean up foam and works to contain foam.
- 8:35 AM Don Johnston informed foam is flowing offsite into road drainage ditch.
- 8:46 AM Don Johnston calls and reports release to DNR Spill Hotline.
- 9:14 AM Don Johnston takes call from DNR NER Spill Coordinator Maize Reif.
- 10:17 AM Foam contaminated stormwater has flowed into the City Stormwater Lift Station located east of intersection of N. Broadway and Prairie Avenue. SECSI sets Frac Tank close by and removes foam and contaminated water from Lift Station and deposits into Frac Tank.
- 11:01 AM Don Johnston emails the MSDS and three pictures of the foam release to DNR Maize Reif. Around this time DNR Maize Reif informs Don Johnston 4-6 inches of soil should be excavated from drainage ditch along Prairie Avenue.
- 12:49 PM Don Johnston contacts North Shore Environmental and starts contracting process to have them excavate and disposal of soil in Prairie Avenue drainage ditch.
- 3:47 PM Don Johnston speaks with City DPW Ast. Supervisor Matt Heckenliable (multiple calls between these two before this time). City has to turn on Lift Station pumps as too much stormwater is backing up in system. SECSI reports no foam is seen leaving the lift station and entering the Fox River.

October 27 – North Shore Environmental excavates and containerizes soil from Prairie Avenue drainage ditch. See North Shore writeup, attached.

Note: Approximately 18,000 gallons of foam contaminated water was recovered and placed into two Frac Tanks, currently stored on site at the U.S. Oil Green Bay Buckeye Terminal. Approximately 30 yards of foam contaminated soil was generated. Both water and soil are stored on-site at the terminal are awaiting disposal.



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report

Initial Pictures:



Picture of foam being discharged from system.

## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



Picture of “Doghouse” under Load Rack where switch to activate foam system is located

Switch is located at center of picture on the right



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



November 10, 2020

Mr. Don Johnston  
US Venture  
425 Better Way  
Appleton, WI 54915-6192

Dear Mr. Johnston:

Here is the crew description

### October 26, 2020

The NSEC crew arrived on site and met with US Oil personnel. An emergency diggers locate was called in and number 20204402687 was assigned. After identifying the area needing excavation, NSEC used a mini excavator to excavate along the ditch line to a depth of 6 inches. The path of the water was easily identifiable. The excavated materials were placed in 2-20 yard hazardous waste roll offs which are watertight and have bows and heavy duty tarps to prevent water from entering them. Once the excavation was complete a visual inspection of the area was performed to see if any other signs of staining were observed. None was, so the excavation was complete and a sample of the rollofs was performed and submitted to Pace Laboratory for Wisconsin 36 pfas. The rollofs were staged on site pending analysis and final disposal disposition.

## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



Picture of ditch after excavation



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report

# Schroeder Environmental Cleaning Services Inc.

Field summary report for US Oil at the Green Bay “Buckeye” site

October 22, 2020

Project: Buckeye Terminal Green Bay, WI

Customer: US Oil

Contact: Ken Warner

Cell: 608-921-6573

On Thursday October 22nd Schroeder Environmental was contacted to respond to the Buckeye Terminal Green Bay, WI at 410 Prairie Ave, Green Bay.

The emergency fire suppressant system was triggered during a transport loading at the loading rack area of the Buckeye terminal.

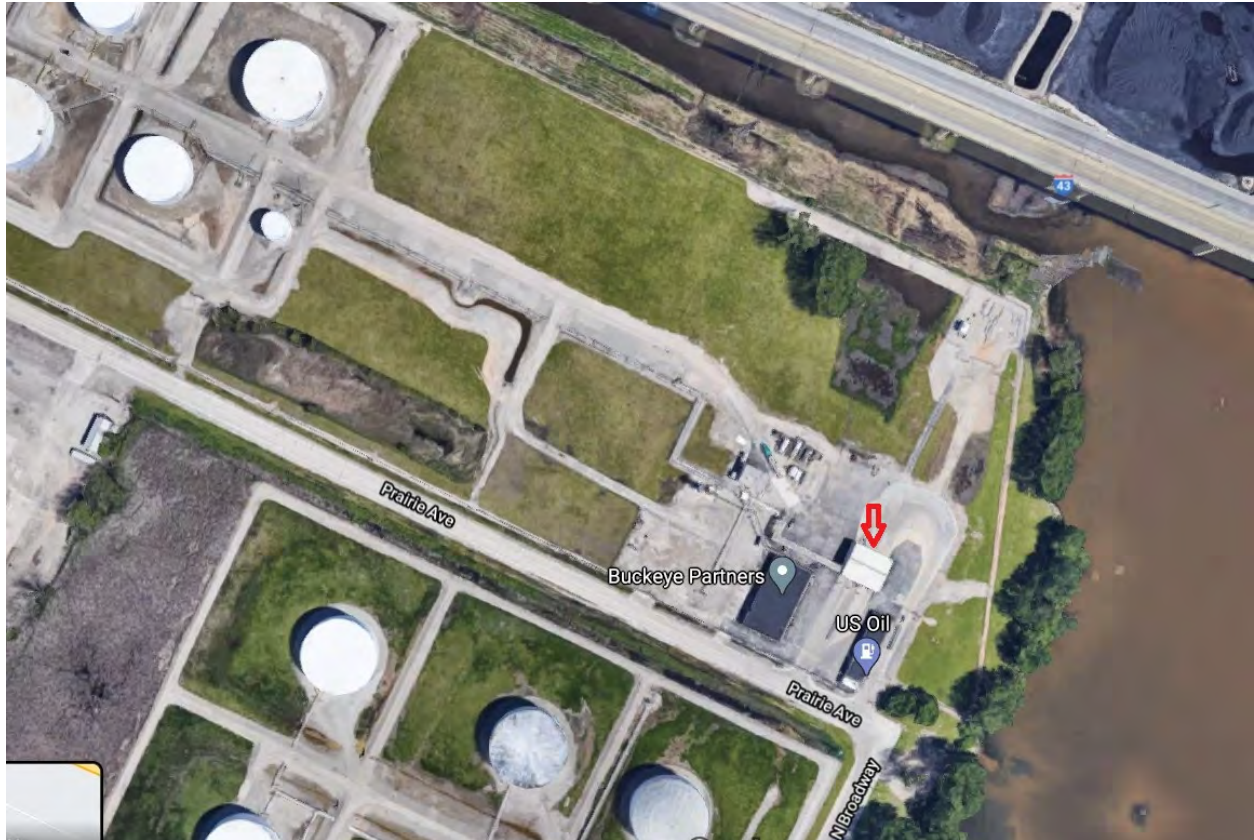
When the alarm sounded for the release of the foam fire suppressant, The US Oil Fox River control station personnel responded to find the system was not activated due to fire and shut the system off.

When Schroeder Environmental arrived, the foam had filled the loading rack area and had began to extend past the loading rack. The foam and water mixture began to run down hill toward the collection pits. The US Oil “first responders” had set up containment in key flow points to reduce the flow of foam to the storm drain system.

SECSI Representatives and US oil team members worked quickly to squeegee and pressure wash all of the foam and water toward the collection areas for removal via SECSI Vacuum truck. The Culvert that borders the south property edge was plugged to stop the flow to the storm drain system and along with the low points on the property we worked together to remove all of the suppression material. All collected material was loaded into Frac Tanks for proper disposal.

Before the rain moved in we were able to get the foam cleaned up and containment into barrels to be properly disposed of. We continued to work with the city of Green Bay water department to ensure wash down from the rain with any residual material was removed from underground storm drain collection area by SECSI Vacuum truck. We then restowed equipment and departed site.

## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



Aerial site view (red arrow indicates loading rack area).



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report





## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



These photos are of crew members squeegeeing foam to collection point.



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



This photo is of team members washing the East side of the loading rack after primary drive was cleared.

## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



This photo is of the washing toward collection point.



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report



Loading rack area.

For information or questions regarding this project please contact me, Emmett Storey Wisconsin Cleaner/Remover at the following.

E-mail [emmetts@schroederenvironmental.com](mailto:emmetts@schroederenvironmental.com)

Cell phone (920) 313-9188 or Office (920) 435-1773

## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report

Contaminated Water Profile Attached – Next Page

# BEAVER OIL COMPANY CUSTOMER SURVEY FORM

REV 11232015

TEL. 708-354-4040 FAX 708-354-5627 EMAIL: station3@beaveroil.com

C

GENERATOR NAME: U.S. Oil Green Bay Buckeye Terminal FACILITY CONTACT: Don Johnston  
 FACILITY ADDRESS: 410 Prairie Avenue PHONE: 920-735-8228  
Green Bay, WI 54303-3474 EMAIL: DJohnston@usventure.com  
 NAME OF MATERIAL: AFFF contaminated water  
 BILLING NAME & ADDRESS IF DIFF. AQS Services, Inc PROCESS GENERATING MATERIAL:  
443 S Clay Street  
 THAN GENERATOR Hinsdale, IL 60521 Cleanup of fire suppression system discharge

BROKER: AQS Services, Inc CONTACT: William Anthony PHONE # 630-789-3345

## PHYSICAL / CHEMICAL CHARACTERISTICS OF MATERIAL

<b>COLOR:</b>	<b>ODOR :</b>	<b>PHYSICAL STATE @ 70° F</b>	<b>LAYERS</b>	<b>SOLIDS PERCENTAGES</b>
<input type="text" value="Clear"/>	<input checked="" type="checkbox"/> NONE <input type="checkbox"/> MILD <input type="checkbox"/> STRONG	<input type="checkbox"/> SEMI-SOLID <input checked="" type="checkbox"/> LIQUID	<input type="checkbox"/> MULTILAYERED <input checked="" type="checkbox"/> BI-LAYERED <input type="checkbox"/> SINGLE PHASED	<input checked="" type="checkbox"/> 5% <input type="checkbox"/> 5.1 - 20 % <input type="checkbox"/> 20.1% - 40 %
DESCRIBE ODOR : <input type="text"/>	EXACT: <input type="text" value="&lt;5%"/> %			
<b>pH</b>	<b>SPECIFIC GRAVITY</b>	<b>FLASH POINT</b>	<b>REACTIVITY</b>	<b>SOLIDS PERCENTAGES</b>
<input type="text" value="&lt; 2.0"/> <input type="text" value="2.1 - 4.0"/> <input type="text" value="4.1 - 7.0"/> <input checked="" type="text" value="7.1 - 10"/> <input type="text" value="10.1 - 12.4"/> <input type="text" value="NA"/>	<input type="text" value="&lt;0.8"/> <input checked="" type="text" value="0.8-1.0"/> <input type="text" value="1.1-1.2"/> <input type="text" value="1.3-1.4"/> <input type="text" value="1.5-1.7"/> <input type="text" value="&gt;1.7"/>	<input type="text" value="140° F-200° F"/> <input checked="" type="text" value="&gt;200° F"/> <input type="text" value="OPEN CUP"/> <input type="text" value="CLOSED CUP"/> <input type="text" value="NO FLASH"/> <input type="text" value="N/A"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text" value="N/A"/>	<input type="text" value="0"/> % <input type="text" value="0"/> % <input type="text" value="0"/> % <input type="text" value="0"/> % <input type="text" value="0"/> % <input type="text" value="0"/> %
EXACT	EXACT	EXACT		<b>OTHER COMPONENTS</b>
				CHLORINE CYANIDES HERBICIDES PCB's PESTICIDES SULFIDES

## CHEMICAL COMPOSITION (TOTAL MUST BE 100 %)

Water	99-100	%		%
Ansul Ansulte 3% AFFF Fire Suppression Foam	0-1	%		%
		%		%

## SHIPPING INFORMATION

**METHOD OF SHIPMENT:** ☒ BULK LIQUID ☐ DRUM, TYPE, SIZE

**ANTICIPATED VOLUME:**  GALLONS ☐ DRUMS

**FREQUENCY:** ☒ ONE TIME ☐ QUARTER  
☐ WEEK ☐ YEAR  
☐ MONTH

SAFETY DATA SHEETS AVAILABLE? ☐ NO ☒ YES (IF YES, PLEASE ATTACH COPIES)

IS THIS A DOT HAZARDOUS MATERIAL? ☒ NO ☐ YES IF YES STATE HAZARDOUS CLASS :

PROPER DOT SHIPPING NAME Non Hazardous Non DOT Regulated Liquid (Fire Suppressant Foam and Water)

CUSTOMER CERTIFICATION: I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THE ABOVE INFORMATION ACCURATELY DESCRIBES THE MATERIAL I AM PREPARING TO SEND.

AUTHORIZED SIGNATURE:  TITLE: Director of Environmental Quality DATE: 11/25/2020

## FOR BEAVER OIL COMPANY AUTHORIZED SIGNATURES ONLY:

<b>LABORATORY</b>	<b>OFFICE APPROVAL:</b> _____ <b>DATE:</b> _____
<b>OK TO PROCEED:</b> _____ <b>DATE:</b> _____	<b>WASTE CLASS</b> _____
<b>CWT:</b> _____	<b>HW CODE(S)</b> _____
	<b>APPROVAL #</b> _____



## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report

Contaminated Soil Profile Attached – Next Page.



Requested Facility: Orchard Ridge RDF ☐ Unsure Profile Number: \_\_\_\_\_  
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: \_\_\_\_\_

**A. GENERATOR INFORMATION (MATERIAL ORIGIN)**

1. Generator Name: U.S. Venture, Inc. U.S. Oil Green Bay Buckeye Terminal  
2. Site Address: 410 Prairie Avenue  
(City, State, ZIP) Green Bay, WI 54303  
3. County: Brown  
4. Contact Name: Don Johnston  
5. Email: djohnston@usventure.com  
6. Phone: (920) 735-8228 7. Fax: (920) 730-4245  
8. Generator EPA ID: \_\_\_\_\_ ☒ N/A  
9. State ID: \_\_\_\_\_ ☒ N/A

**C. MATERIAL INFORMATION**

1. Common Name: Soil Impacted with AFFF foam  
Describe Process(es) Generating Material: ☐ See Attached  
Cleanup of soil impacted with AFFF foam that contains PFAS. Foam released inadvertently by an employee at the site.  
2. Material Composition and Contaminants: ☐ See Attached  

1. Soil	99-100
2. AFFF foam with PFAS	<1 -1
3.	
4.	

Total comp. must be equal to or greater than 100% ≥100%  
3. State Waste Codes: \_\_\_\_\_ ☒ N/A  
4. Color: Brown  
5. Physical State at 70°F: ☒ Solid ☐ Liquid ☐ Other: \_\_\_\_\_  
6. Free Liquid Range Percentage: \_\_\_\_\_ to \_\_\_\_\_ ☒ N/A  
7. pH: \_\_\_\_\_ to \_\_\_\_\_ ☒ N/A  
8. Strong Odor: ☐ Yes ☒ No Describe: \_\_\_\_\_  
9. Flash Point: ☐ <140°F ☐ 140°-199°F ☒ ≥200° ☒ N/A

**E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION**

1. Analytical attached ☐ Yes  
Please identify applicable samples and/or lab reports:  
Pace # 40217309  
2. Other information attached (such as MSDS)? ☐ Yes

**B. BILLING INFORMATION**☐ SAME AS GENERATOR

1. Billing Name: North Shore Environmental Construction, Inc.  
2. Billing Address: N117 W18493 Fulton Drive  
(City, State, ZIP) Germantown, WI 53022  
3. Contact Name: Dave Johnson  
4. Email: davej@nsecinc.com  
5. Phone: (262) 255-4468 6. Fax: (262) 262-6993  
7. WM Hauled? ☐ Yes ☒ No  
8. P.O. Number: 0U005  
9. Payment Method: ☒ Credit Account ☐ Cash ☐ Credit Card

**D. REGULATORY INFORMATION**

1. EPA Hazardous Waste? ☐ Yes\* ☒ No  
Code: \_\_\_\_\_  
2. State Hazardous Waste? ☐ Yes ☒ No  
Code: \_\_\_\_\_  
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes\* ☒ No  
4. Contains Underlying Hazardous Constituents? ☐ Yes\* ☒ No  
5. From an industry regulated under Benzene NESHAP? ☐ Yes\* ☒ No  
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes\* ☒ No  
7. CERCLA or State-mandated clean-up? ☐ Yes\* ☒ No  
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes\* ☒ No  
\*If Yes, see Addendum (page 2) for additional questions and space.  
9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☒ No  
a. Regulated by 40 CFR 761? ☐ Yes ☒ No  
b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☒ No  
c. Were PCB imported into the US? ☐ Yes ☒ No  
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☒ No  
11. Contains Asbestos? ☐ Yes ☒ No  
→ If Yes: ☐ Non-Friable ☐ Non-Friable - Regulated ☐ Friable

**F. SHIPPING AND DOT INFORMATION**

1. ☒ One-Time Event ☐ Repeat Event/Ongoing Business  
2. Estimated Quantity/Unit of Measure: 30  
☐ Tons ☒ Yards ☐ Drums ☐ Gallons ☐ Other: \_\_\_\_\_  
3. Container Type and Size: \_\_\_\_\_  
4. USDOT Proper Shipping Name: \_\_\_\_\_ ☒ N/A

**G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)**

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

- ☐ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Don Johnston Date: 11/16/2020  
Title: Director of Environmental Quality  
Company: U.S. Venture, Inc.

Certification Signature

## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report

Contaminated Soil Lab Analysis Report – Next Page



November 12, 2020

Dave Krueger  
North Shore Environmental Construction  
N117 W18493 Fulton Dr  
Germantown, WI 53022

RE: Project: OU005 US OIL  
Pace Project No.: 40217309

Dear Dave Krueger:

Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2020. 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:

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

Sincerely,



Brian Basten  
brian.basten@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Dawn Kelm, North Shore Environmental Construction, Inc.  
Mary Ellen Mortensen



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## SAMPLE SUMMARY

Project: OU005 US OIL

Pace Project No.: 40217309

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40217309001	RO BOX 2028 COMP	Solid	10/28/20 12:00	10/28/20 12:40

## REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.





# Sample Preservation Receipt Form

Pace Analytical Services, LLC  
1241 Bellevue Street, Suite 200  
Green Bay, WI 54303

Page 4

Client Name: NSEC

Project # 40217309

All containers needing preservation have been checked and noted below: ☐ Yes ☒ No ☐ N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:


Date/Time:

Pace Lab #	Glass							Plastic					Vials					Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JG9U	WG9U	WPFU	SP5T	ZPLC	GN						
001																															2.5 / 5 / 10
002																															2.5 / 5 / 10
003																															2.5 / 5 / 10
004																															2.5 / 5 / 10
005																															2.5 / 5 / 10
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020																															2.5 / 5 / 10

10/28/20  
V

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: \_\_\_\_\_ Headspace in VOA Vials (>6mm) : ☐ Yes ☒ No ☐ N/A \*If yes look in headspace column

AG1U 1 liter amber glass	BP1U 1 liter plastic unpres	VG9A 40 mL clear ascorbic	JG9U 4 oz amber jar unpres
BG1U 1 liter clear glass	BP3U 250 mL plastic unpres	DG9T 40 mL amber Na Thio	JG9U 9 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP3B 250 mL plastic NaOH	VG9U 40 mL clear vial unpres	WG9U 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9H 40 mL clear vial HCL	WPFU 4 oz plastic jar unpres
AG4U 120 mL amber glass unpres	BP3S 250 mL plastic H2SO4	VG9M 40 mL clear vial MeOH	SP5T 120 mL plastic Na Thiosulfate
AG5U 100 mL amber glass unpres		VG9D 40 mL clear vial DI	ZPLC ziploc bag
AG2S 500 mL amber glass H2SO4			GN
BG3U 250 mL clear glass unpres			

 1241 Bellevue Street, Green Bay, WI 54302	Document Name: <b>Sample Condition Upon Receipt (SCUR)</b>	Document Revised: 26Mar2020
	Document No.: <b>ENV-FRM-GBAY-0014-Rev.00</b>	Author: Pace Green Bay Quality Office

### Sample Condition Upon Receipt Form (SCUR)

Client Name: NSEC

Project #:

WO#: 40217309

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco

☒ Client ☐ Pace Other: \_\_\_\_\_



Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

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

Thermometer Used SR - NA Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: POT /Corr: \_\_\_\_\_

Temp Blank Present: ☐ yes ☒ no Biological Tissue is Frozen: ☐ yes ☐ no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:

Date: 10/28/20 Initials: W

Labeled By Initials: W

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>S</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution:

If checked, see attached form for additional comments ☐

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir



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## Report of Analysis

**Pace Analytical Services, LLC**  
1241 Bellevue Street  
Suite 9  
Green Bay, WI 54302  
Attention: Brian Basten

Project Name: OU005 US OIL

Project Number: 40217309

Lot Number: **VJ29091**

Date Completed: 11/12/2020

11/12/2020 12:19 PM

Approved and released by:  
Project Manager II: **Cathy S. Dover**



The electronic signature above is the equivalent of a handwritten signature.  
This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

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# PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

## **Case Narrative** **Pace Analytical Services, LLC** **Lot Number: VJ29091**

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" qualifier.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

# PACE ANALYTICAL SERVICES, LLC

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**Sample Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: VJ29091**  
**Project Name: OU005 US OIL**  
**Project Number: 40217309**

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	RO BOX 2028 COMP	Solid	10/28/2020 1200	10/29/2020

(1 sample)

# PACE ANALYTICAL SERVICES, LLC

**Detection Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: VJ29091**  
**Project Name: OU005 US OIL**  
**Project Number: 40217309**

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	RO BOX 2028 COMP	Solid	8:2 FTS	PFAS by ID	11		ug/kg	5
001	RO BOX 2028 COMP	Solid	6:2 FTS	PFAS by ID	110		ug/kg	5
001	RO BOX 2028 COMP	Solid	4:2 FTS	PFAS by ID	1.8	J	ug/kg	5
001	RO BOX 2028 COMP	Solid	PFBA	PFAS by ID	0.36	J	ug/kg	5
001	RO BOX 2028 COMP	Solid	PFD <sub>o</sub> A	PFAS by ID	0.30	J	ug/kg	6
001	RO BOX 2028 COMP	Solid	PFHpA	PFAS by ID	0.42	J	ug/kg	6
001	RO BOX 2028 COMP	Solid	PFHxA	PFAS by ID	1.2		ug/kg	6
001	RO BOX 2028 COMP	Solid	PFP <sub>e</sub> A	PFAS by ID	1.4		ug/kg	6
001	RO BOX 2028 COMP	Solid	PFOS	PFAS by ID	0.74	J	ug/kg	6

(9 detections)



# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>		Laboratory ID: <b>VJ29091-001</b>	
Description: <b>RO BOX 2028 COMP</b>		Matrix: <b>Solid</b>	
Date Sampled: <b>10/28/2020 1200</b>	Project Name: <b>OU005 US OIL</b>	% Solids: <b>82.1 10/31/2020 0003</b>	
Date Received: <b>10/29/2020</b>	Project Number: <b>40217309</b>		

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	11/10/2020 1114	MMM	11/07/2020 1339	72648

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
<b>1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)</b>	<b>39108-34-4</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>2.3</b>	<b>0.59</b>	<b>ug/kg</b>	<b>1</b>
<b>1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)</b>	<b>27619-97-2</b>	<b>PFAS by ID SOP</b>	<b>110</b>		<b>2.3</b>	<b>0.59</b>	<b>ug/kg</b>	<b>1</b>
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
<b>1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)</b>	<b>757124-72-4</b>	<b>PFAS by ID SOP</b>	<b>1.8</b>	<b>J</b>	<b>2.3</b>	<b>0.59</b>	<b>ug/kg</b>	<b>1</b>
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		4.7	1.2	ug/kg	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>0.36</b>	<b>J</b>	<b>1.2</b>	<b>0.23</b>	<b>ug/kg</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
<b>Perfluoro-n-dodecanoic acid (PFDoA)</b>	<b>307-55-1</b>	<b>PFAS by ID SOP</b>	<b>0.30</b>	<b>J</b>	<b>1.2</b>	<b>0.23</b>	<b>ug/kg</b>	<b>1</b>
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>0.42</b>	<b>J</b>	<b>1.2</b>	<b>0.23</b>	<b>ug/kg</b>	<b>1</b>
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		2.3	0.59	ug/kg	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>		<b>1.2</b>	<b>0.23</b>	<b>ug/kg</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>		<b>1.2</b>	<b>0.23</b>	<b>ug/kg</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		1.2	0.23	ug/kg	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>0.74</b>	<b>J</b>	<b>1.2</b>	<b>0.23</b>	<b>ug/kg</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		88	25-150
13C2_8:2FTS		95	25-150
13C2_PFDaA		83	25-150
13C2_PFHxDA		94	25-150
13C2_PFTeDA		91	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL  
 H = Out of holding time      W = Reported on wet weight basis

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 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>		Laboratory ID: <b>VJ29091-001</b>	
Description: <b>RO BOX 2028 COMP</b>		Matrix: <b>Solid</b>	
Date Sampled: <b>10/28/2020 1200</b>	Project Name: <b>OU005 US OIL</b>		% Solids: <b>82.1 10/31/2020 0003</b>
Date Received: <b>10/29/2020</b>	Project Number: <b>40217309</b>		

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		82	25-150
13C3_PFHxS		83	25-150
13C3-HFPO-DA		83	25-150
13C4_PFBa		91	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		89	25-150
13C5_PFPeA		83	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		92	25-150
13C8_PFOs		87	25-150
13C8_PFOsA		89	10-150
13C9_PFNAs		93	25-150
d-EtFOsA		94	10-150
d5-EtFOsAA		90	25-150
d9-EtFOsE		93	10-150
d-MeFOsA		90	10-150
d3-MeFOsAA		87	25-150
d7-MeFOsE		93	10-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL
H = Out of holding time	W = Reported on wet weight basis		

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

## QC Summary



# PFAS by LC/MS/MS - MB

Sample ID: VQ72648-001

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
11CI-PF3OUdS	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
8:2 FTS	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
6:2 FTS	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
10:2 FTS	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
4:2 FTS	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
GenX	ND		1	4.0	1.0	ug/kg	11/08/2020 1334
ADONA	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
EtFOSA	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
EtFOSAA	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
EtFOSE	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
MeFOSA	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
MeFOSAA	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
MeFOSE	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
PFBS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFDS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFHpS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFNS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFOSA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFPeS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFDOS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFHxS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFBA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFDA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFDaA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFHpA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFHxDA	ND		1	2.0	0.50	ug/kg	11/08/2020 1334
PFHxA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFNA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFODA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFOA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFPeA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFTeDA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFTTrDA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFUdA	ND		1	1.0	0.20	ug/kg	11/08/2020 1334
PFOS	ND		1	1.0	0.20	ug/kg	11/08/2020 1334

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		70	25-150
13C2_6:2FTS		84	25-150
13C2_8:2FTS		80	25-150
13C2_PFDaA		85	25-150
13C2_PFHxDA		83	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MB

Sample ID: VQ72648-001

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		83	25-150
13C3_PFBs		73	25-150
13C3_PFHxS		74	25-150
13C3-HFPO-DA		89	25-150
13C4_PFBa		80	25-150
13C4_PFHpA		78	25-150
13C5_PFHxA		75	25-150
13C5_PFPeA		80	25-150
13C6_PFDA		81	25-150
13C7_PFUdA		79	25-150
13C8_PFOA		79	25-150
13C8_PFOs		73	25-150
13C8_PFOsA		80	10-150
13C9_PFNAs		80	25-150
d-EtFOsA		78	10-150
d5-EtFOsAA		80	25-150
d9-EtFOSE		92	10-150
d-MeFOsA		79	10-150
d3-MeFOsAA		86	25-150
d7-MeFOSE		94	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

QC Data for Lot Number: VJ29091

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS - LCS

Sample ID: VQ72648-002

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	1.9	2.1		1	111	50-150	11/08/2020 1345
11CI-PF3OUdS	1.9	2.1		1	112	50-150	11/08/2020 1345
8:2 FTS	1.9	2.3		1	120	50-150	11/08/2020 1345
6:2 FTS	1.9	2.2		1	116	50-150	11/08/2020 1345
10:2 FTS	1.9	2.1		1	107	50-150	11/08/2020 1345
4:2 FTS	1.9	1.9		1	104	50-150	11/08/2020 1345
GenX	4.0	3.9		1	97	50-150	11/08/2020 1345
ADONA	1.9	2.1		1	110	50-150	11/08/2020 1345
EtFOSA	2.0	2.1		1	107	50-150	11/08/2020 1345
EtFOSAA	2.0	2.0		1	99	50-150	11/08/2020 1345
EtFOSE	2.0	2.0		1	98	50-150	11/08/2020 1345
MeFOSA	2.0	2.3		1	117	50-150	11/08/2020 1345
MeFOSAA	2.0	2.4		1	120	50-150	11/08/2020 1345
MeFOSE	2.0	2.3		1	114	50-150	11/08/2020 1345
PFBS	1.8	2.0		1	112	50-150	11/08/2020 1345
PFDS	1.9	2.0		1	107	50-150	11/08/2020 1345
PFHpS	1.9	1.9		1	103	50-150	11/08/2020 1345
PFNS	1.9	2.1		1	111	50-150	11/08/2020 1345
PFOSA	2.0	1.8		1	89	50-150	11/08/2020 1345
PFPeS	1.9	2.2		1	120	50-150	11/08/2020 1345
PFDOS	1.9	2.0		1	102	50-150	11/08/2020 1345
PFHxS	1.8	2.0		1	110	50-150	11/08/2020 1345
PFBA	2.0	2.2		1	111	50-150	11/08/2020 1345
PFDA	2.0	2.1		1	107	50-150	11/08/2020 1345
PFDaA	2.0	2.2		1	109	50-150	11/08/2020 1345
PFHpA	2.0	2.4		1	119	50-150	11/08/2020 1345
PFHxDA	2.0	2.0		1	98	50-150	11/08/2020 1345
PFHxA	2.0	2.3		1	116	50-150	11/08/2020 1345
PFNA	2.0	2.1		1	103	50-150	11/08/2020 1345
PFODA	2.0	1.9		1	97	50-150	11/08/2020 1345
PFOA	2.0	2.2		1	109	50-150	11/08/2020 1345
PFPeA	2.0	2.1		1	103	50-150	11/08/2020 1345
PFTeDA	2.0	2.1		1	106	50-150	11/08/2020 1345
PFTrDA	2.0	2.2		1	108	50-150	11/08/2020 1345
PFUdA	2.0	2.1		1	103	50-150	11/08/2020 1345
PFOS	1.9	1.8		1	98	50-150	11/08/2020 1345
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		82	25-150				
13C2_6:2FTS		83	25-150				
13C2_8:2FTS		80	25-150				
13C2_PFDaA		90	25-150				
13C2_PFHxDA		87	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

QC Data for Lot Number: VJ29091

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



# PFAS by LC/MS/MS - LCS

Sample ID: VQ72648-002

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		85	25-150
13C3_PFBs		71	25-150
13C3_PFHxS		78	25-150
13C3-HFPO-DA		83	25-150
13C4_PFBa		84	25-150
13C4_PFHpA		76	25-150
13C5_PFHxA		80	25-150
13C5_PFPeA		86	25-150
13C6_PFDA		86	25-150
13C7_PFUdA		86	25-150
13C8_PFOA		87	25-150
13C8_PFOS		73	25-150
13C8_PFOsA		85	10-150
13C9_PFNAs		85	25-150
d-EtFOsA		86	10-150
d5-EtFOsAA		82	25-150
d9-EtFOSE		94	10-150
d-MeFOsA		89	10-150
d3-MeFOsAA		87	25-150
d7-MeFOSE		88	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

**QC Data for Lot Number: VJ29091**

# PFAS by LC/MS/MS - MS

Sample ID: VJ29091-001MS

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	ND	2.3	2.3		1	101	50-150	11/10/2020 1124
11CI-PF3OUdS	ND	2.3	2.2		1	95	50-150	11/10/2020 1124
8:2 FTS	11	2.3	16	N	1	223	50-150	11/10/2020 1124
6:2 FTS	110	2.3	140	N	1	1330	50-150	11/10/2020 1124
10:2 FTS	ND	2.3	2.9		1	125	50-150	11/10/2020 1124
4:2 FTS	1.8	2.3	3.8		1	88	50-150	11/10/2020 1124
GenX	ND	4.9	5.2		1	106	50-150	11/10/2020 1124
ADONA	ND	2.3	2.5		1	108	50-150	11/10/2020 1124
EtFOSA	ND	2.4	2.9		1	118	50-150	11/10/2020 1124
EtFOSAA	ND	2.4	2.3		1	94	50-150	11/10/2020 1124
EtFOSE	ND	2.4	2.4		1	100	50-150	11/10/2020 1124
MeFOSA	ND	2.4	2.7		1	112	50-150	11/10/2020 1124
MeFOSAA	ND	2.4	2.4		1	101	50-150	11/10/2020 1124
MeFOSE	ND	2.4	2.5		1	102	50-150	11/10/2020 1124
PFBS	ND	2.1	2.5		1	118	50-150	11/10/2020 1124
PFDS	ND	2.3	2.4		1	104	50-150	11/10/2020 1124
PFHpS	ND	2.3	2.3		1	100	50-150	11/10/2020 1124
PFNS	ND	2.3	2.2		1	96	50-150	11/10/2020 1124
PFOSA	ND	2.4	2.5		1	101	50-150	11/10/2020 1124
PFPeS	ND	2.3	2.4		1	107	50-150	11/10/2020 1124
PFDOS	ND	2.4	2.4		1	103	50-150	11/10/2020 1124
PFHxS	ND	2.2	2.4		1	109	50-150	11/10/2020 1124
PFBA	0.36	2.4	3.0		1	108	50-150	11/10/2020 1124
PFDA	ND	2.4	2.7		1	112	50-150	11/10/2020 1124
PFDaA	0.30	2.4	3.0		1	109	50-150	11/10/2020 1124
PFHpA	0.42	2.4	3.4		1	122	50-150	11/10/2020 1124
PFHxDA	ND	2.4	2.3		1	96	50-150	11/10/2020 1124
PFHxA	1.2	2.4	3.7		1	102	50-150	11/10/2020 1124
PFNA	ND	2.4	2.7		1	110	50-150	11/10/2020 1124
PFODA	ND	2.4	2.4		1	100	50-150	11/10/2020 1124
PFOA	ND	2.4	3.3		1	135	50-150	11/10/2020 1124
PFPeA	1.4	2.4	4.0		1	107	50-150	11/10/2020 1124
PFTeDA	ND	2.4	2.7		1	110	50-150	11/10/2020 1124
PFTTrDA	ND	2.4	3.1		1	128	50-150	11/10/2020 1124
PFUdA	ND	2.4	3.0		1	122	50-150	11/10/2020 1124
PFOS	0.74	2.3	2.7		1	87	50-150	11/10/2020 1124
Surrogate	Q	% Rec	Acceptance Limit					
13C2_4:2FTS		92	25-150					
13C2_6:2FTS		86	25-150					
13C2_8:2FTS		81	25-150					
13C2_PFDaA		77	25-150					
13C2_PFHxDA		88	25-150					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

QC Data for Lot Number: VJ29091

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS - MS

Sample ID: VJ29091-001MS

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		85	25-150
13C3_PFBs		74	25-150
13C3_PFHxS		79	25-150
13C3-HFPO-DA		74	25-150
13C4_PFBa		85	25-150
13C4_PFHpA		76	25-150
13C5_PFHxA		87	25-150
13C5_PFPeA		87	25-150
13C6_PFDA		86	25-150
13C7_PFUdA		81	25-150
13C8_PFOA		86	25-150
13C8_PFOs		85	25-150
13C8_PFOsA		84	10-150
13C9_PFNAs		87	25-150
d-EtFOsA		82	10-150
d5-EtFOsAA		86	25-150
d9-EtFOSE		87	10-150
d-MeFOsA		83	10-150
d3-MeFOsAA		89	25-150
d7-MeFOSE		82	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

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+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

QC Data for Lot Number: VJ29091

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



# PFAS by LC/MS/MS - MSD

Sample ID: VJ29091-001MD

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Parameter	Sample Amount (ug/kg)	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	ND	2.3	2.0		1	90	12	50-150	30	11/10/2020 1135
11CI-PF3OUdS	ND	2.3	1.9		1	83	14	50-150	30	11/10/2020 1135
8:2 FTS	11	2.3	7.8	N <sub>1</sub> +	1	-150	72	50-150	30	11/10/2020 1135
6:2 FTS	110	2.3	63	N <sub>1</sub> +	1	-1870	74	50-150	30	11/10/2020 1135
10:2 FTS	ND	2.3	1.8	+	1	78	46	50-150	30	11/10/2020 1135
4:2 FTS	1.8	2.3	3.0		1	50	26	50-150	30	11/10/2020 1135
GenX	ND	4.9	4.3		1	88	19	50-150	30	11/10/2020 1135
ADONA	ND	2.3	1.9		1	82	28	50-150	30	11/10/2020 1135
EtFOSA	ND	2.4	1.8	+	1	76	44	50-150	30	11/10/2020 1135
EtFOSAA	ND	2.4	1.8		1	75	22	50-150	30	11/10/2020 1135
EtFOSE	ND	2.4	2.0		1	82	19	50-150	30	11/10/2020 1135
MeFOSA	ND	2.4	1.9	+	1	77	37	50-150	30	11/10/2020 1135
MeFOSAA	ND	2.4	1.9		1	80	23	50-150	30	11/10/2020 1135
MeFOSE	ND	2.4	2.1		1	85	19	50-150	30	11/10/2020 1135
PFBS	ND	2.1	1.9		1	89	28	50-150	30	11/10/2020 1135
PFDS	ND	2.3	2.2		1	92	12	50-150	30	11/10/2020 1135
PFHpS	ND	2.3	1.8		1	79	24	50-150	30	11/10/2020 1135
PFNS	ND	2.3	2.1		1	90	6.6	50-150	30	11/10/2020 1135
PFOSA	ND	2.4	1.9		1	78	25	50-150	30	11/10/2020 1135
PFPeS	ND	2.3	1.9		1	85	23	50-150	30	11/10/2020 1135
PFDOS	ND	2.4	1.9		1	83	22	50-150	30	11/10/2020 1135
PFHxS	ND	2.2	1.8		1	84	26	50-150	30	11/10/2020 1135
PFBA	0.36	2.4	2.2	+	1	75	31	50-150	30	11/10/2020 1135
PFDA	ND	2.4	2.2		1	90	21	50-150	30	11/10/2020 1135
PFDaA	0.30	2.4	2.1	+	1	74	34	50-150	30	11/10/2020 1135
PFHpA	0.42	2.4	2.3	+	1	78	37	50-150	30	11/10/2020 1135
PFHxDA	ND	2.4	1.9		1	79	20	50-150	30	11/10/2020 1135
PFHxA	1.2	2.4	2.7	+	1	62	31	50-150	30	11/10/2020 1135
PFNA	ND	2.4	2.1		1	86	24	50-150	30	11/10/2020 1135
PFODA	ND	2.4	1.9		1	78	25	50-150	30	11/10/2020 1135
PFOA	ND	2.4	2.5		1	104	26	50-150	30	11/10/2020 1135
PFPeA	1.4	2.4	2.7	+	1	53	40	50-150	30	11/10/2020 1135
PFTeDA	ND	2.4	2.2		1	92	18	50-150	30	11/10/2020 1135
PFTrDA	ND	2.4	2.4		1	98	26	50-150	30	11/10/2020 1135
PFUdA	ND	2.4	2.3		1	94	26	50-150	30	11/10/2020 1135
PFOS	0.74	2.3	2.1		1	61	24	50-150	30	11/10/2020 1135
Surrogate	Q	% Rec	Acceptance Limit							
13C2_4:2FTS		90	25-150							
13C2_6:2FTS		89	25-150							
13C2_8:2FTS		89	25-150							
13C2_PFDaA		81	25-150							
13C2_PFHxDA		90	25-150							

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DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

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**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

QC Data for Lot Number: VJ29091

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS - MSD

Sample ID: VJ29091-001MD

Matrix: Solid

Batch: 72648

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 11/07/2020 1339

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		85	25-150
13C3_PFBs		77	25-150
13C3_PFHxS		81	25-150
13C3-HFPO-DA		81	25-150
13C4_PFBa		87	25-150
13C4_PFHpA		79	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		90	25-150
13C6_PFDA		88	25-150
13C7_PFUdA		80	25-150
13C8_PFOA		87	25-150
13C8_PFOS		80	25-150
13C8_PFOsA		88	10-150
13C9_PFNAs		86	25-150
d-EtFOsA		87	10-150
d5-EtFOsAA		89	25-150
d9-EtFOSE		86	10-150
d-MeFOsA		86	10-150
d3-MeFOsAA		84	25-150
d7-MeFOSE		84	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

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Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

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**QC Data for Lot Number: VJ29091**

# **Chain of Custody and Miscellaneous Documents**

# Internal Transfer Chain of Custody

☐ Samples Pre-Logged into eCOC.

State Of Origin: WI

Cert. Needed: ☒ Yes ☐ No

Owner Received Date: 10/28/2020 Results Requested By: 11/11/2020



Workorder: 40217309 Workorder Name: OJ005 US OIL

Report To: Subcontract To: Requested Analysis:

Brian Basten  
Pace Analytical Green Bay  
1241 Bellevue Street  
Suite 9  
Green Bay, WI 54302  
Phone (920)469-2436

Pace Analytical West Columbia  
106 Vantage Point Drive  
West Columbia, SC 29172  
Phone (803)791-9700



VJ29091

QAS

LAB USE ONLY

Preserved Containers									
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	For eCOC			
1	RO BOX 2023 COMP	PS	10/28/2020 12:00	40217309001	Solid	1			
2									
3									
4									
5									

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	Alien	10/28/2020			
2					
3	Fedex	10-29-20 09:55	WILLIAMS	10-29-20 09:55	
Cooler Temperature on Receipt 4.8 °C		Custody Seal (Y) or N		Received on Ice (Y) or N	
				Samples Intact (Y) or N	

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Wednesday, October 28, 2020 3:17:35 PM

FMT-ALL-C-002rev.00 24March2009

Page 1 of 1



# PACE ANALYTICAL SERVICES, LLC



Ship To:  
Pace Analytical West  
Columbia  
106 Vantage Point Drive  
West Columbia, SC 29172  
Phone (803)791-9700

INTER\_LABORATORY WORK ORDER # 40217309

(To be completed by sending lab)

Sending Project No:	40217309
Receiving Project No:	
Check Box for Consolidated Invoice:	<input type="checkbox"/>
Date Prepared:	10/28/20
REQUESTED COMPLETION DATE:	11/11/2020

Sending Region	IR40-Green Bay	Sending Project Mgr.	Brian Bastan
Receiving Region	IR77-West Columbia	External Client	NORTH SHORE ENVIRONMENTAL
State of Sample Origin	WI LOD/LOQ	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units: \_\_\_\_\_ Report Wet or Dry Weight? ☐ Dry Weight ☐ IRWO Lab Need to run? ☐ Cert. Needed \_\_\_\_\_

WORK REQUESTED						
Method Description	Container Type	Quantity of Containers	Preservative	Quantity of Samples	Unit Price	Amount
PFAS WI 36 List	BP3U	1	Unpreserved	1	\$350.00	\$350.00
TOTAL						\$350.00

Special Requirements: WDNR LOD/LOQ Report (WDNR), FR Only no EDD (0)

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept. Sending Region (20%)
Dioxin, Low Resolution	36	\$350.00	\$280.00	\$70.00
* Custom Revenue Allocation	TOTAL	\$350.00	\$280.00	\$70.00

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☒ No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.


When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Version 6.4 (18/1/10)



Project # 40217.309

# PACE ANALYTICAL SERVICES, LLC

 <b>Pace Analytical®</b> 1241 Bellevue Street, Green Bay, WI 54302	Document Name:	Document Revised: 26Mar2020
	Sample Condition Upon Receipt (SCUR)	
	Document No.: <b>ENV-FRM-GBAY-0014-Rev.00</b>	Author: Pace Green Bay Quality Office

## Sample Condition Upon Receipt Form (SCUR)

Client Name: NSEC

Project #:

**WO#: 40217309**



40217309

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Walto

☒ Client ☐ Pace Other: \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

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

Thermometer Used SR - NA Type of Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None

☒ Samples on ice, cooling process has begun

Cooler Temperature Uncon: 40 / Corr: 38

Temp Blank Present: ☐ yes ☒ no

Biological Tissue is Frozen: ☐ yes ☐ no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:

Date: 10/28/20 Initials: HP

Labeled By Initials: \_\_\_\_\_

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
- Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
- Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
- Includes date/time/ID/Analysis Matrix: <u>S</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments ☐

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample logit

Page 2 of 2



# PACE ANALYTICAL SERVICES, LLC



**Samples Receipt Checklist (SRC) (ME0018C-15)**  
Issuing Authority: Pace ENV - WCOL

**VJ29091**

1:9/29/2020  
Page 1 of 1

## Sample Receipt Checklist (SRC)

Client: OS Group/Pace

Cooler Inspected by/date: JDSZ 10/29/20 L6

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1. Were custody seals present on the cooler?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>NA</u>	Chlorine Strip ID: <u>NA</u> Tested by: <u>NA</u>
Original temperature upon receipt / Derived (Corrected) temperature upon receipt	
<u>4.8/4.8</u> °C <u>NA/NA</u> °C <u>NA/NA</u> °C <u>NA/NA</u> °C %Solid Snap-Cup ID: <u>20-1438</u>	
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: <u>5</u> IR Gun Correction Factor: <u>0</u> °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH <sub>3</sub> /TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote # <u>23492</u>
<b>Sample Preservation</b> (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>NA</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>NA</u> mL of circle one: H <sub>2</sub> SO <sub>4</sub> , HNO <sub>3</sub> , HCl, NaOH using SR # <u>NA</u>	
Time of preservation <u>NA</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>NA</u> were received with bubbles >6 mm in diameter.	
Samples(s) <u>NA</u> were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>NA</u>	
SR barcode labels applied by: <u>JDSZ</u> Date: <u>10/29/20</u>	

Comments:

## U.S. Oil Green Bay Buckeye Terminal – AFFF Release Report

AFFF Foam MSDS – Attached

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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

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### 1.1. Identification of the preparation

Product Name: "ANSULITE ARC" (Alcohol Resistant Concentrate).  
Chemical Name: N/A – This is a mixture/preparation.  
CAS No.: N/A – This is a mixture/preparation.  
Chemical Formula: N/A – This is a mixture/preparation.  
EINECS Number: N/A – This is a mixture/preparation.

### 1.2. Use of the preparation

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

### 1.3. Company identification

Manufacturer/Supplier: ANSUL INCORPORATED  
Address: One Stanton Street, Marinette, WI 54143-2542  
Prepared by: Safety and Health Department  
Phone: 715-735-7411  
Internet/Home Page: <http://www.ansul.com>  
Date of Issue: September, 2009

### 1.4. Emergency telephone

CHEMTREC 800-424-9300 or 703-527-3887

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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

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- 2.1. Ingredient Name: Proprietary mixture consisting of hydrocarbon surfactants, fluorosurfactants, inorganic salts, high molecular weight polysaccharide, and water.  
Not otherwise specified.
- Chemical Formula: N/A – This is a mixture/preparation.  
CAS No.: N/A – This is a mixture/preparation.  
EINECS Number: N/A – This is a mixture/preparation.  
Concentration, Wt %: 84.9%.  
Hazard Identification: See Heading 3.
- Ingredient Name: Diethylene Glycol Monobutyl Ether (a).  
Chemical Formula:  $C_4H_9O(CH_2CH_2O)_2H$ .  
CAS No.: 112-34-5.  
EINECS Number: 203-961-6.  
Concentration, Wt %: 15.0%.  
Hazard Identification: See Heading 3.
- Ingredient Name: Dowacil 75.  
Chemical Formula:  $C_9H_{16}ClN_4.Cl$ .  
CAS No.: 4080-31-3.  
EINECS Number: 223-805-0.  
Concentration, Wt %: 0.015%.  
Hazard Identification: See Heading 3.

(a) This chemical is subject to reporting requirements of SARA Title III Section 313 and 40 CFR Section 372.

NOTE: Unless a component presents a severe hazard, it does not need to be considered in the MSDS if the concentration is less than 1%. [According to Directive 1999/45/EC.]

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### 3. HAZARDS IDENTIFICATION

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**FOR HUMANS:****Product:**

EU Classification:	Irritant - Xi.	
R Phrases:	36	Irritating to eyes.
S Phrases:	2	Keep out of the reach of children.
	24	Avoid contact with skin.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Components:****Diethylene Glycol Monobutyl Ether:**

EU Classification:	Irritant - Xi.	
R Phrases:	36	Irritating to eyes.
S Phrases:	2	Keep out of the reach of children.
	24	Avoid contact with skin.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Limit Values for Exposure:****Diethylene Glycol Monobutyl Ether:**

OSHA PEL (General Industry) 8 hour TWA:	None established.
MAK (DE) Limit value:	100 mg/m <sup>3</sup> .
Short term exposure limit value (8 times, 5 minutes):	200 mg/m <sup>3</sup> .

Neither this preparation nor the substances contained in it have been listed as carcinogenic by National Toxicology Program, I.A.R.C., or OSHA.

AS PART OF GOOD INDUSTRIAL AND PERSONAL HYGIENE AND SAFETY PROCEDURE, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes, and clothing.

**SIGNS AND SYMPTOMS:****Acute Exposure:**

Eye Contact:	May cause mild transient irritation.
Skin Contact:	May cause mild transient irritation and/or dermatitis.
Inhalation:	Not an expected route of entry.
Ingestion:	Irritating to mucous membranes. Large oral doses could produce narcosis.

**Chronic Overexposure:** Kidney, liver, gastrointestinal, and spleen. Did not interfere with reproduction. However, body weights of newborn animals were decreased.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Diseases of the kidney and liver.

**FOR ENVIRONMENT:**

As much as possible, keep from being washed into surface waters.

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### 4. FIRST AID MEASURES

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Eye Contact:	Flush with large amounts of water. If irritation persists, seek medical attention.
Skin Contact:	Wash thoroughly with soap and water. If irritation persists, seek medical attention.
Inhalation:	Move to fresh air. Seek medical attention if discomfort continues.
Ingestion:	If patient is conscious, give large quantities of water and induce vomiting. Seek medical attention.

---

### 5. FIRE-FIGHTING MEASURES

---

This preparation is an extinguishing media.

There are NO extinguishing media which must not be used for safety reasons.

NO special protective equipment is needed for fire-fighters.

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### 6. ACCIDENTAL RELEASE MEASURES

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For personal protection: Prevent skin and eye contact, see Heading 8.

Clean up: Use an absorbent material such as diatomaceous earth, sawdust, etc., and sweep up, see Heading 13.

As much as possible, keep from being washed into surface water.



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## 7. HANDLING AND STORAGE

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### 7.1. Handling

Care should be taken in handling all chemical substances and preparations.  
See incompatibility information in Heading 10.

### 7.2. Storage

NO special conditions are needed for safe storage.  
See incompatibility information in Heading 10.  
Store in original container. Keep tightly closed until used.  
As much as possible, keep from being washed into surface water.

### 7.3. Specific use

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1. Exposure limit values

Limit Values for Exposure:

Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m<sup>3</sup>.

Short term exposure limit value  
(8 times, 5 minutes): 200 mg/m<sup>3</sup>.

### 8.2. Exposure controls

#### 8.2.1. Occupational exposure controls

##### 8.2.1.1. Respiratory protection

None expected to be needed. Mechanical ventilation is recommended.

##### 8.2.1.2. Hand protection

Use chemical resistant gloves when handling the preparation.

##### 8.2.1.3. Eye protection

Chemical goggles are recommended.

##### 8.2.1.4. Skin protection

Standard fire fighting equipment should provide all protection which is necessary.

#### 8.2.2. Environmental exposure controls

As much as possible, keep from being washed into surface water.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1. General information

Appearance: Gelled liquid.  
Odor: Mild, sweet odor.

### 9.2. Important health, safety, and environmental information

pH: 6.5 to 8.5.  
Boiling point/boiling range: 97 °C.  
Flash point: None to boiling.  
Flammability (solid/gas): Not flammable.  
Explosive properties: Not explosive.  
Oxidizing properties: Not an oxidizer.  
Vapor Pressure: Not determined.  
Relative Density (Water = 1): 1.005.  
Solubility:  
– Water solubility: Completely soluble.  
– Fat solubility: Not determined.  
Partition coefficient, n-octanol/water: Not determined.  
Viscosity: Not determined.  
Vapor density (Air = 1): <1.  
Evaporation rate (Butyl acetate = 1): Approximately 0.005.

### 9.3. Other information

Auto-ignition temperature: Does not ignite.



## 10. STABILITY AND REACTIVITY

### 10.1. Conditions to avoid

There are NO known conditions such as temperature, pressure, light, shock, etc., which may cause a dangerous reaction.

### 10.2. Materials to avoid

Reactive metals, electrically energized equipment, any material reactive with water, or strong oxidizers.

### 10.3. Hazardous decomposition products

Normally stable.

Hazardous polymerization will NOT occur.

Oxides of nitrogen and sulfur may be produced during fire conditions. Hydrogen sulfide may be produced under anaerobic bacterial decomposition.

## 11. TOXICOLOGICAL INFORMATION

Product:	The toxicity of the product mixture has not been determined.		
Components:			
Diethylene glycol monobutyl ether:			
Toxicity Data:	Oral (rat) LD <sub>50</sub>	5,660 mg/kg.	(Dow Chemical Co.).
	Oral (rat) LD <sub>50</sub>	9,623 mg/kg.	(EINICS ESIS).
	Dermal (rabbit) LD <sub>50</sub>	4,000 mg/kg.	(Dow Chemical Co.).
	Dermal (rabbit) LD <sub>50</sub>	2,764 mg/kg.	(EINICS ESIS).
Irritation Data:	Eye (rabbit)	20 mg/24 hrs. Moderate.	(EINICS ESIS).
	Eye (rabbit) Draize test	Highly irritating.	(EINICS ESIS).
	Skin (rabbit)	1000 mg/kg/day. Moderate appearance.	with edema, fissuring, and leathery (EINICS ESIS).
Target organs:	Kidney, blood, liver, lungs, gastrointestinal, spleen.		

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity

Components:

Diethylene glycol monobutyl ether:

Fish,	Lepomis macrochirus:	LC <sub>50</sub> (96 hrs)	1,300 mg/L.
	Carrassius auratus:	LC <sub>50</sub> (24 hrs)	2,700 mg/L.
Daphnids,	Daphnia magna:	EC <sub>50</sub> (24 hrs)	3,184 mg/L.
Algae,	Scenedesmus subspicatus:	EC <sub>50</sub> (96 hrs)	>100 mg/L.

### 12.2. Mobility

Diethylene glycol monobutyl ether:

Should not partition from a water column to organic matter contained in sediments and suspended solids.

### 12.3. Persistence and degradability

Diethylene glycol monobutyl ether:

Indirect photodegradation is about 50% in 3.5 hours.

Aerobic degradation with adapted activated sludge is 60% after 28 days.

COD = 2080 mg/g substance.

BOD<sub>5</sub> = 250 mg O<sub>2</sub>/g substance.

Theoretical oxygen demand = 2.17 mg/mg.

### 12.4. Bioaccumulative potential

Diethylene glycol monobutyl ether:

Should not bioaccumulate. Estimated bioaccumulation factor (log BCF) = 0.46.

### 12.5. Other adverse effects

Ozone depletion potential: None.

Photochemical ozone creation potential: None

Global warming potential: None

## 13. DISPOSAL CONSIDERATIONS

As much as possible, keep from being washed into surface water.

Dispose of in compliance with national, regional, and local provisions that may be in force.

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**14. TRANSPORT INFORMATION**

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Hazard Class or Division: Not hazardous.  
For additional transport information, contact Ansul Incorporated.  
As much as possible, keep from being washed into surface water.

---

**15. REGULATORY INFORMATION**

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EU Classification: Irritant - Xi.  
R Phrases: 36 Irritating to eyes.  
S Phrases: 2 Keep out of the reach of children.  
24 Avoid contact with skin.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Exposure Limit Values:

Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m<sup>3</sup>.

Short term exposure limit value  
(8 times, 5 minutes): 200 mg/m<sup>3</sup>.

EINECS Status: All components are included in EINECS inventories or are exempt from listing.

EPA TSCA Status: All components are included in TSCA inventories or are exempt from listing.

Canadian DSL (Domestic Substances List): All components are included in the DSL or are exempt from listing.

Environmental restrictions: None are known.

Restrictions on Marketing and Use: None are known.

Refer to any other national measures that may be relevant.

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**16. OTHER INFORMATION**

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**(HMIS) HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:**

HEALTH:	<u>1</u>	4. Severe Hazard
FLAMMABILITY:	<u>0</u>	3. Serious Hazard
REACTIVITY:	<u>0</u>	2. Moderate Hazard
		1. Slight Hazard
		0. Minimal Hazard

**(WHMIS) CANADIAN WORKPLACE HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:**

This product is rated **D2B – Product may irritate eyes, skin or mucous membrane.**

Format is from directive 2001/58/EC.

EINECS data is from <http://exb.jrc.it/existing-chemicals/>

Data used to compile the data sheet is from Ansul Material Safety Data Sheet, February, 2002.

The EU Classification has been changed in accordance with Directive 1999/45/EC and information in the EINICS ESIS files (Existing Substances Information System).

Toxicological information added from the EINICS ESIS (Existing Substances Information System) and from Dow Chemical Company.

A rating under WHMIS has been added, following the Canadian guidelines.

Limit values for exposure for diethylene glycol monobutyl ether were changed, based on EINICS ESIS data.

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**17. DISCLAIMER**

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THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT, BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. ANSUL SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.

N/A = Not Applicable

NDA = No Data Available

MSDS available at <http://www.ansul.com>

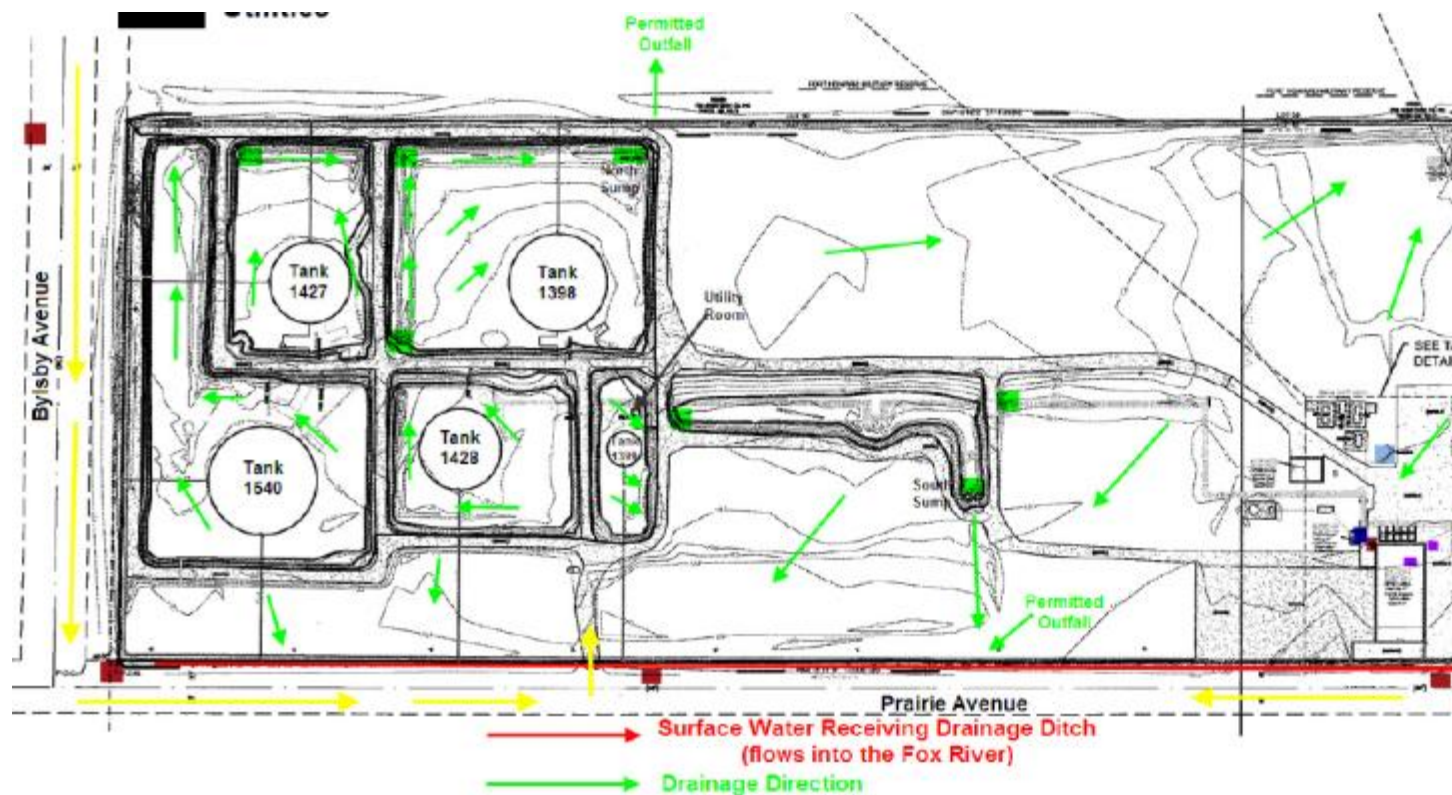
**From:** Johnston, Don <DJohnston@usventure.com>  
**Sent:** Thursday, October 22, 2020 11:01 AM  
**To:** Reif, Maizie L - DNR  
**Cc:** Morrill, Dan; Warner, Ken  
**Subject:** AFFF Foam Release at U.S. Oil Green Bay Buckeye Terminal  
**Attachments:** MSDS Ansul Ansulate ARC 2009.pdf; GBB Foam Release Pic 1.jpg; GBB Foam Release Pic 2.jpg; GBB Foam Release Pic 3.jpg

Maize,

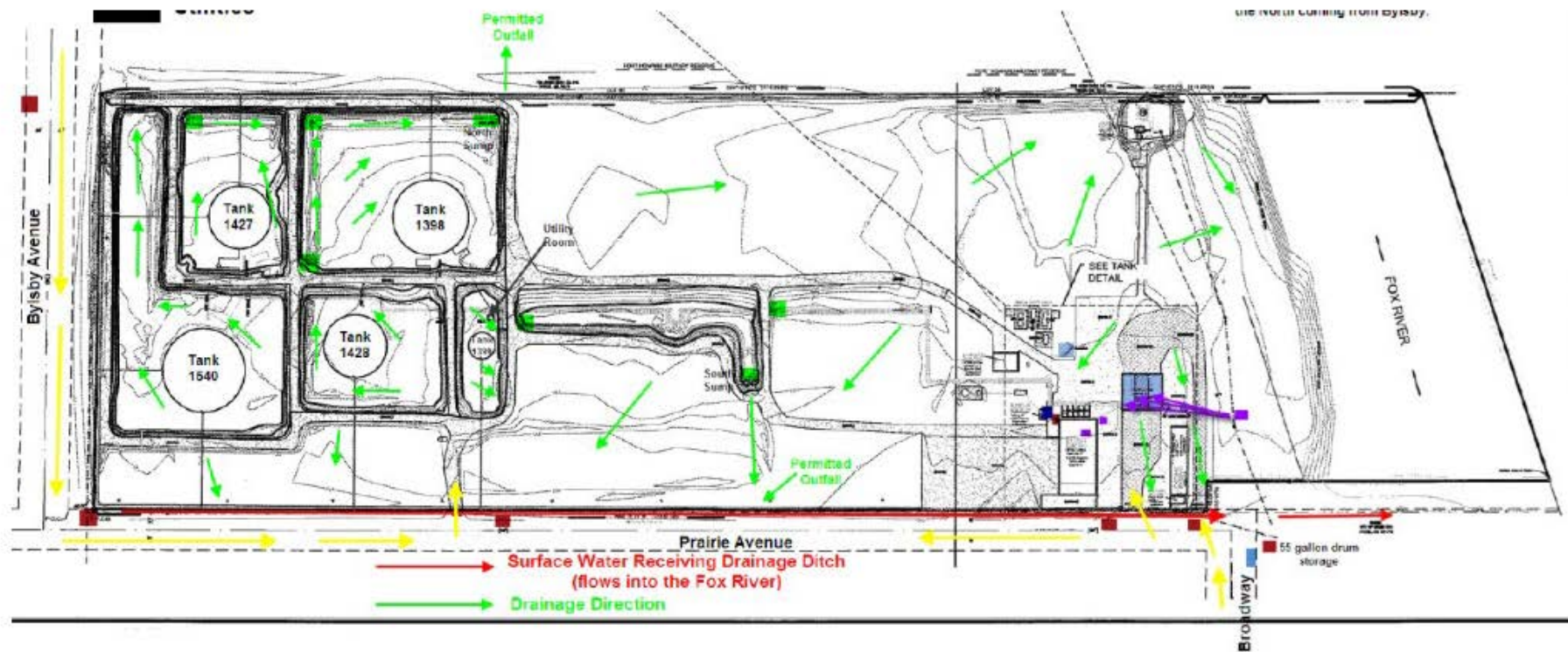
Attached is a MSDS for the AFFF that was release at the U.S. Oil Green Bay Buckeye Terminal, 410 Prairie Avenue, Green Bay 54303.

I've been also informed that the foam did flow into the ditch in front of the terminal on Prairie Avenue, and some got into the stormwater lift station located at the corner of Prairie Avenue and N. Broadway. The City was contacted and the pump in the lift station was shut off before it could have turned on (discharge is to the Fox River) and the discharge pipe blocked. We are cleaning the lift station and working with the City. I've attached a few pictures taken of the foam in the Prairie Avenue drainage ditch. If the situation changes, I will contact you.

Below is a drainage map from the terminal's Facility Response Plan;







Regards,

Don Johnston CHMM

Director Env. Quality

425 Better Way | Appleton WI 54915-6192

O 920.735.8228 | C 920.858.0624 | F 920.730.4245

Email | [djohnston@usventure.com](mailto:djohnston@usventure.com)





GBB Foam Release Pic 1.jpg



GBB Foam Release Pic 2.jpg



GBB Foam Release Pic 3.jpg



---

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

---

**1.1. Identification of the preparation**

Product Name: "ANSULITE 3% AFFF (AFC-3-A)".  
Chemical Name: N/A – This is a mixture/preparation.  
CAS No.: N/A – This is a mixture/preparation.  
Chemical Formula: N/A – This is a mixture/preparation.  
EINECS Number: N/A – This is a mixture/preparation.

**1.2. Use of the preparation**

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

**1.3. Company Identification**

Manufacturer/Supplier: ANSUL INCORPORATED  
Address: One Stanton Street, Marinette, WI 54143-2542  
Prepared by: Safety and Health Department  
Phone: 715-735-7411  
Internet/Home Page: <http://www.ansul.com>  
Date of Issue: September, 2009

**1.4. Emergency telephone**

CHEMTREC 800-424-9300 or 703-527-3887

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

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- 2.1. Ingredient Name:** Proprietary mixture of hydrocarbon surfactants, fluorosurfactants, inorganic salts, and water.  
Not otherwise specified.
- Chemical Formula:** N/A – This is a mixture/preparation.  
**CAS No.:** N/A – This is a mixture/preparation.  
**EINECS Number:** N/A – This is a mixture/preparation.  
**Concentration, Wt %:** >85 %.  
**Hazard Identification:** See Heading 3.
- Ingredient Name:** Diethylene Glycol Monobutyl Ether (a).  
**Chemical Formula:**  $C_4H_9O(CH_2CH_2O)_2H$ .  
**CAS No.:** 112-34-5.  
**EINECS Number:** 203-961-6.  
**Concentration, Wt %:** 10 %.  
**Hazard Identification:** See Heading 3.
- Ingredient Name:** Tertiary Butyl Alcohol.  
**Chemical Formula:**  $(CH_3)_3COH$ .  
**CAS No.:** 75-65-0.  
**EINECS Number:** 200-889-7.  
**Concentration, Wt %:** 0.4 %.  
**Hazard Identification:** See Heading 3.
- Ingredient Name:** Hexylene Glycol (2-Methylpentane-2,4-diol).  
**Chemical Formula:**  $C_6H_{14}O_2$ .  
**CAS No.:** 107-41-5.  
**EINECS Number:** 203-489-0.  
**Concentration, Wt %:** 0.3 %.  
**Hazard Identification:** See Heading 3.

(a) This chemical is subject to reporting requirements of SARA Title III Section 313 and 40 CFR Section 372.

NOTE: Unless a component presents a severe hazard, it does not need to be considered in the MSDS if the concentration is less than 1%. [According to Directive 1999/45/EC].

### 3. HAZARDS IDENTIFICATION

#### FOR HUMANS:

##### Product:

EU Classification:	Xi	Irritant.
R Phrases:	36	Irritating to eyes.
S Phrases:	2	Keep out of the reach of children.
	24	Avoid contact with skin.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

##### Components:

##### Diethylene Glycol Monobutyl Ether:

EU Classification:	Xi	Irritant.
R Phrases:	36	Irritating to eyes.
S Phrases:	2	Keep out of the reach of children.
	24	Avoid contact with skin.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

##### Limit Values for Exposure:

##### Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m<sup>3</sup>.

Short term exposure limit value  
(8 times, 5 minutes): 200 mg/m<sup>3</sup>.

Neither this preparation nor the ingredients contained in it have been listed as carcinogenic by National Toxicology Program, IARC, or OSHA.

AS PART OF GOOD INDUSTRIAL AND PERSONAL HYGIENE AND SAFETY PROCEDURE, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes, and clothing.

#### SIGNS AND SYMPTOMS:

##### Acute Exposure:

Eye Contact:	May cause mild transient irritation.
Skin Contact:	May cause mild transient irritation and/or dermatitis.
Inhalation:	Not an expected route of entry.
Ingestion:	Irritating to mucous membranes. Large oral doses could produce narcosis.
Chronic Overexposure:	Kidney, liver, gastrointestinal, and spleen. Did not interfere with reproduction. However, body weights of newborn animals were decreased.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Diseases of the kidney and liver.

#### FOR ENVIRONMENT:

As much as possible, keep from being washed into surface water. See Heading 12.

### 4. FIRST AID MEASURES

Eye Contact:	Flush with large amounts of water. If irritation persists, seek medical attention.
Skin Contact:	Wash thoroughly with soap and water. If irritation persists, seek medical attention.
Inhalation:	Move to fresh air. Seek medical attention if discomfort continues.
Ingestion:	If patient is conscious, give large quantities of water and induce vomiting. Seek medical attention.

### 5. FIRE-FIGHTING MEASURES

This preparation is an extinguishing media.

There are NO extinguishing media which must not be used for safety reasons.

NO special protective equipment is needed for fire-fighters.

### 6. ACCIDENTAL RELEASE MEASURES

For personal protection: Prevent skin and eye contact, see Heading 8.

Clean up: Use an absorbent material such as diatomaceous earth, sawdust, etc., and sweep up, see Heading 13.

As much as possible, keep from being washed into surface water. See Heading 12.



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## 7. HANDLING AND STORAGE

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### 7.1. Handling

Care should be taken in handling all chemical substances and preparations.  
See incompatibility information in Heading 10.

### 7.2. Storage

NO special conditions are needed for safe storage.  
See incompatibility information in Heading 10.  
Store in original container. Keep tightly closed until used.  
As much as possible, keep from being washed into surface water. See Heading 12.

### 7.3. Specific use

The intended or recommended use of this preparation is as a FIRE EXTINGUISHING AGENT.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1. Exposure limit values

Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m<sup>3</sup>.

Short term exposure limit value  
(8 times, 5 minutes): 200 mg/m<sup>3</sup>.

### 8.2. Exposure controls

#### 8.2.1. Occupational exposure controls

##### 8.2.1.1. Respiratory protection

None expected to be needed. Mechanical ventilation is recommended.

##### 8.2.1.2. Hand protection

Use chemical resistant gloves when handling the preparation.

##### 8.2.1.3. Eye protection

Chemical goggles are recommended.

##### 8.2.1.4. Skin protection

Standard fire fighting equipment should provide all protection which is necessary.

#### 8.2.2. Environmental exposure controls

As much as possible, keep from being washed into surface water. See Heading 12.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1. General Information

Appearance: Straw yellow, clear liquid.

Odor: Mild, sweet odor.

### 9.2. Important health, safety, and environmental Information

pH: 6.5 to 8.5.

Boiling point/boiling range: 97 °C.

Flash point: None to boiling.

Flammability (solid/gas): Not flammable.

Explosive properties: Not explosive.

Oxidizing properties: Not an oxidizer.

Vapor Pressure: Not determined.

Relative Density (Water = 1): 1.02.

Solubility:

– Water solubility: Completely soluble.

– Fat solubility: Not determined.

Partition coefficient, n-octanol/water: Not determined.

Viscosity: Not determined.

Vapor density (Air = 1): <1.

Evaporation rate

(Butyl acetate = 1): Approximately 0.005.

### 9.3. Other Information

Auto-ignition temperature: Does not ignite.

## 10. STABILITY AND REACTIVITY

### 10.1. Conditions to avoid

There are NO known conditions such as temperature, pressure, light, shock, etc., which may cause a dangerous reaction.

### 10.2. Materials to avoid

Reactive metals, electrically energized equipment, any material reactive with water, and strong oxidizers.

### 10.3. Hazardous decomposition products

Normally stable.

Hazardous polymerization will NOT occur.

Combustion or decomposition products are not known, oxides of nitrogen and sulfur may be found. Hydrogen sulfide (H<sub>2</sub>S) may be produced under anaerobic bacterial decomposition.

## 11. TOXICOLOGICAL INFORMATION

Product:	The toxicity of the product mixture has not been determined.		
Components:			
Diethylene glycol monobutyl ether:			
Toxicity Data:	Oral (rat) LD <sub>50</sub>	5,660 mg/kg.	[Dow Chemical Co.].
	Oral (rat) LD <sub>50</sub>	9,623 mg/kg.	[EINECS ESIS].
	Dermal (rabbit) LD <sub>50</sub>	4,000 mg/kg	[Dow Chemical Co.].
	Dermal (rabbit) LD <sub>50</sub>	2,764 mg/kg.	[EINECS ESIS].
Irritation Data:	Eye (rabbit)	20 mg/day. Moderate.	[EINECS ESIS].
	Eye (rabbit) Draize test	Highly irritating.	[EINECS ESIS].
	Skin (rabbit)	1000 mg/kg/day. Moderate with edema, fissuring, and leathery appearance	[EINECS ESIS].
Target organs:	Kidney, blood, liver, lungs, gastrointestinal, spleen.		

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity

#### Components:

##### Diethylene glycol monobutyl ether:

Fish,	Lepomis macrochirus:	LC <sub>50</sub> (96 hrs)	1,300 mg/L.
	Carrassius auratus:	LC <sub>50</sub> (24 hrs)	2,700 mg/L.
Daphnids,	Daphnia magna:	EC <sub>50</sub> (24 hrs)	3,184 mg/L.
Algae,	Scenedesmus subspicatus:	EC <sub>50</sub> (96 hrs)	>100 mg/L.

### 12.2. Mobility

#### Diethylene glycol monobutyl ether:

Should not partition from a water column to organic matter contained in sediments and suspended solids.

### 12.3. Persistence and degradability

#### Diethylene glycol monobutyl ether:

Indirect photodegradation is about 50% in 3.5 hours.

Aerobic degradation with adapted activated sludge is 60% after 28 days.

COD = 2080 mg/g substance.

BOD<sub>5</sub> = 250 mg O<sub>2</sub>/g substance.

Theoretical oxygen demand = 2.17 mg/mg.

### 12.4. Bioaccumulative potential

#### Diethylene glycol monobutyl ether:

Should not bioaccumulate. Estimated bioaccumulation factor (log BCF) = 0.46.

### 12.5. Other adverse effects

Ozone depletion potential:	None.
Photochemical ozone creation potential:	None
Global warming potential:	None

## 13. DISPOSAL CONSIDERATIONS

As much as possible, keep from being washed into surface water. See Heading 12.

Dispose of in compliance with national, regional, and local provisions that may be in force.

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**14. TRANSPORT INFORMATION**

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Hazard Class or Division: Not hazardous.

For additional transport information, contact Ansul Incorporated.

As much as possible, keep from being washed into surface water. See Heading 12.

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**15. REGULATORY INFORMATION**

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EU Classification:	Xi	Irritant.
R Phrases:	36	Irritating to eyes.
S Phrases:	2	Keep out of the reach of children.
	24	Avoid contact with skin.
	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Exposure Limit Values:**

Diethylene Glycol Monobutyl Ether:

OSHA PEL (General Industry) 8 hour TWA: None established.

MAK (DE) Limit value: 100 mg/m<sup>3</sup>.

Short term exposure limit value  
(8 times, 5 minutes): 200 mg/m<sup>3</sup>.

EINECS Status: All components are included in EINECS inventories or are exempt from listing.

EPA TSCA Status: All components are included in TSCA inventories or are exempt from listing.

Canadian DSL (Domestic Substances List): All components are included in the DSL or are exempt from listing.

Environmental restrictions: None are known.

Restrictions on Marketing and Use: None are known.

Refer to any other national measures that may be relevant.

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**16. OTHER INFORMATION**

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**(HMIS) HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:**

HEALTH:	<u>1</u>	4. Severe Hazard
FLAMMABILITY:	<u>0</u>	3. Serious Hazard
REACTIVITY:	<u>0</u>	2. Moderate Hazard
		1. Slight Hazard
		0. Minimal Hazard

**(WHMIS) CANADIAN WORKPLACE HAZARDOUS MATERIAL IDENTIFICATION SYSTEM RATINGS:**

This product is rated **D2B** – Product may irritate eyes, skin or mucous membrane.

Format is from directive 2001/58/EC.

EINECS data is from <http://ecb.jrc.it/existing-chemicals/>

Data used to compile the data sheet is from Ansul Material Safety Data Sheet, February, 2002.

The EU Classification has been changed in accordance with Directive 1999/45/EC and information in the EINECS ESIS files (Existing Substances Information System).

Toxicological information added from the EINECS ESIS (Existing Substances Information System) and from Dow Chemical Company.

A rating under WHMIS has been added, following the Canadian guidelines.

Limit values for exposure for diethylene glycol monobutyl ether were changed, based on EINECS ESIS data.

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**17. DISCLAIMER**

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THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT, BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. ANSUL SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.

MSDS available at <http://www.ansul.com>

**From:** Reif, Maizie L - DNR  
**Sent:** Thursday, October 22, 2020 11:11 AM  
**To:** djohnston@usventure.com  
**Cc:** Reif, Maizie L - DNR  
**Subject:** Wisconsin DNR Spill Responsible Party Notification for SERTS ID 20201022NE05-1

**Categories:** SPILLS

Don,

Per our conversation, please note that a documentation report will be needed for the spill referenced above. The report should be submitted to me within 45 days of the incident. The report should include the name and address of the responsible party and information (i.e., what happened, where it happened, how it was fixed, what remedial activities were performed, photo documentation, disposal documentation, etc.) to document spill response activities that occurred.

Please make sure that the report includes **global positioning system (GPS) coordinates** or a **map** that presents an accurate location of the spill. If you need more information related to the spill cleanup documentation report, please do not hesitate to contact me.

**RR-5538 Wisconsin DNR Spill Electronic Reporting and Tracking System (SERTS) Responsible Party Notification**

This notification contains information for the Responsible Party of the spill referenced below. Included is important legal information and links to spill response resources.

This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

October 22, 2020

Spill Occurred: 2020-10-22 08:30  
Spill Reported: 2020-10-22 08:48  
Substance(s): AFFF  
SERTS ID: 20201022NE05-1

Spill Location:  
410 Prairie Ave  
Green Bay, WI  
Brown County

Responsible Party:  
Us Venture Inc



Don Johnston  
Director Of Environmental Quality

### **Notice to Responsible Party**

The person identified as the “Responsible Party” pursuant to [Wis. Admin. Code § NR 700.03\(51\)](#) is obligated to take the necessary response actions to address the hazardous substance discharge or environmental pollution under Wis. Stat. ch. 292.

### **Obligations**

Your legal responsibilities are defined in Wis. Stat. ch. 292 and Wis. Admin. Code chs. NR 700-754. In particular, [the hazardous substances spill law](#) states:

RESPONSIBILITY. A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state.

[Wis. Admin. Code chs. NR 700 - 754](#) establish requirements for actions to be taken by responsible parties to restore the environment to the extent practicable; protect public health, safety, welfare and the environment; and establishes documentation requirements associated with these response actions, where a hazardous substance discharge or environmental pollution has occurred. [Wis. Admin. Code ch. NR 708](#) contains requirements for immediate actions following a hazardous substance discharge.

### **Steps to Take**

[Wis. Admin. Code § NR 708.05](#) requires responsible parties to take immediate action to halt a hazardous substance discharge or environmental pollution and minimize the harmful effects of the discharge or environmental pollution to the air, lands and waters of the state, unless otherwise directed by the DNR.

Below are initial actions that should be taken to address a hazardous substance discharge or environmental pollution:

Obtain the services of an environmental response contractor and/or an environmental consultant to help ensure that proper immediate actions are taken and documented. Information about selecting [Environmental Consultants](#) and [Spill Response Contractors](#) is available at [dnr.wi.gov](http://dnr.wi.gov) search for environmental consultants and spills.

Review, along with your contractor or consultant, [Wis. Admin. Code § 708.05](#), which describes spill response actions for both emergency and non-emergency immediate actions.

[Wis. Admin. Code § NR 708.05\(6\)](#) requires the submittal of written documentation to the DNR of immediate actions taken and the outcome of those actions, within 45 days after the hazardous substance discharge notification to the DNR.

Comply with [Wis. Admin. Code § NR 708.09](#), which specifies the requirements for the

preparation and submittal of a final report to the DNR documenting the actions taken to respond to the hazardous substance discharge and environmental pollution. Reports may be submitted to the appropriate DNR regional spill coordinator, listed below

Review the remainder of [Wis. Admin. Code § NR 708](#) to ensure that all immediate response action requirements have been complied with.

### **DNR Determination**

The DNR will provide a cursory review of the Wis. Admin. Code ch. NR 708 reports, if submitted without a review fee. If no further action is necessary, the DNR will note that in the Bureau for Remediation and Redevelopment (BRRTS) database. If you want a written response from the DNR related to a No Further Action decision, or any other determination, please fill out and submit [DNR Form 4400-237](#) with the appropriate fee.

If, however, groundwater wells are affected by the hazardous substance discharge or environmental pollution, if free product removal is required, if there is evidence that contaminated soil may be in contact with groundwater or residual contamination poses a threat to public health or the environment, the DNR shall require additional action per Wis. Admin. Code § NR708.09(2).

Please contact me if you have any questions regarding this notification or you would like to discuss your specific situation in more detail.

### **DNR Regional Spill Coordinator:**

Maizie Reif  
920-360-4291  
[Maizie.Reif@wisconsin.gov](mailto:Maizie.Reif@wisconsin.gov)