



Southeast Regional Office

April 22, 2021

To: Nicholas J. Bryan, PLS
Sr. Director – E&C Environmental
101 W. Third Street, 3rd floor
Williamsport, PA 17701

Re: Temporary Discharge Approval
Project Name: PA Pipeline Project/ Mariner East 2
File Type: Groundwater/Stormwater
West Whiteland Township and Chester County

Dear Mr. Bryan.

This is in response to your materials dated April 15, 2021; April 18, 2021; and April 19, 2021; and your letter received April 22, 2021 requesting approval for a temporary discharge of groundwater dewatering during excavation to Valley Creek (CWF, MF) or Ship Road Run (an Unnamed Tributary to Valley Creek, CWF, MF) in West Whiteland Township, Chester County.

The Proposed Project is located near 410 Swedesford Rd, Exton, PA 19341 in the Briar Road bore pit. Groundwater from excavation of trenches which contains solids (i.e. dewatering of the trench) will be discharged to the ground surface, migrate to a wetland, and discharge to a stream. The proposed treatment is a “Rain for Rent” system consisting of a pump followed by a chemical injection point, static mixer and flow meter. The groundwater will then be sent to one of four weir tanks (in series) with over/under weirs, followed by pumps that send the effluent to one of two sand filters (in series). Sediment filter bags will be placed after the sand filters in case extra filtration is needed. Turbidity will be measured in the field and a TSS sample will be collected after the system is operational. The expected duration is three (3) months. The parameters identified as potentially impacting the receiving water from this process (in the absence of any addition of flocculants or other chemical treatment) are Total Suspended Solids (TSS) and turbidity.

The expected pumping rate from the trenches is 250 to 1,000 gallons per minute, with an average flow rate of 500 to 700 gpm, and the treatment system is capable of treating 1,000 gpm. The sand filters are capable of filtering particles to 25 microns at a maximum loading rate of 10 gpm/ft². Sand filters will be used at all times the system is in operation.

If the permittee cannot meet the limitations, then additional treatment to meet the limitations can be used, subject to the terms and conditions of this authorization. As an example, the proposed chemical WTSWW-4200, can be used if necessary, to meet the limitations. This chemical is a wastewater treatment flocculant and is listed on the DEP Approved Chemical Additives list. WTWSS-4200 is an anionic polyacrylamide (PAM) flocculant.

We hereby approve your request to discharge the treated wastewater subject to the following:

1. Notify the Department of Environmental Protection (DEP) Southeast Regional Office’s Permits Section prior to proposing or implementing any changes in the Proposed Project at hhawley@pa.gov or 484-250-5191, and proceed with any such modifications only if authorized in writing.
2. If the details of the Project described above are changed by: (a) the addition or presence of pollutants in the discharge not previously identified in the request, (b) a significant increase to the concentration of pollutants in the discharge or volume of wastewater treated, or (c) by any other unauthorized change or modification to the Project that harms or poses an imminent risk of harm to public health or the environment, this temporary discharge request is null and void, and the discharge is no longer authorized by this approval.
3. Notify the DEP Southeast Regional Office’s Operations Section 24 hours prior to commencing discharge at rbauer@pa.gov or 484.250.5970
4. Permission to discharge to sanitary sewers adjacent to the site has been denied by the sanitary sewer system owner and is not authorized by this authorization.
5. The discharge must comply with the following effluent limitations and monitoring requirements:

Effluent Limitations and Monitoring Requirements:

Parameter	Maximum (mg/l) *
Total Suspended Solids	10
pH (STD)	limits of 6.0 to 9.0
Oil and grease	5 mg/l
Acrylamide**	Non-Detect*

* For a limit specified as “Non-Detect”, results lower than listed Target Quantitation Limit (TQL) satisfies the compliance. The TQL for acrylamide is 0.05 mg/l.

**Monitor this parameter if the PAM is used.

Effluent samples shall be collected and analyzed for the parameters listed above. At least one representative sample shall be taken within 2 hours of startup and *daily for the first week and 2/week thereafter* until discharge ceases.

6. Monitoring results shall be submitted *within 28 days after completion of discharge/monthly, whichever occurs first*, to:

Pennsylvania Department of Environmental Protection
Clean Water Program, Operations Section
2 East Main Street
Norristown, PA 19401

7. The approval herein given is specifically made contingent upon the permittee acquiring all necessary property rights by easement or otherwise, providing for the satisfactory construction, operation, maintenance, and replacement of all works associated with the herein approved discharge in, along, or across private property, with full rights of ingress, egress, and regress.
8. In the event of any unauthorized discharge or other activity at or from the Project that results or may result in adverse effects to the receiving stream or aquatic life, both the Department and the Pennsylvania Fish and Boat Commission shall be notified immediately.
9. The permittee shall effectively monitor the operation and efficiency of all treatment and control facilities, and the quantity and quality of the discharge(s) as specified in this approval.
10. This discharge shall not induce erosion of the ground surface, banks or streambed; appropriate erosion and sedimentation controls shall be installed. Water shall be discharged through an energy dissipater at a controlled rate to minimize erosion.
11. The discharge shall comply with the Department's narrative surface water criteria and other provisions set forth at 25 PA Code § 92a.41(c), § 95.2(2), and § 93.6(a).
12. All tests or analysis of environmental samples used to demonstrate compliance with this approval shall be in compliance with laboratory accreditation requirements of Act 90 of 2002 and 25 PA Code Chapter 252, relating to environmental laboratory accreditation.
13. Test procedures (methods) for the analysis of pollutants shall be those approved under 40 CFR Part 136, unless an alternative method is specified in this approval or has been otherwise approved in writing by DEP.
14. Test procedures (methods) selected for the analysis of pollutants shall be sufficiently sensitive. A sufficiently sensitive test method is a test method which has an analytical reporting level set at or below the level of effluent limits established in this approval.

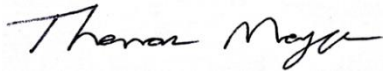
15. If the temporary discharge authorized by this approval does not comply with all conditions outlined herein, the discharge constitutes an unpermitted discharge and is subject to all penalty provisions and other enforcement actions under applicable law, including the Clean Streams Law.

This letter does not waive, either expressly or by implication, the power or authority of the Commonwealth of Pennsylvania to prosecute for any and all violations of law arising prior to or after the issuance of this letter or the conditions upon which this letter is based. This letter shall not be construed so as to waive or impair any rights of the Department, heretofore or hereafter existing.

This approval shall expire 180 days from issuance of this letter unless DEP notifies the permittee in writing of an earlier expiration. Any changes to the Project must receive prior approval from DEP.

If you have any questions, please contact Harmonie Hawley, PhD, PE of the Permits Section at hhawley@pa.gov or 484-250-5191.

Sincerely,



Thomas L. Magge
Environmental Program Manager
Clean Water Program

cc: E&C Environmental Energy Transfer Attn: Jeremy Daniel
West Whiteland Township
Chester County Health Department
Operations Section
DEP Waterways and Wetlands
Permits Chief
File

TEMPORARY DISCHARGE APPROVAL PROCESS

In order to adequately review temporary discharge requests, the following information must be submitted to the Department:

1. Description of the project. – Sunoco intends to use an electric pump and associated polyethylene piping to support dewatering of groundwater from the trench (bore pit). Trench water will be pumped to a treatment system operated by Rain for Rent to reduce turbidity and Total Suspended Solids (TSS). The treated water will be discharged into strawbale dewatering structures with filter bags that will further assist with sediment settling to ensure discharge of clean water and dissipate the water to minimize erosion and sedimentation issues. The treated water will be discharged to the ground surface, migrate through Wetland B71, and discharge into Ship Road Run (Stream S-B79 Tributary to Valley Creek) or Valley Creek (Stream S-B81). See figure in Attachment 1.
2. Site name and location, including a copy of the portion of a topographic map with the latitude and longitude of the discharge location. – See figure in Attachment 1, Chester County, Pennsylvania, Mariner East 2, Pennsylvania Pipeline Project, Construction Spread 6, Wetland B71 Bore, 40.0305971° N, 75.619216° W.
3. Date and duration of discharge. – As soon as authorization is provided; duration expected to be 3 months (e.g., April 28, 2021 to July 28, 2021).
4. Rate of discharge. – The estimated pumping rate from the trench (bore pit) is 250 to 1,000 gpm and is dependent on water levels.
5. Treatment proposed.

Rain For Rent Treatment Process B71 Pit Water (See Figure in Attachment 2):

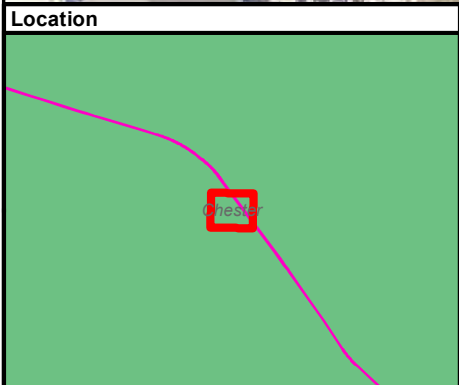
- Pumped water will be conveyed via an 8” influent flow line using a DV150 electric pump to maintain proper head pressure.
- Flocculent (WTSWW-4200; SDS provided in Attachment 3) will be introduced on the discharge side of the pump using an automated injector and mixed with the water in accordance with the manufacturer’s recommendations.
- The water will then pass through open top weir tanks with over/under weirs to allow for the settling out of the particles.
- Each weir tank will be isolated to allow for periodic clean out of accumulated sediments and all sediments collected will be properly disposed.
- Once the pumped water has passed through the weir tanks, it will be directed to the sediment filter bags that are located within a dewatering structure.
- Based upon the weir system’s performance, pumped water may alternatively be passed through sand filter media prior to reaching the sediment filter bags to ensure effective, efficient operation.
- A water sample will be collected when the system is operational to determine the TSS concentration, and turbidity will be measured in the field. (Email 1).

- As a final treatment process, the water will also be passed through a filter bag and haybale structure before being discharged to a well vegetated area. These BMPs will further treat the water to reduce TSS and turbidity before it eventually discharges to the receiving waterbody.
6. List of expected contaminants with their level of contamination before the treatment. – No contamination is expected to be present in the water pumped from the pit. Prior to pumping, a sample was collected to characterize the water for typical discharge parameters (oil and grease, TSS, dissolved iron, dissolved oxygen, total residual chlorine, and pH). A summary of the results is presented in Attachment 4. In addition, measurements of water quality parameters (temperature, dissolved oxygen, pH, and turbidity) in the discharge water have been taken routinely during pumping activities.
 7. Expected discharge concentrations of contaminants in the wastewater after the treated. – Multiple treatment processes will be used to ensure that the water being discharged does not adversely impact the environment. Initial treatment of the pit water with the flocculant and weir tanks is expected to decrease turbidity and TSS below typical discharge levels allowed by PADEP. If needed, the sand filters will be used to filter out particles 25 microns or larger, further decreasing turbidity and TSS levels in the discharge water (see Email 2). As a final treatment process, the water will also be passed through a filter bag and haybale structure before being discharged to a well vegetated area. Information on the filter fabric used in the filter bags is included in Attachment 5. These BMPs will further treat the water to reduce TSS and turbidity before it eventually discharges to the receiving waterbody.
 8. Discussion of attempts to discharge to the sanitary sewer system, including contacts made with the sewer authority. – West Whiteland Township Engineer discussed with DARA in August 2020. Attached email correspondence. This option was evaluated and is not viable. The township will not allow for us to introduce the groundwater into the sanitary system. This would also have Delaware River Basin Commission (DRBC) implications for removing groundwater from the watershed. (Email 3)
 9. A copy of the correspondence notifying the municipality of the proposed discharge, including certified mail receipts. – N/A. Discharge is not proposed to a MS4 or sanitary sewer system.
 10. Any other information related to the requested discharge. – None
 11. Need written approval from the owner of Municipal Separate Storm Sewer System (MS4), if using their system for conveyance of the treated effluent to the receiving stream. N/A-Water is not proposed to be discharged to a MS4 system.

The temporary discharge approval requests can not be processed for those cases where the discharge is flowing to a receiving stream designated as High Quality stream or Exceptional Value stream. Receiving streams are classified as cold-water fishery (CWF), not HQ or EV.

Temporary discharge approvals are available for cases such as wastewater discharge generated during the following events or any other event similar to those listed below:

1. Aquifer performance test (well pump test).
2. Remediation system continuous discharge startups.
3. Well purge and pit water. – B71 Pit Water
4. Excavation water.
5. Drilling, development, and air stripper cleaning water.
6. Hydrostatic testing of the pipe and tanks for a short duration.



- LEGEND**
- Proposed Discharge Location
 - Observed Flow Pattern of Discharged Water
 - Delineated Stream (Ephemeral)
 - Delineated Stream (Perennial)
 - Desktop Interpretation Stream Channel
 - Delineated Wetland (PFO)
 - PPP Centerline
 - PPP LOD

Figure 1.
Estimated Flow Path of Trench Water Discharge from Dewatering Structure to Valley Creek (stream S-B81).
Chester County, PA.

Prepared For: SUNOCO PIPELINE
An ENERGY TRANSFER Partnership

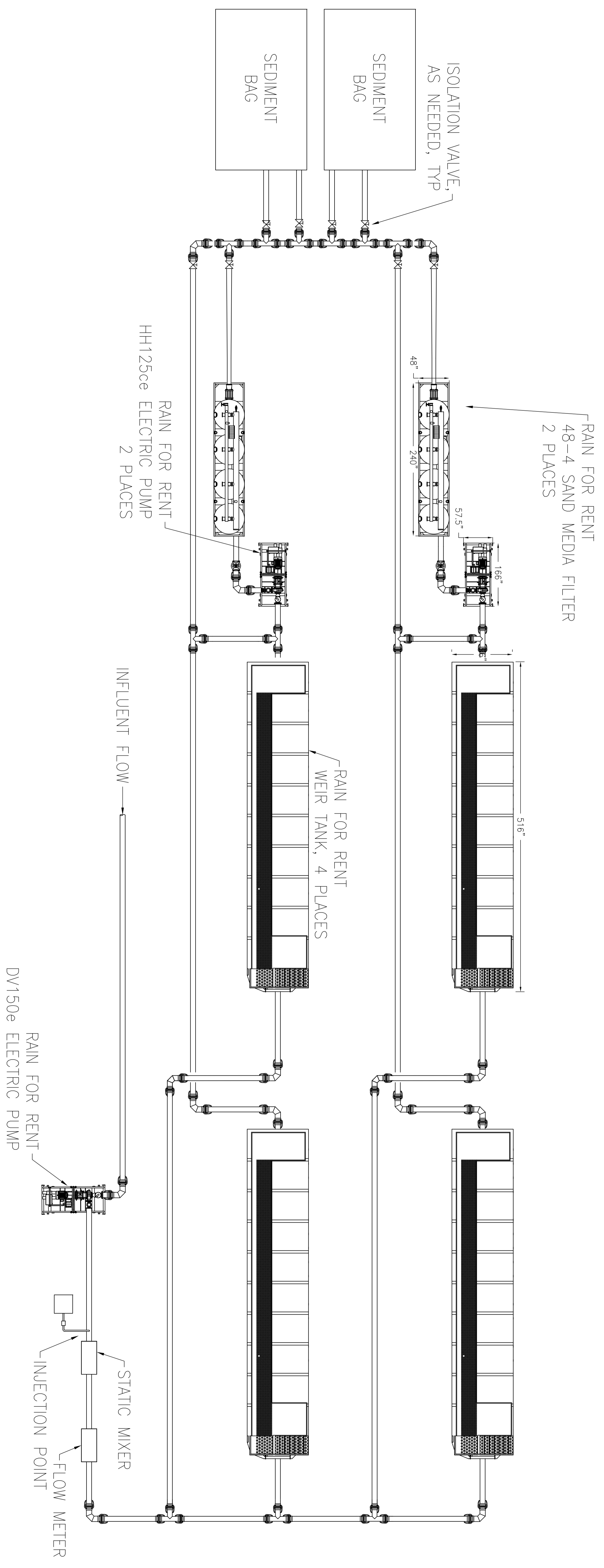
Prepared By: TETRA TECH **Date:** 6/4/2020

0 100 200
 Feet
1 inch = 100 feet

Document Path: E:\GIS\Projects\122059598-PPP\MapX\VAL\ValleyCreekDischarge_Fig1.mxd

REV. NO.	DESCRIPTION	PREVIOUS DWG.	BY	DATE
1	REVISED LAYOUT	-	T.T.	4.6.2021

ITEM	QTY.	REF.	DESCRIPTION
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PLAN VIEW

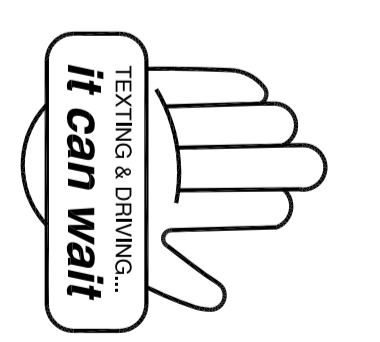
FILTRATION LAYOUT

BRANCH 1047

Rain for Rent Engineering
 3404 STATE ROAD, P.O. BOX 2248 BAKERSFIELD, CA 93303

DATE:	04/06/2021
SCALE:	NOT TO SCALE
DESIGNED:	-
CHECKED:	K.MARTINEZ
DRAWN:	E.GONZALEZ

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CONFIDENTIAL

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: WTSWW-4200

1.2. Intended Use of the Product

Processing aid for industrial applications

1.3. Name, Address, and Telephone of the Responsible Party

Company

Water Treatment Services

203 Townsend Drive

Monroeville, PA 15146

800.817.5116

www.wtsfirstdefense.com

1.4. Emergency Telephone Number

Emergency Number : Call CHEMTREC Day or Night 1 (800) 424 - 9300 / +1 (703) 527 – 3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Not classified

2.2. Label Elements

GHS-US/CA Labeling



Hazard Pictograms (GHS-US):

Signal Word (GHS-US):

Hazard Statements (GHS-US):

Warning

May cause eye and skin irritation with prolonged contact

Avoid contact with eyes, skin and clothing

Do not take internally

Use with adequate ventilation

Precautionary Statements (GHS-US):

Wash thoroughly after handling

Keep container closed when not in use.

Store in a cool, dry, well ventilated area

Protect from freeze

2.3 Other Hazards

Aqueous solutions that become wet render surfaces extremely slippery.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Distillates (petroleum) hydrotreated light	64742-47-8	20-45	Asp. Tox. 1. H304*
Poly(oxy-1,2-ethanedtyl), a-tridecyl-w-hydroxy-, branched	69011-36-5	<3%	Acute Tox. 4; H302, Eye Dam 1:H318

*Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40C.

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According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist call a physician.

First-aid Measures After Skin Contact: Remove contaminated clothing and shoes. Wash off immediately with plenty of water. Wash contaminated clothing before reuse. If a person feels unwell or symptoms of skin irritation appear, consult a physician.

First-aid Measures After Eye Contact: Rinse immediately with plenty of water, also under the eyelids for at least 15 minutes. Obtain medical consultation, preferably from an ophthalmologist.

First-aid Measures After Ingestion: If swallowed, call a poison control center or doctor immediately. DO NOT induce vomiting unless directed to do so by a doctor or poison control center. Never give anything by mouth to an unconscious person.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

None under normal use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

None.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water. Water Spray. Foam. Carbon dioxide (CO₂). Dry powder.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Carbon oxides (CO). Nitrogen Oxides (NO_x). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Hazardous Combustion Products: Carbon oxides, silicon oxides, formaldehyde, and metal oxides

Other Information: Spills produce extremely slippery surfaces.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations. Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Ventilate area.

6.2. Environmental Precautions

Do not flush into surface water. Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment of oil barriers).

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

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According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Methods for Cleaning Up: Do not flush with water. Dam up. Soak up with inert absorbent material. If liquid has been spilled in large quantities clean up promptly by scoop or vacuum. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling: Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled.

When using, do not eat, drink or smoke.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep in properly labeled containers. Keep in a dry cool place (0- 30°C). Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material.

Incompatible Materials: Strong oxidizing agents

7.3. Specific End Use(s)

None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Ingredients with workplace control parameters: Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

Ingredients	Occupational Exposure Limits
Distillates (petroleum) hydrotreated light	ACGIH: 200 mg/m ³ (8-hour)

8.2. Exposure Controls

Use local exhaust if misting occurs.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work.

Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of the workday.

Eye Protection: Chemical safety goggles

Skin and Body Protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc.).

Respiratory Protection: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Other Information: Ensure that eye flushing and safety showers are located close to the working place. When using do not eat, drink, or smoke. Wash contaminated clothing before re-use.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Milky-white viscous liquid
Odor	: Aliphatic
Odor Threshold	: Not available
pH	: 5-9 (5 g/L)
Evaporation Rate	: Similar to water
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not applicable
Auto-ignition Temperature	: Not available
Decomposition Temperature	: >150 °C
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Similar to water
Relative Vapor Density at 20°C	: Similar to water
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Water: Miscible
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: See technical bulletin

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Thermal decomposition may produce: nitrogen oxides (NO_x), carbon oxides (CO_x). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.
- 10.4. Conditions to Avoid:** Protect from frost, heat and sunlight
- 10.5. Incompatible Materials:** Oxidizing agents.
- 10.6. Hazardous Decomposition Products:** Thermal decomposition may produce: nitrogen oxides (NO_x), carbon oxides (CO_x). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

LD50 Oral Rat	Not available
LD50 Dermal Rat	Not available

Irritation / Corrosivity	Not irritating
Sensitisation	It is not a skin sensitizer.
Repeated dose toxicity	Not to be expected.
Carcinogenicity	Not carcinogenic

NTP	IARC	ACGIH	OSHA	NIOSH
No.	No.	No.	No.	No.

Mutagenicity	Negative
Toxicity for reproduction	Not to be expected

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Reproductive toxicity	Not to be expected
Other information	None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity

Ecotoxicity

Short term

LC50 (48 hour): >20 mg/L (*Daphnia magna*)

Persistence and degradability

Not readily biodegradable

Bioaccumulative potential

The product has no potential for bioaccumulation.

Mobility in soil

Not available.

Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

Other adverse effects

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations

Additional Information: Empty containers should be taken to an approved waste handling site for disposal.

Ecology - Waste Materials: Dispose of in accordance with local regulations. Avoid discharge into water courses or onto the ground.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

U.S. DOT

Sea transport (IMDG)

Air transport (ICAO/IATA)

UN number Not classified

Proper Shipping Name

Transport hazard class(es)

Packing group

Environmental hazards

Special precautions for user

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Safety, health and environmental regulations/legislation specific for the substance or mixture:

TSCA (Toxic Substance Control Act) - Inventory Status: All components listed or polymer exempt.

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
None	-----	-----	-----

SARA 311/312 - Hazard Categories: None

Fire Sudden Release Reactivity Immediate (acute) Chronic (delayed)

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SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
None	-----	-----

SARA 302 - Extremely Hazardous Substances (40 CFR 355):

Chemical Name	CAS No.	Typical %wt.	TPQ (pounds)
None	----	----	----

California Proposition 65 List:

WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

T NFPA and HMIS Ratings:

NFPA:

Health: 0

Flammability: 1

Instability: 0

HMIS:

Health: 0

Flammability: 1

Physical Hazard: 0

PPE Code: B

This SDS was prepared in accordance with the following:

U.S. Code of Federal Regulations 29 CFR 1910.1200

The following sections contain revisions or new statements: 12.

Date of revision: July 21, 2020

Training advice: None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

The TSS lab duplicate (lab quality control) had a relative percent difference greater than the quality control limit. No validation action was warranted as the samples used were not a part of the SDG.

Laboratory Performance: None.

Other Factors Affecting Data Quality: TRC results were adjusted to be reported at the detection limit of the test kit.

The data for these analyses were reviewed with reference to the Region III modifications to the National Functional Guidelines for Inorganic Data Validation (January 2017).



Tetra Tech
Megan Carson
Chemist/Data Validator

Attachments:

Appendix A – Qualified Analytical Results

Appendix B – Results as Reported by the Laboratory

Appendix C – Support Documents

Appendix A

Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors $>40\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $<30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted method detection limit for sample and method.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

SunocoPipeline L.P.
Analytical Test Results
PPP6 Briar Road

Sample ID	Parameter	Sample Results	Units	Lab Qualifier	TT qualifier	Qualification Code	PA Discharge Criteria	MDL	RL	Dilution Factor
PPP6-BRIARGW-BASELINE-030821	Oil/Grease	1.2	mg/L	U	U		30	1.2	3.7	1
	Total Suspended Solids	42.0	mg/L				60 ⁽²⁾	5	5.0	1
	Dissolved Iron	0.02	mg/L	U	U		7	0.02	0.06	1
	Dissolved Oxygen *	9.82	mg/L				5.0 ⁽¹⁾			
	Dissolved Oxygen *	9.55	mg/L				5.0 ⁽¹⁾			
	Chlorine, Total Residual *	0.02	mg/L		U		0.05			
	Chlorine, Total Residual *	0.02	mg/L		U		0.05			
	pH *	7.84	SU				6-9			
	pH *	7.66	SU				6-9			

Results exceeded discharge criteria

*Field analysis

⁽¹⁾ Minimum criteria

⁽²⁾ Average discharge criteria is 30 mg/L.

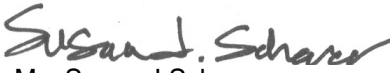
Appendix B

ANALYTICAL RESULTS

Workorder: 3162158 Sunoco Hydrostatic Testing

Lab ID: **3162158001** Date Collected: 3/8/2021 14:00 Matrix: Water
Sample ID: **PPP6-BRIARGW-BASELINE-030821** Date Received: 3/8/2021 16:10

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	Cntr
WET CHEMISTRY										
Oil/Grease Hexane Extractable	ND	C	mg/L	3.7	1.2	EPA 1664B		3/10/21 06:55	MPP	C
Total Suspended Solids	42	C	mg/L	5	5	S2540D-11		3/11/21 16:02	ZXW	B
METALS										
Iron, Dissolved	ND	C	mg/L	0.060	0.020	SW846 6010C	3/15/21 07:25 SRT	3/15/21 10:30	SRT	A



Ms. Susan J Scherer
Project Coordinator

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SUNOCO

Field Analysis and Sampling of Hydrostatic Test Waters



Tetra Tech Inc.

Event: Groundwater/Bore
 Project Site Na Wetland WL-B71 Bore
 Project No.: 212IC-PB-00387

Sample ID: PPP6_BRIARGW_BASELINE_030821		Sampled By: Curtis Barbacci			
Sample Location: 40.030689, -75.619097		Sample Date: 3/10/2021			
QA/QC Duplicate ID: N/A		Sample Time-Field Test: 800			
MS/MSD Collected: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		Sample Time-Laboratory: 1400 3/8/21			
Flow Rate GPM:					
Sample Source: circle one					
Source Water: Treated <input type="checkbox"/> or <u>Untreated</u> <input checked="" type="checkbox"/>		Pipe Diameter (inches): N/A			
Pre -Discharge:		Total Discharge (Gal): N/A			
Discharge:		Discharge Duration (hrs): N/A			
FIELD TEST:					
Parameter	Result #1	Result #2	Allowable Limit - Pennsylvania	Minimum Measurement Frequency	
pH (SU) Pro DSS YSI	7.84	7.66	6.0/9.0	1/discharge	
Notes:					
DO (mg/L) Pro DSS YSI	9.82	9.55	5 mg/L minimum	1/discharge	
Notes:					
Temp. (°C) Pro DSS YSI	9	9.2	NA	1/discharge	
Analysis Time: _____					
Notes:					
Chlorine, Total Residual (mg/L) Equipment: HACH CN-70, Color disc/DPD Only required if treated water is used.	0	0	0.05 mg/L	1/discharge	
Analysis Time: _____					
Notes:					
LABORATORY ANALYSIS, PRESERVATION AND BOTTLE REQUIRMENTS					
Analysis	Minimum Measurement Frequency	Method	Preservative	Bottle Type	Collected
TSS (mg/L)	1/discharge	EPA 160.2 or SM2540D	NONE	500 ml, PE	Y
Oil & Grease (mg/L)	1/discharge	EPA 1664	H2SO4	Amber Glass	Y
Dissolved Iron (ug/L)	1/discharge	SW-846 6010C	NONE	150 ml, PE	Y
OBSERVATIONS / NOTES:					
Groundwater emerging within bore pit					
Photo Log: N/A					
Coordinates:		N	E	Signature(s):	
		40.030689	-75.619097		

Appendix C

March 16, 2021

Mr. Corey Rich
Tetra Tech Pittsburgh
661 Andersen Drive
Pittsburgh, PA 15220

Certificate of Analysis

Project Name:	Sunoco Hydrostatic Testing	Workorder:	3162158
Purchase Order:	1137335	Workorder ID:	Sunoco Hydrostatic Testing

Dear Mr. Rich:

Enclosed are the analytical results for samples received by the laboratory on Monday, March 8, 2021.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Susan J Scherer (Project Coordinator) at (717) 944-5541.

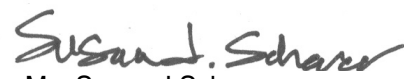
Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Ms. Megan Carson , Ms. Kelly Carper

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Ms. Susan J Scherer
Project Coordinator

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Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER.
INSTRUCTIONS ON THE BACK.

COC #: 31
PO 1123460



3162158

Client Name: Tetra Tech			Container Type	AG	PL	PL											Receipt
Address: 681 Andersen Drive, Foster Plaza 6 Pittsburgh, PA 15220			Container Size	1L	250ml	1L											Cooler Temp: <u>0</u> °C Therm ID: <u>021</u>
Contact: Corey Rich			Preservative	H2SO4	NONE	NONE											No. of Coolers: _____ Y N Initial
Phone#: 412-921-8984			ANALYSES/METHOD REQUESTED														
Project Name#: Sunoco Hydrostatic Testing, PO #01123460			*G or C	**Matrix	Oil and Grease	Dissolved Fe	TSS										Custody Seals Present? <input type="checkbox"/>
Bill To: Same																	(if present) Seals Intact? <input type="checkbox"/>
TAT <input checked="" type="checkbox"/> Normal-Standard TAT is 10-12 business days. <input type="checkbox"/> Rush-Subject to ALS approval and surcharges.																	Received on Ice? <input type="checkbox"/>
Date Required: _____ Approved By: _____																	COC/Labels Complete/Accurate? <input type="checkbox"/>
Email? <input checked="" type="checkbox"/> -Y Corey.Rich@tetratech.com																	Cont. in Good Cond.? <input type="checkbox"/>
Fax? <input type="checkbox"/> -Y No: _____																	Correct Containers? <input type="checkbox"/>
Sample Description/Location (as it will appear on the lab report)																	Correct Sample Volumes? <input type="checkbox"/>
Sample Date																	Correct Preservation? <input type="checkbox"/>
Time																	Headspace/Volatiles? <input type="checkbox"/>
Sample																	Courier/Tracking #:
Enter Number of Containers Per Sample or Field Results Below.														Sample/COC Comments			
PPP6-BRIARGW-BASELINE-030821	3/8/21	14:00	G	GW	1	1	1										
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
LOGGED BY(signature): _____ DATE: _____ TIME: _____			ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor <input type="checkbox"/> Composite Sampling <input type="checkbox"/> Rental Equipment Other: _____														
REVIEWED BY(signature): _____ DATE: _____ TIME: _____																	
Relinquished By / Company Name			Date	Time	Received By / Company Name			Date	Time	Data Deliverables		Special Processing		State Samples Collected In			
1 CURTIS BARBALCI / Tetra Tech			3/8/21	1610	2 GOM			3/8/21	1610	<input type="checkbox"/> Standard	USACE <input type="checkbox"/>		<input type="checkbox"/> NY				
3					4					<input type="checkbox"/> CLP-like	Navy <input type="checkbox"/>		<input type="checkbox"/> NJ				
5					6					<input type="checkbox"/> USACE	<input type="checkbox"/>		<input checked="" type="checkbox"/> PA				
7					8					<input type="checkbox"/>	Reportable to PADEP? Yes <input type="checkbox"/>		Lab <input type="checkbox"/>				
9					10					PWSID # _____	Sample Disposal Special <input type="checkbox"/>		<input type="checkbox"/> NC				
										EDDS: Format Type- _____							

* G=Grab; C=Composite **Matrix - AI=Air, DW=Drinking Water, GW=Groundwater, OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 10/11

Tuesday, March 16, 2021 3:20:54 PM
Page 11 of 12

ALS



301 Fulling Mill Road
Middletown, PA 17057

P: (717) 944-5541

F: (717) 944-1430

Condition of Sample Receipt Form
3162158

Client: _____ Work Order #: _____

Tetra Tech Inc.

Is: _____ Date: W 3-9-21

- | | | | |
|--|-------------|------------|-----------|
| 1. Were airbills / tracking numbers present and recorded?..... | <u>NONE</u> | YES | NO |
| Tracking number: _____ | | | |
| 2. Are Custody Seals on shipping containers intact?..... | <u>NONE</u> | YES | NO |
| 3. Are Custody Seals on sample containers intact?..... | <u>NONE</u> | YES | NO |
| 4. Is there a COC (Chain-of-Custody) present?..... | | <u>YES</u> | NO |
| 5. Are the COC and bottle labels complete, legible and in agreement?..... | | YES | <u>NO</u> |
| 5a. Does the COC contain sample locations?..... | | <u>YES</u> | NO |
| 5b. Does the COC contain date and time of sample collection for all samples?..... | | <u>YES</u> | NO |
| 5c. Does the COC contain sample collectors name?..... | <u>n/a</u> | YES | <u>NO</u> |
| 5d. Does the COC note the type(s) of preservation for all bottles?..... | | <u>YES</u> | NO |
| 5e. Does the COC note the number of bottles submitted for each sample?..... | | <u>YES</u> | NO |
| 5f. Does the COC note the type of sample, composite or grab?..... | | <u>YES</u> | NO |
| 5g. Does the COC note the matrix of the sample(s)?..... | | <u>YES</u> | NO |
| 6. Are all aqueous samples requiring preservation preserved correctly? ¹ | <u>N/A</u> | YES | NO |
| 7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?..... | | <u>YES</u> | NO |
| 8. Are all samples within holding times for the requested analyses?..... | | <u>YES</u> | NO |
| 9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)..... | | <u>YES</u> | NO |
| 10. Did we receive trip blanks (applies only for methods EPA 504, EPA 524.2 and 1631 E (LL Hg)?..... | <u>N/A</u> | YES | NO |
| 11. Were the samples received on ice?..... | | <u>YES</u> | NO |
| 12. Were sample temperatures measured at 0.0-6.0°C..... | | YES | <u>NO</u> |
| 13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below..... | | YES | <u>NO</u> |
| 13a. Are the samples required for SDWA compliance reporting?..... | <u>N/A</u> | YES | NO |
| 13b. Did the client provide a SDWA PWS ID#?..... | <u>N/A</u> | YES | NO |
| 13c. Are all aqueous unpreserved SDWA samples pH 5-9?..... | <u>N/A</u> | YES | NO |
| 13d. Did the client provide the SDWA sample location ID/Description?..... | <u>N/A</u> | YES | NO |
| 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?..... | <u>N/A</u> | YES | NO |

Cooler #: _____

Temperature (°C): 8 _____

Thermometer ID: 524 _____

Radiological (µCi): _____

COMMENTS (Required for all NO responses above and any sample non-conformance):

same day

¹Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made in the analytical department at the time of or following the analysis

ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3162158 Sunoco Hydrostatic Testing

Lab ID	Sample ID	Analysis Method	Prep Method	Leachate Method
3162158001	PPP6-BRIARGW-BASELINE-030821	EPA 1664B		
3162158001	PPP6-BRIARGW-BASELINE-030821	S2540D-11		
3162158001	PPP6-BRIARGW-BASELINE-030821	SW846 6010C	SW846 6010C	

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QUALITY CONTROL DATA

Workorder: 3162158 Sunoco Hydrostatic Testing

QC Batch: WETC/251796 **Analysis Method:** EPA 1664B
QC Batch Method: EPA 1664B
Associated Lab Samples: 3162158001

METHOD BLANK: 3290163

Parameter	Blank Result	Units	Reporting Limit
Oil/Grease Hexane Extractable	ND	mg/L	4.0

LABORATORY CONTROL SAMPLE: 3290164

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Oil/Grease Hexane Extractable	82.6	mg/L	40	33.0	78 - 114

MATRIX SPIKE SAMPLE: 3290165 ORIGINAL: 3161581001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Oil/Grease Hexane Extractable	.2243	mg/L	39	35.01171	89.1	78 - 114

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QUALITY CONTROL DATA

Workorder: 3162158 Sunoco Hydrostatic Testing

QC Batch: WETC/251881 **Analysis Method:** S2540D-11

QC Batch Method: S2540D-11

Associated Lab Samples:

METHOD BLANK: 3290966

Parameter	Blank Result	Units	Reporting Limit
Total Suspended Solids	ND	mg/L	5

SAMPLE DUPLICATE: 3290967 ORIGINAL: 3161945003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Suspended Solids	1	mg/L	2	66.7*	5

SAMPLE DUPLICATE: 3290968 ORIGINAL: 3162062001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Suspended Solids	320	mg/L	320	0	5

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SAMPLE SUMMARY

Workorder: 3162158 Sunoco Hydrostatic Testing

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3162158 Sunoco Hydrostatic Testing

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
3162158001	PPP6-BRIARGW-BASELINE-030821			EPA 1664B	WETC/251796
3162158001	PPP6-BRIARGW-BASELINE-030821			S2540D-11	WETC/251881
3162158001	PPP6-BRIARGW-BASELINE-030821	SW846 6010C	MDIG/88686	SW846 6010C	META/79632

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SAMPLE SUMMARY

Workorder: 3162158 Sunoco Hydrostatic Testing

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
3162158001	PPP6-BRIARGW-BASELINE-030821	Water	3/8/2021 14:00	3/8/2021 16:10	Collected by Client

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REINFORCING
SUCCESS

PRODUCT DATA SHEET WINFAB 800N



WINFAB 800N is manufactured using polypropylene fibers that are formed into a dimensionally stable network, which allows the fibers to maintain their relative position.

WINFAB 800N resists ultraviolet deterioration, rotting, and biological degradation and is inert to commonly encountered soil chemicals.

PROPERTY	TEST METHOD	MARV ENGLISH	MARV METRIC
Tensile Strength (Grab)	ASTM D4632	205 x 205 lbs	912 x 912 N
Elongation (Grab)	ASTM D4632	50% x 50%	50% x 50%
Trapezoidal Tear Strength	ASTM D4533	80 x 80 lbs	356 x 356 N
CBR Puncture	ASTM D6241	525 lbs	2,336 N
UV Resistance (500 hrs)	ASTM D4355	70%	70%
Apparent Opening Size*	ASTM D4751	80 US Std. Sieve	0.18 mm
Permittivity	ASTM D4491	1.3 sec ⁻¹	1.3 sec ⁻¹
Water Flow Rate	ASTM D4491	90 gpm/ft ²	3,667 lpm/m ²

*Maximum Average Roll Valve

PROPERTY	TEST METHOD	TYPICAL ENGLISH	TYPICAL METRIC
Roll Dimensions	Measured	12.5 ft x 360 ft 15 ft x 300 ft	3.81 x 109.8 m 4.6 x 91.5 m
Roll Area	Measured	500 yd ²	418 m ²

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