



Environmental  
Protection Agency

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

June 6, 2011

Mr. David Couchet  
Emery Oleochemicals LLC  
4900 Este Avenue  
Cincinnati, Ohio 45232-1419

**Re: Emery Oleochemicals LLC -- OH0137821; 1IF00018\*BD -- CEI**  
**NOTICE OF VIOLATION**

Dear Mr. Couchet:

On May 12, 2011, I met with Jerry Price to conduct a compliance evaluation inspection (CEI) at the Emery Oleochemicals LLC facility. The purpose of this inspection was to evaluate compliance with the terms of the NPDES permit. Please note that the report, by its format, tends to highlight negative areas.

As indicated on the attached NPDES Compliance Inspection Report, all areas that were evaluated received a satisfactory rating except for "Effluent/Receiving Waters" and "Operations and Maintenance" which received marginal ratings. The reasons for this rating are provided in the attached report.

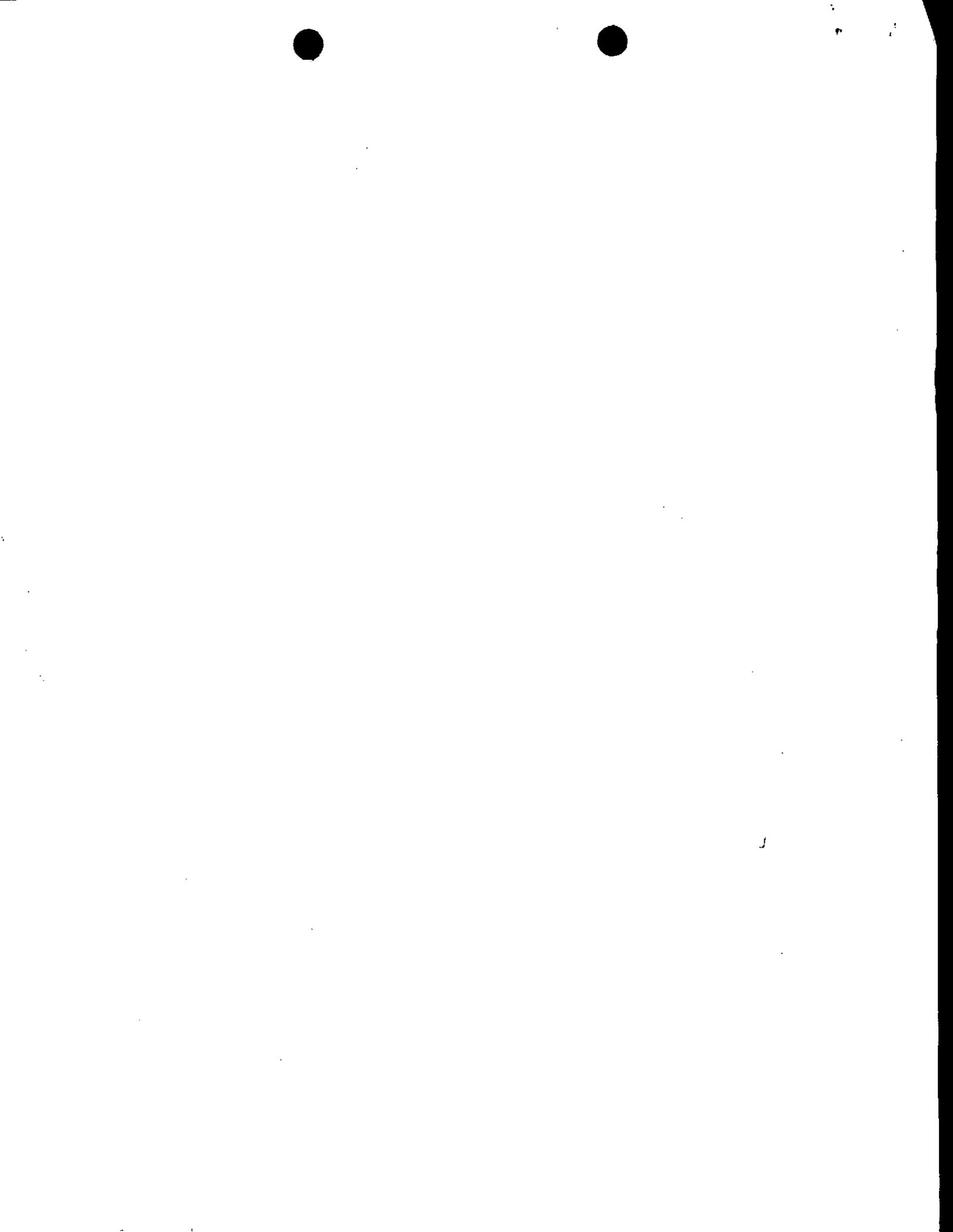
Thank you and your staff for the time extended during the inspection. If you have any questions, feel free to contact me at 937.285.6108.

Sincerely,

Marianne Piekutowski  
Environmental Specialist 2  
Division of Surface Water

Enclosures

Cc: Jerry Price, Emery Oleochemicals LLC  
Mike Groh, Emery Oleochemicals LLC





State of Ohio Environmental Protection Agency  
Southwest District Office

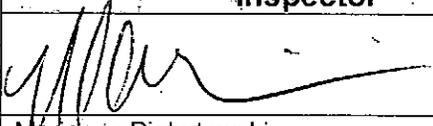
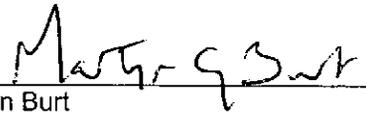
NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1IF00018*BD	OH0137821	5/12/2011	C	S	2

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Emery Oleochemicals, LLC 4900 Este Avenue Cincinnati, Ohio 45232	10:00 am	11/1/2009
	Exit Time	Permit Expiration Date
	12:50 pm	2/28/2013
Name(s) and Title(s) of On-Site Representatives		Phone Number(s)
Jerry Price, Environmental Specialist		513.962.2568
Name, Address and Title of Responsible Official		Phone Number
David Couchet, GM North America Emery Oleochemicals, LLC 4900 Este Avenue Cincinnati, Ohio 45232		513.962.2500

Section C: Areas Evaluated During Inspection					
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	N	Flow Measurement	N	Pretreatment
S	Records/Reports	N	Laboratory	N	Compliance Schedule
M	Operations & Maintenance	M	Effluent/Receiving Waters	N	Self-Monitoring Program
S	Facility Site Review	N	Sludge Storage/Disposal	S	Other
N	Collection System				

**Section D: Summary of Findings (Attach additional sheets if necessary)**  
See attached report.

Inspector	Reviewer
 Marianne Piekutowski Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
6/6/11 Date	6/6/11 Date

Sections E thru K: Complete on all inspections as appropriate  
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

**Section E: Permit Verification**

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee ..... Y
- (b) Correct name and location of receiving waters..... Y
- (c) Do Categorical Standards apply?...If yes, list applicable standards.. Y  

40 CFR 414 – Discharges to MSD.
- (d) Product(s) and production rates conform with permit application (Industries)..... NA
- (e) Flows and loadings conform with NPDES permit..... NA
- (f) Treatment processes are as described in permit application... NA
- (g) All discharges are permitted..... Y
- (h) Number and location of discharge points are as described in permit..... Y
- (i) Storm water discharges properly permitted..... Y

Comments/Status:

**Section F: Compliance**

- (a) Any significant violations since the last inspection..... N
- (b) Appropriate Non-compliance notification of violations..... Y
- (c) Permittee is taking actions to resolve violations..... Y
- (d) Permittee has a compliance schedule..... NA
- (e) Compliance schedule contained in..... N/A
- (f) Permittee is in compliance with schedule..... NA
- (g) Has biomonitoring shown toxicity in discharge since last inspection NA

Comments/Status:  

There are on-going violations of Oil and Grease at Outfall 013. The facility has been trying different equipment and procedures to try to eliminate the violations. None have been successful for any length of time. The facility has a contract with Green Cities to provide a plan for bioswales and a bioinfiltration basin to try to eliminate the discharge entirely. It is hoped the construction and plant installation would be completed in October 2011.

**Section G: Operation & Maintenance**

**Treatment Works:**

Treatment facility properly operated and maintained

(a) Standby power available.....generator  or dual feed ..... NA

i. What does the back-up power source operate.....

NA

ii. How often is the generator tested under load.....

NA

(b) Which components have an alarm system available for power or equipment failures.....

NA

(c) All treatment units in service other than backup units..... NA

(d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....

NA

(e) Any major equipment breakdown since last inspection..... NA

(f) Operation and maintenance manual provided and maintained..... NA

(g) Any plant bypasses since last inspection..... NA

(h) Any plant upsets since last inspection..... NA

**Comments/Status:**

[Empty box for comments/status]

**Section H: Sludge Management**

- (a) Method of Sludge Disposal...  Land Application  
 Haul to Another NPDES Permittee  
 Haul to a Mixed Solid Waste Landfill

**NA**

\*if one of the selected methods is land application, complete applicable charts.

**Class A - Exception Quality Sewage Sludge (monitoring station 584)**

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options							
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 - Aerobic Bench Scale Analysis	Option 4 - Specific Oxygen Uptake Rate	Option 5 - Aerobic Time and Temperature	Option 6 - Alkali Addition	Option 7 - >75% Percent Solids without Unstabilized Solids	Option 8 - >75% Percent Solids with Unstabilized Solids
Alternative 1 - Time and Temperature Regime (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - High pH and High Temperature (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 - Other Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 4 - Unknown Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Composting (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Drying (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Heat Treatment (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Thermophilic Aerobic Digestion (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Beta Ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Gamma ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 - Pasteurization (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 6 - Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Class B Sewage Sludge (monitoring station 581)**

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options									
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 – Aerobic Bench Scale Analysis	Option 4 – Specific Oxygen Uptake Rate	Option 5 – Aerobic Time and Temperature	Option 6 – Alkali Addition	Option 7 – >75% Percent Solids without Unstabilized	Option 8 - >75% Percent Solids with Unstabilized	Option 9 – Land Injection	Option 10 – Immediate Incorporation
Alternative 1 - Geometric Mean of Seven Fecal Samples (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Aerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Air Drying (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Anaerobic Digestion (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 – Composting (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 - Lime Treatment (46396)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 – Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (a) Has amount of sludge generated changed significantly since the last inspection..... NA
- (b) How much sludge storage is provided at the plant.....
- (c) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... NA
- (d) Any complaints received in last year regarding sludge..... NA
- (e) 5/8" screen at headworks for facilities that land apply sludge..... NA
- (f) Are sludge application sites inspected to verify compliance with NPDES permit..... NA
- (g) Is a contractor used for sludge disposal..... NA  
 If so, what is the name of the contractor.....

**Comments/Status:**

**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary/Secondary flow measuring devices operated and maintained..... Y  
Type of device (e.g. weir with ultrasonic level sensor):  

Calculate flow based on surface area and rainfall.
--
- (b) Calibration frequency adequate ..... NA  
(Date of last calibration: )
- (c) 24-hour recording instruments operated and maintained..... NA
- (d) Flow measurement equipment adequate to handle full range of flows..... NA
- (e) Actual flow discharged is measured..... NA
- (f) Flow measuring equipment inspection frequency  
Daily Weekly monthly other

**Comments/Status:**

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**Section I: Self-Monitoring Program (con't)**

**Sampling:**

- (a) Sampling location(s) are as specified by permit..... Y
- (b) Parameters and sampling frequency agree with permit..... Y
- (c) Permittee uses required sampling method..... Y  
(see GLC page)
- (d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e, continuous monitoring instrumentation, calibration and maintenance records)..... Y

**Comments/Status:**

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**Section I: Self-Monitoring Program (con't)**

**Laboratory:**

*General*

- (a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite..... Y
- (b) Do SOP's include the following if applicable..... N
- |                                    |                             |
|------------------------------------|-----------------------------|
| • Title                            | • Procedure                 |
| • Scope and Application            | • Calculations              |
| • Summary                          | • Quality Control           |
| • Sample Handling and Preservation | • Maintenance               |
| • Interferences                    | • Corrective Action         |
| • Apparatus and Materials          | • Reference (Parent Method) |
| • Reagents                         |                             |

*Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of known precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.*

- (c) EPA approved analytical testing procedures used (40 CFR 136.3).. Y
- (d) If alternate analytical procedures are used, proper approval has been obtained..... N
- (e) Analyses being performed more frequently than required by permit. N
- (f) If (e) is yes, are results in permittee's self-monitoring report..... NA
- (g) Satisfactory calibration and maintenance of instruments/equipment. NE  
(see score from GLC page)
- (h) Commercial laboratory used..... Y  
Parameters analyzed by commercial lab: **All parameters in NPDES permit.**  
Lab name: **Cardinal Laboratories**

**Discharge Monitoring Report Quality Assurance (DMRQA)**

- (a) Participation in latest USEPA quality assurance performance sampling..... NA  
Date:
- (b) Were any parameters "Unsatisfactory"..... NA
- (c) Reasons for "Unsatisfactory" parameters.....

NA

**Comments/Status:**

b) The facility submitted an SOP on May 16, 2011.  
Cardinal Laboratories participates in the DMRQA program.

**Section J: Effluent/Receiving Water Observations**

**Outfall # 1IF00018007**

Outfall Description: Stormwater outfall. There was a small amount of groundwater weeping out around the pipe.

Receiving Stream: Mill Creek

Receiving Stream Description: Modified warmwater habitat. The outfall is in the concrete portion of the stream.

**Outfall # 1IF00018013**

Outfall Description: Stormwater outfall. There was no discharge on the day of the inspection from this outfall.

Receiving Stream: Mill Creek

Receiving Stream Description: Modified warmwater habitat. The outfall is in the concrete portion of the stream..

**Outfall # 1IF00018016**

Outfall Description: Stormwater outfall. There was no discharge on the day of the inspection from this outfall.

Receiving Stream: Mill Creek

Receiving Stream Description: Modified warmwater habitat. The outfall is in the concrete portion of the stream.

**Outfall # 1IF00018018**

Outfall Description: Stormwater outfall. There was no discharge on the day of the inspection from this outfall.

Receiving Stream: Mill Creek

Receiving Stream Description: Modified warmwater habitat. The outfall is in the concrete portion of the stream.

**Outfall # 1IF00018036**

Outfall Description: Stormwater outfall. There was a small flow coming out of the pipe.

Receiving Stream: Mill Creek

Receiving Stream Description: Modified warmwater habitat. The outfall is in the concrete portion of the stream.

**Outfall # 1IF00018013**

Outfall Description: Stormwater outfall. There was no discharge on the day of the inspection from this outfall.

Receiving Stream: Mill Creek

Receiving Stream Description: Modified warmwater habitat. The outfall is in the gunnite portion of the stream.

**Comments/Status:**

Visited the areas where green infrastructure is planned for outfall 11F00018013. The stakes for the soil borings were in place. This is being used as a pilot study. If it is successful, it will be repeated at the other outfalls to eliminate stormwater discharges.

**Section K: Multimedia Observations**

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... Y
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
- (d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
- (e) Do you notice any unusual odors or strong chemical smells..... N
- (f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

If any of the above are observed, ask the following questions:

- (1) What is the cause of the condition?
- (2) Is the observed condition or source a waste product?
- (3) Where is the suspected contaminant normally disposed?
- (4) Is this disposal permitted?
- (5) How long has the condition existed and when did it begin?

**Comments/Status:**

a) The facility was in shutdown mode on the day of the inspection. There were areas that were having work done that were cluttered.

Permit # : 11F00018\*BD  
NPDES # : OH0137821

# ● General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Balance</b>				<b>NR</b>
• Standard Weights	• Either NIST Class 5 or ASTM/ANSI Class 1 weights <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used. <sup>3</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams <sup>4</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: :

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Drying Oven (Suspended Solids)</b>				<b>NR</b>
• Temperature Recordkeeping	• Temperature recorded with each use <sup>4</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup> . Correction factor posted on thermometer / equipment <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Thermometer temperature accurate to 0.5° Celsius <sup>5</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range is 103° - 105° C <sup>4</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: :

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable?		Rating
<p><b>pH Meter</b></p> <ul style="list-style-type: none"> <li>• Calibration Frequency / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)<sup>3</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>NR</b>
	<ul style="list-style-type: none"> <li>• Logbook maintained<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Minimum of 2 point calibration</li> </ul>	<ul style="list-style-type: none"> <li>• Calibration per manufacturer specification and calibration buffers must bracket anticipated result<sup>7</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Slope Documentation / Acceptability</li> </ul>	<ul style="list-style-type: none"> <li>• Slope acceptable range indicated on benchsheet<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Buffer Expiration Date</li> </ul>	<ul style="list-style-type: none"> <li>• Buffers must not be expired</li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Instrument manual available</li> <li>• Teflon covered magnetic stirrer or equivalent for mixing<sup>8</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: *The pH meter is calibrated immediately before sampling. A three point calibration is done using buffer solutions that are with the expiration date. The calibration is recorded. If the rain event would occur when Emery staff is not in, EHS Technologies will perform the sampling. They have their own meter and log book.*

Criteria	Standard Methods Requirement	Acceptable?		Rating
<p><b>Dissolved Oxygen Meter</b></p> <ul style="list-style-type: none"> <li>• Calibration Method</li> </ul>	<ul style="list-style-type: none"> <li>• Air or known DO calibration method<sup>10</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>NR</b>
	<ul style="list-style-type: none"> <li>• Calibration per manufacturer specification<sup>10</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Calibration Frequency / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Logbook maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration verification required at least once each day the meter is used.<sup>3</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)<sup>11</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Instrument manual available</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Incubator (CBOD/ E-Coli)	Acceptable?		
<ul style="list-style-type: none"> <li>• Temperature Recordkeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Temperature checked / recorded twice daily for each shelf in use<sup>1</sup>(E-Coli)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>NR</b>
	<ul style="list-style-type: none"> <li>• Temperature checked / recorded daily<sup>2</sup> (CBOD)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Acceptable temperature range (CBOD) is 20° C ±1.0<sup>o12</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Acceptable temperature range (E-Coli) is 35° C ±0.5<sup>o22</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Logbook maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Temperature Calibration / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Temperature correction information posted on incubator<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray</li> </ul>	<ul style="list-style-type: none"> <li>• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)<sup>23</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Instrument manual available</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<ul style="list-style-type: none"> <li>• Temperature Log (thermometer accurate to 0.5 Celsius).<sup>1</sup></li> </ul>		<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: :

Criteria	Standard Methods Requirement		Rating
Refrigerator	Acceptable?		
<ul style="list-style-type: none"> <li>• Temperature Recordkeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Temperature Log (thermometer accurate to 0.5 Celsius).<sup>5</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>NR</b>
<ul style="list-style-type: none"> <li>• Temperature Calibration / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer held in water bath.<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Refrigerator temperature ≤6° Celsius.<sup>13</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Do not store volatile solvents, food, or beverages.<sup>14</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>Chlorine Meter</b>	Acceptable?		
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV <sup>15</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>NR</b>
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) <sup>3</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification <sup>16</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Standards used for calibration not expired	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book being maintained. <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: :			

Criteria	Standard Methods Requirement		Rating
<b>Ammonia Meter</b>	Acceptable?		
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) <sup>3</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>NR</b>
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Method	• Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec. <sup>17</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Standards used for calibration not expired	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing <sup>18</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: :			

# General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Sample Collection/Handling</b>		<b>Acceptable?</b>		<b>NR</b>
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). <sup>19</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature). <sup>19</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Composite samples refrigerated during sample collection <sup>14</sup> <b>NA – Only Grabs</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equipment blanks utilized <sup>14</sup> <b>NA</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

**Comments:** *The facility had been rinsing out its sample collection container prior to taking its Oil & Grease sample. This should not be done for Oil & Grease. For all other parameters, the samples are collected in a container that has been thoroughly rinsed and wiped. It is then filled with the stormwater, rinsed, emptied, and filled again. That is then placed into the appropriate sample container. The sample is always poured into the sample bottle provided by Cardinal Laboratories. This bottle has the outfall number, any preservative that may be present, and test parameters. The sampler enters the date and time the sample was taken. Samples are all grab, and only complete bottles are filled from a single sample bucket. Samples are packed in ice in a cooler until picked up by the contract laboratory. A written sample collection SOP was provided on May 16, 2011.*

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Desiccator</b>		<b>Acceptable?</b>		<b>NR</b>
• General criteria	• Properly working seals.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Desiccant fresh (blue color)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Documentation	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

**Comments:**

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Bench sheets</b>		<b>Acceptable?</b>		<b>NR</b>
• General criteria	• Date(s) <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Analyst initials <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Blue or black ink pen <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration information <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equations, calculations, units for all measurements, notations, and results present <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Corrections, single line through, initialed and dated <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

**Comments:**

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>Hot Water Bath (Fecal Coliform/E. Coli)</b>			<b>NR</b>
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C) <sup>21</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Incubator temperature 44.5° C ± 0.2° <sup>21/24</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) <sup>1,5</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement		Rating
<b>Autoclaves/Steam Sterilizers</b>			<b>NR</b>
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C <sup>25</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• 10 to 30 minutes time based on material being sterilized <sup>26</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Documentation	• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust. <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>Final Effluent Temperature Monitoring</b>	Acceptable?		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>NR</b>
	• Thermometer accurate to 0.1° Celsius <sup>5</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			
<b>Number of Criteria Rated:</b>			
			<b>Acceptable</b> 0
			<b>Marginal</b> 0
			<b>Unacceptable</b> 0
			<b>Total Number of Areas Rated</b> 0
<p><b>Acceptable Ratings</b> – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).</p>			
<p><b>Marginal Ratings</b> – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).</p>			
<p><b>Unsatisfactory Rating</b> - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).</p>			
Consider recommending PAI Audit from DES when:		<p>&gt;60% of ratings are Marginal</p> <p>&gt;45% of ratings are a combination of Marginal or Unacceptable</p> <p>&gt;30% of ratings are Unacceptable</p>	

## Notation of Referenced Method

- |                            |                              |
|----------------------------|------------------------------|
| 1 Method 9020-B, Item 3    | 14 Method 1060A, Item 1      |
| 2 Method 1020-A, Item 1    | 15 Method 4500-CI I, Item 2  |
| 3 Method 1020-B, Item 10   | 16 Method 4500-CI I, Item 4  |
| 4 Method 2540-B, Item 2    | 17 Method 4500-NH3 D, Item 4 |
| 5 Method 2550-B, Item 1    | 18 Method 4500-NH3 D, Item 2 |
| 6 Method 1020-A, Item 1    | 19 Method 1060-B, Item 2     |
| 7 Method 4500-H B, Item 4  | 20 Method 1060-B, Item 1     |
| 8 Method 4500-H B, Item 2  | 21 Method 9222D, Item 1      |
| 9 Method 1020-B, Item 2    | 22 Method 9223 B, Item 2     |
| 10 Method 4500-O B, Item 3 | 23 Method 9223 B, Item 3     |
| 11 Method 4500-O G, Item 3 | 24 Method 1603, Item 2       |
| 12 Method 5210-B, Item 5   | 25 Method 9030-B, Item 3     |
| 13 CFR 136.3, Table II     | 26 Method 9020 B, Table IV   |

Equipment Logbook Content - all maintenance performed on a piece of equipment should be documented in the logbook. This should include parts replacement and routine maintenance activities. Entries should include date, maintenance performed and initials of person making entry.

# ● General Lab Criteria ●

## Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	6h	48h
TSS	P, G	200	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH <sub>3</sub> -N	P, G	500	G, C	Analyze as soon as possible or add H <sub>2</sub> SO <sub>4</sub> to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	7 d	28 d
TRC	P, G	500	G	Analyze immediately	0.25h	0.25 h
DO (electrode)	G, BOD Bottle	300	G	Analyze immediately	0.25h	0.25 h
Temperature	P, G	--	G	Analyze immediately	0.25h	0.25 h
Metals, general	P, G	1000	G, C	For dissolved filter immediately and add HNO <sub>3</sub> to pH <2	6 months	6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH<2, Refrigerate $\leq 6^{\circ}\text{C}$	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate $\leq 10^{\circ}\text{C}$ If chlorine present, add sodium thiosulfate tablet	6 hrs transport Start analysis within 2 hrs of receipt in lab.	
Oil and Grease	G	1000	G	HCl or H <sub>2</sub> SO <sub>4</sub> to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	28 d	28 d

## Approved Standard Methods

CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH <sub>3</sub> D
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G
Total Suspended Solids, Dried at 103-105 °C	Std Methods 2540-D
Dissolved Oxygen, Membrane Electrode Method	Std Method 4500-O G
pH, Electrometric Method	Std Methods 4500-H+ B
Fecal Coliform, Membrane Filter Procedure	Std Methods 9222D
Escherichia Coli, Enzyme Substrate Test	Std Method 9223B
Escherichia Coli Membrane Filtration Procedure	EPA Method 1603
Oil and Grease	USEPA 1664A or Std Methods 5520B
Metals, general	USEPA 200, Std Methods 3111B or C, or 3120B
Volatiles (Purgeables by purge and trap)	USEPA 6210, Std Methods 624
Semi-Volatiles (Base/Neutrals and acids)	USEPA 6410, Std Methods 625
Pesticides	USEPA 6410 and 6630, Std Methods 608

**EMERY OLEOCHEMICALS LLC  
COMPLIANCE EVALUATION INSPECTION  
DATE OF INSPECTION: May 12, 2011**

**ITEMS FOR DISCUSSION:**

The on-going Oil and Grease violations show the facility is in significant non-compliance (SNC) at outfall 013. The steps needed to return the facility to compliance need to be updated.

**COMPLIANCE EVALUATION:**

A rating of Marginal was given to the "Effluent/Receiving Waters" section because of the SNC determination at outfall 013. The following is a list of violations since May 2010:

***EFFLUENT LIMIT VIOLATIONS***

Station No. 1 IF00018007

Parameter	Code	Date	Permit Limit	Reported
Oil and Grease, Hexane	00552	12/11/2010	10 mg/L	12.1 mg/L

Station No. 1IF00018013

Parameter	Code	Date	Permit Limit	Reported
Oil and Grease, Hexane	00552	9/16/2010	10 mg/L	10.3 mg/L
Oil and Grease, Hexane	00552	10/13/2010	10 mg/L	18.2 mg/L
Oil and Grease, Hexane	00552	11/16/2010	10 mg/L	13.5 mg/L
Oil and Grease, Hexane	00552	12/11/2010	10 mg/L	15.5 mg/L
Oil and Grease, Hexane	00552	1/18/2011	10 mg/L	29.4 mg/L
Oil and Grease, Hexane	00552	2/1/2011	10 mg/L	49.1 mg/L
Oil and Grease, Hexane	00552	3/4/2011	10 mg/L	27.7 mg/L
Oil and Grease, Hexane	00552	4/1/2011	10 mg/L	108 mg/L
Oil and Grease, Hexane	00552	5/8/2011	10 mg/L	20.6 mg/L

Station No 1IF00018036

Parameter	Code	Date	Permit Limit	Reported
pH	00400	8/11/2010	6.5 SU	5.2 SU

Please be advised that failure to comply with the effluent limitations may be cause for enforcement action pursuant to the Ohio Revised Code Chapter 6111. The step(s) being taken to resolve these violations have been provided in the notification of violation provided by the facility. The frequency violations noted in previous inspections have been resolved.

## EMERY OLEOCHEMICALS -- Page 2

Since the last inspection, there were three releases called into to Spill Hotline. The first was a release of contaminated process water from the sewer into Mill Creek on May 21, 2010. The second release was contaminated stormwater into the storm sewer on June 12, 2010. The third release was a broken pipe releasing material onto the street and then into Mill Creek on May 1, 2011. The notifications and 30 day follow-up reports have been provided. Because of these releases, the facility is receiving a rating of marginal for "Operations and Maintenance" and "Effluent/Receiving Water".

As part of the inspection, there was a meeting with the facility's consultant. Emery has retained the services of Green Cities to help resolve the Oil and Grease violations through a green infrastructure project. The treatment system option discussed in last year's report has been put on hold to see if the green infrastructure project is effective. Outfall 11F00018013 is being used as a pilot study since it has the most issues. If it is effective at this location, then green infrastructure projects would be implemented plant-wide to eliminate outfalls. The project for this outfall is proposing to use 300 feet of bio-swale and a bio-retention basin. Project completion is proposed for October 2011. The plants would be put in after September 1, 2011 so that lack of rainfall won't be a factor for their growth. Green rooftops were also discussed during the inspection. Ohio EPA must be updated on the status of this project as it progresses.

### OBSERVATIONS:

Emery Oleochemicals LLC (Emery) operations at the Cincinnati site produces oleochemicals (fatty acids and fatty alcohols) and ozone acids that are derived from renewable raw materials. The company also provides high performance system solutions for improving productivity and the environmental compatibility of complex manufacturing solutions for oil and gas exploration and other specific and speciality industrial applications. Products include Fatty Acids, Glycerin, Ozone Acids (Pelargonic and Azelaic Acids), and Oilfield Chemicals (based on Esters).

Oleochemicals are derived primarily from natural fats and oils. The facility's major raw materials are rendered animal tallow and vegetable oils. Animal tallow is a byproduct of the meat packing industry. These agricultural feedstocks are cyclically renewable, abundantly available, and tend to increase annually with the world's food supply. Tallow and other vegetable fats and oils account for more than three-fourths of Emery's feedstocks while other chemicals make up the remainder.

Emery receives, manufactures, and/or ships multiple types of chemicals at the Cincinnati plant. The primary raw materials for the Emery operations are tallow, vegetable oil, fatty acids, solvents and acids. These materials are generally stored in bulk storage tanks and containers located within covered areas. All warehouse drains are connected to the process sewer system and should not drain to the storm sewer system. In addition, all chemical bulk storage tanks are located within a secondary

## EMERY OLEOCHEMICALS -- Page 3

containment system. Most bulk storage tanks are located within a tank farm area, and utilize a barrier wall around the tank farm for containment purposes. The tank farm areas drain to the process sewer system for treatment prior to discharge to MSD.

Within the Fatty Acids Department, the following chemicals may be used and stored:

- Ammonia (used as a refrigerant and could drain to storm sewer during transportation);
- Biphenyl (used as a heat transfer fluid and drains to the process sewer);
- Methanol (used in manufacturing and could drain to storm sewer during transportation; the manufacturing uses drain to the process sewer);
- Nickel compounds (used in manufacturing and could drain to storm sewer during transportation; the manufacturing uses drain to the process sewer); and
- Sulfuric acid (used in manufacturing and could drain to storm sewer during transportation; the manufacturing uses drain to the process sewer).

Within the Ozone Department, the following chemicals may be used and stored:

- Ammonia (used as a refrigerant and could drain to storm sewer during transportation);
- Biphenyl (used as a heat transfer fluid and drains to the process sewer);
- Freon R22 (Used as a refrigerant and doesn't appear to be a storm water issue); and
- Manganese compounds (used in manufacturing and could drain to storm sewer during transportation; the manufacturing uses drain to the process sewer).

The storm water associated with Emery is discharged through two independent drainage systems. The storm water that has a potential to be contaminated with process chemicals is routed to a process sewer. This process sewer also receives wastewater from plant operations, and directs storm water and wastewater to the plant process wastewater system for treatment and subsequent discharge to MSD. In total, the process wastewater system accepts approximately 45% of all storm water on-site.

The storm water that is not likely to be contaminated with process chemicals is routed to the storm water system. The system collects approximately 55% of the storm water associated with the Cincinnati plant. This non-industrial related area collects storm water in numerous catch basins and manholes that discharge directly to both the east and west sides of Mill Creek. Storm water associated with Emery flows toward Mill Creek, and unless collected in the process sewer system, will be detained for inspection and released to the Mill Creek upon approval. This collection system utilizes a concrete wall around the storm water inlet, and a closed and locked valve within the storm water inlet. The storm water is collected during the rain event and the valve must be manually opened for the discharge of the collected storm water. Current exception to this collection, evaluation and discharge process is outfall 11F00018036 with the Ozone manufacturing area. In addition, the surface runoff that borders both the east and west

## EMERY OLEOCHEMICALS -- Page 4

side of Mill Creek is collected within secondary containment. This secondary containment consists of raised containment walls with valves that are closed, and must be manually opened to discharge the water after inspections to determine the water is free of contaminants.

Emery employs a number of traditional storm water management practices to control and manage the quality and quantity of storm water run-off:

- Within the Fatty Acid manufacturing area, the storm water catch basins contain valves that are maintained in the closed position. Following a storm event, the detained storm water is visually inspected for signs of contaminants. If approved, the detained storm water is then released to the storm water system and to Mill Creek. Also, within the Fatty Acid area, a full length containment wall has been constructed at the Mill Creek area. This wall has several openings to allow storm water runoff to drain to Mill Creek. These openings utilize a manual valve that is maintained in the closed position. Following a storm event, the detained storm water is visually inspected for signs of contaminants and if there is no sign of contaminants, the runoff is released to Mill Creek.
- Outfall 11F00018007 collects storm water runoff from the roofs of Buildings 19, 44 and 6A as well as surface water from the paved areas near these buildings. The collection area includes truck traffic that could transport supply items and chemicals and some hazardous chemicals in addition to coal and fly ash. Catch basins feeding this outfall incorporate the "catch, inspect and release" method for storm water. Roof drains drain directly to the outfall.
- Outfall 11F00018013 collects storm water runoff from paved surfaces between Buildings 32 and 73A, and from the roadway in front of and to the north of building 45A. This is a traffic area for delivery trucks and in-plant traffic. Catch basins feeding this outfall incorporate the "catch, inspect and release" method for storm water. This outfall has filter pads placed in the catch basin to remove solids. These are being replaced monthly, but they do not seem to be effective. Green infrastructure is being proposed for this outfall. There would be a concrete barrier with valves (normally shut) between the swale and Mill Creek. This will allow for any spills, etc. to be contained so they don't reach waters of the State. It will also provide a mechanism to release any pooled stormwater that could flood the roadway to be discharged after inspection. The coal pile for the boilers in this area is going to be phased out in September 2011.
- Outfalls 11F00018016 and 11F00018018 collect storm water runoff from the non-manufacturing roof tops and from paved traffic areas to warehouses. Catch basins feeding these outfalls incorporate the "catch, inspect and release" method for storm water. Outfall 11F00018016 did have a crack in the line. When it was dry, the facility noted a discharge coming out of the outfall. It was found to be ground water infiltration. The facility is looking at relining or replacing this pipe. There was no ground water discharging on the day of the inspection. Outfall 11F00018018 has a broken valve that is shut. This area is not being drained due to used pallet storage. The storm water pools in this area and then evaporates.

## EMERY OLEOCHEMICALS -- Page 5

Roof drains drain directly to the outfall.

- Outfall 11F00018025 collects storm water runoff from the non-manufacturing areas consisting of the facility cafeteria and office building and research laboratories as well as the visitor entrance to the site. The discharge from this outfall has been eliminated. Emery is looking at eliminating this outfall during the next permit renewal or modification, whichever would happen first.
- Outfall 11F0001036 collects storm water runoff from the Ozone department. The sole source of storm water that feeds outfall 11F00018036 is catch basin CB36C which is located immediately north of the tank truck loading station. There is curbing to protect CB36C and the tank truck loading and unloading procedure instructs the operator to place a cover over this catch basin when loading or unloading is performed in the vicinity of this outfall. CB36D is located outside the secondary containment for Tank Farm 68. This tank farm has adequate secondary containment to contain the single largest tank in the event of a catastrophic failure of the primary containment.
- Outfall 11F00018039 is feed from several catch basins located within the main truck and contractor entrance to the plant. This outfall accepts storm water only from ground area that is not considered a production area. The catch basins feeding this outfall operate on a "catch and release" method as does other parts of the Emery facility.

The storm drains in the facility are painted yellow to identify that the area discharging to Mill Creek.

There was construction/maintenance work occurring throughout the facility. Because of this there was equipment and material out. Because of the potential exposures associated with this, the facility received a rating of marginal for "Operations and Maintenance".

