



Environmental
Protection Agency

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

March 8, 2011

Mr. Mike Niehaus
SUMCO Phoenix Corporation - Cincinnati
537 Grandin Road
Maineville, Ohio 45039-9772

Re: **SUMCO Corporation – Cincinnati – Lower Little Miami – IU Inspection**
CEI - OH0105783; 1IN00174*ED

NOTICE OF VIOLATION -- SNC Determination

Dear Mr. Niehaus:

On February 24, 2011 I conducted the annual industrial user (IU) pretreatment inspection. In addition, I also conducted a compliance evaluation inspection (CEI) for the facility's NPDES permit. The facility was represented by Kevin Ingram and Meghan Krishnayya of Brown and Caldwell. The facility is considered to be a significant industrial user because it is regulated under the Electrical and Electronic Components Categorical Standard Subpart B, 40 CFR 469.20.

In June 2010, the facility ceased production of silicon crystals, and shutdown began. It was initially projected the shutdown would be completed in December 2010. However, that has not happened. The removal of equipment and chemicals is on-going. In June 2011, a final date should be able to be estimated.

Brief Description of Facility

SUMCO Phoenix Corporation – Cincinnati grew, cut and finished silicon crystals for use by the semi-conductor industry. In June 2010, the facility ceased operations at the Cincinnati location. Now the only process wastewater generated is from the on-going clean up of the facility.

Regulated Wastewater Flows

The wastewater from the facility is generated from the facility clean up. These wastewaters drain to one of the two plant neutralization plants. The facility did cease production in June 2010. The plant neutralization systems will be the last areas to shut down. Any washdown waters, etc. will be treated in these systems. The washdowns were expected to be completed in December 2010, but are on-going. It appears this work will continue through June 2011 at a minimum, and could go through the end of 2011. At that time, the facility will ask for its permits to be revoked. This timing is going

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to be critical because both the individual NPDES and indirect discharge (IDP) permits are going to expire in June 2012 and January 2012, respectively. Renewal applications are usually asked to be submitted six months prior to the expiration date of the permits. The facility is being converted into warehousing space.

The arsenic precipitation system is in place, and may be used to treat wastewater associated with the cleanup of the arsenic crystal areas. This has not yet been determined. The staff responsible for the operation of this system are currently still at the facility.

Sampling

The facility is doing continuous pH monitoring of its effluent at two sampling locations for its indirect discharge permit. However, the monitoring required to be submitted on July 20, 2010 and January 20, 2011 has not been submitted. The facility is in significant non-compliance (SNC) because the reports due July 20, 2010 and January 20, 2011 are more than 45 days late. These must be submitted as soon as possible, but no later than April 1, 2011. Because of this, the facility will receive a rating of "Marginal" for its pretreatment inspection.

The chain-of-custody documentation is inadequate. A form was provided from the arsenic sample dated December 14. The sample type, time, preservation methods, etc., need to be completed. The chain-of-custody forms must be filled out completely for all NPDES and IDP permits. In addition, standard operating procedures (SOPs) must be developed for sample collection and all parameters analyzed on-site. Section I.b in the NPDES inspection form has the minimum components needed for an SOP. A copy of the pH SOP must be provided.

NPDES Compliance Evaluation Inspection

There has been no discharge of non-stormwaters since the facility ceased operations. The stormwater is the only water discharging through the NPDES permitted outfalls. The discharge from 002 had a slight sheen from the parking lot. The sheen was where the pipe emptied into the on-site pond. This was not being discharged to the Little Miami River.

There is a covered hazardous waste storage area. The containment sump for any spills would be discharged to the sanitary sewer as long as the permit limits are met. Spill kits have been placed by the Plant 1 neutralization area, and by the outfalls to the pond.

The permit is being maintained in the event the facility would need to discharge any of the permitted flows, or if there would be a new owner to transfer the permit to. Currently, there is no new owner. After the cleanup is completed, then the permit would

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be revoked. The facility must ensure that its NPDES permit coverage is maintained. The timing of the facility's closure and NPDES permit renewal must be coordinated to ensure coverage is maintained.

The facility has been coding "AL" since there has been no discharge. The general laboratory criteria and SOPs need to be followed if there is going to be a discharge. Any discharge of the permitted flows would need to be sampled in the event it is discharged. Because of this, the facility received a rating of "Marginal" for "Self-Monitoring".

REQUIRED ACTIONS

SUMCO must submit its 4519 forms due on July 20, 2010 and January 20, 2011. The facility is in SNC for late reporting. These reports must be submitted no later than April 1, 2011. Please note, 4519s will be required until the indirect discharge permit is revoked.

SUMCO must complete all of the necessary documentation on its chain-of-custody forms. This must begin immediately.

SUMCO must develop and maintain SOPs for sample collection and all parameters analyzed on-site. The SOP for pH must be provided for review by April 15, 2011.

The assistance provided by your staff was appreciated. Should you have any additional questions, feel free to contact me at 937.285.6108.

Sincerely,



Marianne Piekutowski
District Pretreatment Coordinator
Division of Surface Water

Enclosures

Cc: Ryan Laake, DSW/CO
Kevin Ingram, SUMCO Phoenix
Meghan Krishnappa, Brown and Caldwell
David Walling, Warren County



State of Ohio Environmental Protection Agency
Southwest District Office

Pretreatment Compliance Inspection Report

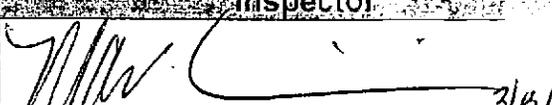
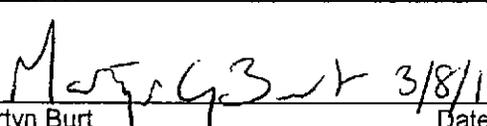
Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1DP00028*DP	OHP000149	02/24/2011	I	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
SUMCO USA 537 Grandin Road Maineville, Ohio 45039	1:30 pm	02/01/2007
	Exit Time	Permit Expiration Date
	3:15 pm	01/31/2012
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Meghan Krishnaya, Brown & Caldwell Kevin Ingram, Facility Lead	317.610.3428 513.659.2316	
POTW Receiving Discharge	Categorical Standard(s) or Other Classification	
Warren Co. Lower Little Miami WWTP	40 CFR 469.20	

Section C: Areas Evaluated During Inspection			
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)			
M	Pretreatment		

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
3/5/11 Date	3/8/11 Date

INDUSTRIAL USER INSPECTION CHECKLIST

Facility: **SUMCO USA – Cincinnati Plant**

Date of inspection: **February 24, 2011**

OH Number: **OHP000149**

IDP Number: **1DP00028*DP**

Facility Representative: **Meghan Krishnayya, Kevin Ingram**

Inspector(s): **Mari Piekutowski**

COMPLIANCE

1. Date of last pretreatment inspection: **November 18, 2009**

2. Has the facility been in compliance with its permit limits since the last inspection?

Y/N

If no, explain:

The facility has not submitted its 4519s for the last year. This data must be submitted.

3. Is the facility in compliance with all other requirements?

Sampling procedures

Y/N/NA

Reporting (late reporting, failure to report, etc)

Y/N/NA

Compliance schedules

Y/N/NA

Submitted BMR and 90 day compliance reports

Y/N/NA

Any other requirements

Y/N/NA

If any of the above five answers is no, explain:

4. Was the facility required to perform any actions as a result of the last inspection?

Y/N

Explain any unresolved actions:

FACILITY OPERATIONAL CHARACTERISTICS

5. Number of Employees: **45**

6. Shifts/Day: **1**

7. Production Days/Year: **NA**

8. Hours/shift: **12 (M-Th); 8 (Fri)**

9. Any production changes since the last inspection?

Y/N

If yes, explain:

The facility is in the process of shutting down. Production of silicon crystals stopped around June 23, 2010. The pretreatment system is still being used for the treatment of clean-up waters. Staff comes in on Saturdays and Sundays to change the pH charts.

10. General facility description and operations:

Grow, cut and finish silicon crystals for use by the semi-conductor industry.

FACILITY OPERATIONAL CHARACTERISTICS CONTINUED

11. Any change in materials used in production since the last inspection? Y / ~~N~~
If yes, explain:

Manufacturing operations stopped in June 2010. Only clean up occurring now. Clean up was initially thought to be completed by December 2010, but has gone slower than initially anticipated. Clean up may now last through at least June 2011, but may be through the end of 2011. This will impact the submittal of the indirect discharge permit renewal.

12. Any expansion or production increase expected within the next year? Y / ~~N~~
If yes, explain:

WASTEWATER TREATMENT

13. Provide a schematic diagram and description of the wastewater treatment system:

See attached schematic.

The pH adjustment is done with the addition of acid and caustic. There is a three stage system for Plant 2 (approximately 75% of the flow), and a four stage system for Plant 1 (approximately 25% of the flow). The arsenic treatment system is currently operating.

14. Was a PTI issued for the treatment system? Y / ~~N~~
15. Were there any modifications to the treatment system since the previous inspection? Y / ~~N~~
If yes, was a PTI obtained? Y / ~~N~~

PTI Number:

Date:

16. What is the treatment mode of operation? Batch / ~~Continuous~~ / ~~Combination~~

If batch, list the frequency and duration:

The facility is now batch discharging based on the cleaning schedule. When material is being discharged, the system is observed to prevent violations.

17. Who is responsible for operating the treatment system?
There are three people available to operate the system.

18. How often is the treatment system checked?

The system is monitored when treatment is occurring. It is alarmed and linked to a pager system

WASTEWATER TREATMENT CONTINUED

19. Is there an alarm system for the system? Y/N
Explain:

There is an alarm for "Out-of-Range" on effluent and intermediary tanks. Level alarms in Plant 1.

20. Is there an operations and maintenance manual? Y/N

There is an equipment manual and preventative maintenance program. The SOP is in final form.

21. Is an inventory of critical spare parts maintained? Y/N

If yes, list:

pH controllers, probes and pre-amps. Most pumps are set as redundant. They conduct inspection rounds that utilize out-of-spec performance, and a maintenance report is generated automatically. Pumps are scheduled for a vibration analysis by an outside contractor.

22. Are there any bypasses in the system? Y/N

If yes, describe the location:

Overflow in Plant 1 (would be caused by pump failure). Plant 2 can overflow if there is a drain blockage. All flows would go through the sampling location.

Have bypasses occurred since the last inspection? Y/N

Was the POTW notified? *There are trigger points agreed upon with Warren Co. for notifications for pH spikes over thirty minutes.* ~~Y/N~~

23. Are residuals or sludges generated? Y/N

Method of disposal:

Heritage takes the arsenic sludge. Ashland is taking some of the non-hazardous sludges, used oils and universal waste. The e-waste from the facility is going to a recycler in Columbus.

Frequency and amount of disposal:

This varies on the area being cleaned.

Name of hauler/landfill/disposal facility:

Is any sludge generated subject to RCRA regulations? Y/N

The hazardous waste is taken by Ashland Environmental Services to Dayton and Heritage. The material then goes to a cement kiln.

If land applying sludge, is there a sludge management plan? Y/N

PROCESS AND WASTEWATER INFORMATION

24. List all processes generating wastewater, current wastewater flows, and where applicable, production rates as well as values on which the permit limits are based:

REGULATED PROCESS	SAMPLE LOCATION	WASTEWATER FLOW (GPD)		PRODUCTION DATA (SPECIFY UNITS)	
		Permit	Current	Permit	Current
<i>Plant 1 pH Neutralization</i>	<i>End-of-Pipe</i>	<i>150,000</i>	<i>0</i>		
<i>Plant 2 pH Neutralization</i>	<i>End-of-Pipe</i>	<i>425,000</i>	<i>0</i>		
<i>Clean up waters</i>			Random Batches.		
Total Regulated Process Flow		575,000	Varies		
Non-Contact Cooling		-	0 ¹	1 - Non-contact cooling water may be discharged via NPDES permit but is going to sanitary sewer. 2 - Discharge via sanitary sewer due to TRC limit in NPDES permit. 3 - There is one small water softener being used. There is a closed loop chilled water system.	
Blowdown		16,500	0		
Reverse Osmosis		-	0 ²		
Demineralizer Regeneration			3		
Filter Backwash					
Compressor Condensate		14,000	0		
Storm Water					
Other Dilute Flows					
Unregulated Flows (provide list)					
Sanitary		10,000	Varies		
TOTAL FLOW					

25. For the above flows not discharged to the POTW, list point of discharge and permit (if any).
The non-contact cooling water, reverse osmosis reject water and carbon filter backwash may be discharged to waters of the State via an on-site pond. This is covered under an individual NPDES permit.

The storm water flow is covered under the general industrial storm water permit. The facility maintains an SWP3.

SELF MONITORING

26. Sample location(s) described in the facility's permit:

Samples collected from the sampling manhole (SA-108) for Plant 1 and sampling manhole (SA-208) for Plant 2 located South of Plant 2 in the field at the fence line.

27. Is the facility sampling at the location(s) described in the permit? Y / N
If no, describe the actual location:

The Plant 1 and 2 manholes are now both in the field. The pH probe for Plant 1 is in the roadway, and the pH probe for Plant 2 is in the beanfield.

28. Is the location(s) where the facility is sampling representative? Y / N
If no, indicate a representative location:

The continuous pH monitoring occurs in the same manhole used for flow monitoring.

29. Is the flow measured or estimated? Measured / Estimated

If measured, how often is the meter calibrated?

The flow is calculated. There is an agreement with Warren County that the flow to the sanitary is 60% of the incoming water. The flow meters at the facility have an in-house calibration once a quarter, and are certified once a year.

If estimated, describe method of estimation:

30. Is pH monitored continuously? Y / N
If yes, how often is the meter calibrated?

The pH meter is calibrated every week. The final pH meter is calibrated every two weeks.

31. Does the facility collect its own samples? Y / N
If no, specify the sample collector:

32. Are appropriate sampling procedures followed? Y / N
Monitoring frequencies Y / N
Sample collection (grab for pH, O&G, CN, phenols, VOCs) Y / N
Flow proportioned samples *Time proportional - aqualot (120mL) every 21 minutes.* Y / N
Proper preservation techniques *Unknown if sampler is being iced during collection.* Y / N
Sample holding times Y / N
Chain-of-custody forms Y / N

33. Are samples analyzed in accordance with 40 CFR 136? Y / N

34. Laboratory conducting analyses:

ALS Laboratory Group, Pace Analytical (TTOs)

TOXICS MANAGEMENT

35. Are any listed toxic organics used in the facility? Y / N
If yes, identify organics:
Not producing crystals any more so these are no longer being used.
36. Does the facility have a current toxic organic management plan(TOMP)? Y / N
If yes, is it being implemented? *Approved 11/27/2009.* Y / N
37. Has the facility had any uncontrolled releases or spills to the POTW since the previous inspection? If yes, please explain: Y / N
38. Does the facility need a spill prevention plan or slug discharge control plan? Y / N
If yes, does the facility have a written plan? Y / N
39. Identify any potential slug load or spill areas:

REQUIRED FOLLOW-UP ACTIONS

SUMCO must submit its 4519s for 2010.



State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

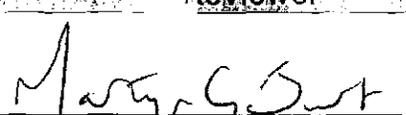
Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
11N00174*ED	OH0105783	2/24/2011	C	S	2

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
SUMCO USA 537 Grandin Road Maineville, Ohio 45039	10:00 am	7/1/2007
	Exit Time	Permit Expiration Date
	1:30 pm	6/30/2012
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Meghan Krishnayya, Brown & Caldwell Kevin Ingram, Facility Lead	317.610.3428 513.659.2316	
Name, Address and Title of Responsible Official	Phone Number	
Mike Niehaus, Plant Manager SUMCO USA 537 Grandin Road Maineville, Ohio 45039		

Section C: Areas Evaluated During Inspection					
(S) = Satisfactory, (M) = Marginal, (U) = Unsatisfactory, (N) = Not Inspected					
S	Permit	N	Flow Measurement	N	Pretreatment
N	Records/Reports	N	Laboratory	N	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	M	Self-Monitoring Program
S	Facility Site Review	N	Sludge Storage/Disposal	N	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
3/8/11 Date	3/8/11 Date

Permit #: 1IN00174*ED
NPDES #: OH0105783

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 439 to POTW.
- (d) Product(s) and production rates conform with permit application (Industries)..... N
- (e) Flows and loadings conform with NPDES permit..... Y
- (f) Treatment processes are as described in permit application... Y
- (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:

d) The facility is in the process of shutting down. There has been no process discharge via the NPDES permit since June 2010. Stormwater is still discharging to the pond.

Section F: Compliance

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

Comments/Status:

There has been no discharge since June 2010.

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:

No discharge.

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):

Paddle wheel.

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

Comments/Status:

e & f) There is not a regular discharge due to facility shutting down. Stormwater is the only discharge.

Section I: Self-Monitoring Program (cont)

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..... ?
(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:

Currently, there is no discharge. Need SOPs for sample collection and any parameters being done on-site.

Section I: Self-Monitoring Program (cont)

Laboratory:

General

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

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).. N
- (d) If alternate analytical procedures are used, proper approval has been obtained..... NA
- (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. ? (see score from GLC page)
- (h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: *As is done for IDP. No NPDES*

discharge.

Lab name: ALS

Discharge Monitoring Report Quality Assurance (DMRQA)

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

NA

Comments/Status:

[Empty box for comments/status]

Section J: Effluent/Receiving Water Observations

Outfall # 002

Outfall Description: Discharge from parking lots. There is no longer a non-stormwater component due to plant shutdown. There was a slight sheen near the outfall due to rain from the parking lot.

Receiving Stream: On-site pond discharging to an unnamed tributary to Little Miami River.

Receiving Stream Description: Exceptional Warmwater Habitat.

Outfall # 003

Outfall Description: There is no longer a non-stormwater component due to plant shutdown. There was no observed discharge the day of the inspection.

Receiving Stream: On-site pond discharging to an unnamed tributary to Little Miami River.

Receiving Stream Description: Exceptional Warmwater Habitat.

Outfall # 004

Outfall Description: There is no longer a non-stormwater component due to plant shutdown. There was no observed discharge on the day of the inspection.

Receiving Stream: On-site pond discharging to an unnamed tributary to Little Miami River.

Receiving Stream Description: Exceptional Warmwater Habitat.

Comments/Status:

Section K: Multimedia Observations

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (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?

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- (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:

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Permit # : 1IN00174*ED
NPDES # : OH0105783

) General Lab Criteria)

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

Comments: :

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

Comments: :

)General Lab Criteria)

Criteria	Standard Methods Requirement		Acceptable?	Rating
pH Meter				
<ul style="list-style-type: none"> • Calibration Frequency / Documentation 	<ul style="list-style-type: none"> • Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)³ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	NR
	<ul style="list-style-type: none"> • Logbook maintained² 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Minimum of 2 point calibration 	<ul style="list-style-type: none"> • Calibration per manufacturer specification and calibration buffers must bracket anticipated result⁷ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Slope Documentation / Acceptability 	<ul style="list-style-type: none"> • Slope acceptable range indicated on benchsheet² 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<ul style="list-style-type: none"> • Buffer Expiration Date 	<ul style="list-style-type: none"> • Buffers must not be expired 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Instrument manual available 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Teflon covered magnetic stirrer or equivalent for mixing⁸ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<p>Comments: <i>The log is maintained electronically. Do not know if the slope acceptable range is indicated on log. The buffers are kept in stock. Did not check stock during inspection. There is continuous pH monitoring for the indirect discharge permit. Paper charts are kept. Did not have a hard copy of an SOP for pH monitoring.</i></p>				
Criteria	Standard Methods Requirement		Acceptable?	Rating
Dissolved Oxygen Meter				
<ul style="list-style-type: none"> • Calibration Method 	<ul style="list-style-type: none"> • Air or known DO calibration method¹⁰ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
	<ul style="list-style-type: none"> • Calibration per manufacturer specification¹⁰ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Calibration Frequency / Documentation 	<ul style="list-style-type: none"> • Logbook maintained² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Calibration verification required at least once each day the meter is used.³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)¹¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<p>Comments:</p>				

) General Lab Criteria)

Criteria	Standard Methods Requirement	Acceptable?		Rating
Incubator (CBOD/ E-Coli)				
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature checked / recorded twice daily for each shelf in use¹(E-Coli) 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
	<ul style="list-style-type: none"> • Temperature checked / recorded daily² (CBOD) 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Acceptable temperature range (CBOD) is 20° C ±1.0°¹² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Acceptable temperature range (E-Coli) is 35° C ±0.5°²² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Logbook maintained² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Temperature correction information posted on incubator¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray 	<ul style="list-style-type: none"> • E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)²³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<ul style="list-style-type: none"> • Temperature Log (thermometer accurate to 0.5 Celsius).¹ 		<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: :

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

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Chlorine Meter				
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV ¹⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) ³	<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 ¹⁶	<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. ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: *The contract laboratory would perform this analysis, but have not discharged during the past year. If chlorinated water is used, then the flows were routed to the sanitary sewer.*

Criteria	Standard Methods Requirement	Acceptable?		Rating
Ammonia Meter				
• 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) ³	<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
	• Log book being maintained ²	<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. ¹⁷	<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 ¹⁸	<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		Rating
Sample Collection/Handling			
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). ¹⁹	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	NR
• Chain of Custody	• Chain of custody (description, date, time, signature). ¹⁹	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
• Other	• Composite samples refrigerated during sample collection ¹⁴	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Equipment blanks utilized ¹⁴	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook being maintained ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: *Samples are iced for transport, but it was unclear if the composite sampler was iced during sample collection. Composite samples are required in the facility's indirect discharge permit. There were no hard copy SOPs for sample collection. A chain-of-custody form from the indirect permit sampling was provided. The form was incomplete and unacceptable. The date, time, sample type, preservation methods, etc. must be completed.*

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

Comments:

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

Comments:

General Lab Criteria

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

Comments:

Criteria	Standard Methods Requirement		Acceptable?	Rating
Autoclaves/Steam Sterilizers				
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C ²⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
	• 10 to 30 minutes time based on material being sterilized ²⁶	<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. ¹	<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 ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ²	<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 ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

) General Lab Criteria)

Criteria	Standard Methods Requirement		Rating
Final Effluent Temperature Monitoring	able?		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	NR
	• Thermometer accurate to 0.1° Celsius ⁵	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	• Log book being maintained ²	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Comments: <i>The facility is not discharging non-contact cooling water via its NPDES permit. The facility is in the process of shutting down.</i>			
Number of Criteria Rated:			Acceptable: 0
			Marginal: 0
			Unacceptable: 0
			Total Number of Areas Rated: 0
Acceptable Ratings – 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).			
Marginal Ratings – 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).			
Unsatisfactory Rating - 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).			
Consider recommending PAI Audit from DES when:		>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable	

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 |

General Lab Criteria

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.

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 ₃ -N	P, G	500	G, C	Analyze as soon as possible or add H ₂ SO ₄ 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 ₃ 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 ₂ SO ₄ 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 ₃ 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