

7243



**Environmental
Protection Agency**

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

June 29, 2010

Fernald Preserve
Attn: Frank Johnston
Stoller, Inc.
10995 Hamilton Clevels Highway
Harrison, OH 45030

RE: Fernald Preserve CAWWTP/Compliance Evaluation Inspection, NPDES
Permit No. OH00009580/ OEPA Permit No. 11O00004*HD

Dear Mr. Johnston:

On June 23, 2010, I conducted an NPDES Compliance Evaluation Inspection at Fernald Preserve Converted Advanced Waste Water Treatment Plant. Bill Hertel, Mary Sizemore (Environmental Compliance), Tim Sparks (O&M Supervisor), and Kathy Leslie (Lab Manager) were present for the facility. The purpose of the inspection was to evaluate compliance with the terms and condition of the facility's NPDES permit.

All areas evaluated received a "Satisfactory" rating. A copy of the inspection report is enclosed.

If you have any questions, please contact me by phone at (937) 285-6028 or by e-mail at michelle.waller@epa.state.oh.us.

Respectfully,

Michelle Waller
Environmental Specialist II
Division of Surface Water

Enclosures

Cc: Mary Sizemore, Fernald Preserve (w/enclosures)



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
11O00004*HD	OH00009580	6/23/2010	C	S	4

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
U.S. DOE Fernald Preserve 7400 Willey Road Harrison, Ohio 45013	9:45AM	41/2009
	Exit Time	Permit Expiration Date
	12PM	3/31/2014
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Bill Hertel Mary Sizemore – Environmental Compliance Kathy Leslie – Lab Manager Tim Sparks – O&M Supervisor	(513) 235-2325 (937) 623-8174 (513) 648-3355 (513) 484-2283	
Name, Address and Title of Responsible Official	Phone Number	
Frank Johnston, Fernald Site Manager 10995 Hamilton-Cleves Highway Harrison, Ohio 45030	(513) 648-5294	

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

Section D: Summary of Findings (Attach additional sheets if necessary)
Please see attached.

Inspector	Reviewer
 Michelle Waller Division of Surface Water Southwest District Office Date: 6/29/10	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office Date: 6/29/10

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) Flows and loadings conform with NPDES permit..... Y
- (c) Treatment processes are as described in permit application... Y
- (d) All discharges are permitted..... Y
- (e) Number and location of discharge points are as described
in permit..... Y
- (f) 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..... N/A
- (c) Permittee is taking actions to resolve violations..... N/A
- (d) Permittee has a compliance schedule..... N
- (e) Compliance schedule contained in...NPDES Permit
- (f) Permittee is in compliance with schedule..... N/A
- (g) Has biomonitoring shown toxicity in discharge since last inspection N

Comments/Status:

Compliance checked from August 200 to May 2010. No permit violations reported.

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

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

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

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

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

Tank levels (high and low levels), wells, high pressure for wells.

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

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

An Excel spreadsheet is used for each month.

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

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

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

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

Comments/Status:

c. Two ion exchange tanks are down. One is being abandoned and the other is being fixed.

Section I: Self-Monitoring Program

Flow Measurement:

- (a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):
- (b) Flow meter calibrated annually Y
(Date of last calibration: 4/21/10.)
- (c) 24-hour recording instruments operated and maintained..... Y
- (d) Flow measurement equipment adequate to handle full range of flows..... Y
- (e) All discharged flow is measured..... Y

Comments/Status:

Flow calibrations are done quarterly.
Flow meter read 5635 GPM at 11:35AM on 6/23/10.

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:

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..... Y
 - Title
 - Procedure

- Scope and Application
- Summary
- Sample Handling and Preservation
- Interferences
- Apparatus and Materials
- Reagents
- 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).. 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..... N/A
 (g) Satisfactory calibration and maintenance of instruments/equipment. (see score from GLC page) Y
 (h) Commercial laboratory used..... Y
 Commercial lab:

Lab name: GEL Laboratories, Inc.

Discharge Monitoring Report Quality Assurance (DMRQA)

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

Comments/Status:

The only SOPs the site was missing was for cleaning sampling equipment. A SOP should be established for this.

Section J: Effluent/Receiving Water Observations

Outfall # 001

Outfall Description: Final effluent.

Receiving Stream: Great Miami River

Receiving Stream Description: No oil sheen, grease, visible foam or floating solids were observed. Effluent appeared clear.

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

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance		Acceptable?		S
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights ^{1,2}	X Yes	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used. ³	X 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	X Yes	<input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) ¹	X Yes	<input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams ⁴	X Yes	<input type="checkbox"/> No	
	• Instrument manual available	X Yes	<input type="checkbox"/> No	
	• Log book maintained ²	X Yes	<input type="checkbox"/> No	
Comments: ASTM Class 1 weights used.				
Criteria	Standard Methods Requirement	Acceptable?		Rating
Drying Oven (Suspended Solids)		Acceptable?		S
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	X Yes	<input type="checkbox"/> No	
	• Log book maintained ²	X Yes	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2} . Correction factor posted on thermometer / equipment ¹	X Yes	<input type="checkbox"/> No	
• Other	• Thermometer temperature in 0.5° C increments ⁵	<input type="checkbox"/> Yes	X No	
	• Acceptable temperature range is 103° – 105° F ⁴	X Yes	<input type="checkbox"/> No	
	• Instrument manual available	X Yes	<input type="checkbox"/> No	
Comments: Thermometer reads in 1° C increments.				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
pH Meter	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) ³	X Yes	<input type="checkbox"/> No	S
	• Logbook maintained ²	X Yes	<input type="checkbox"/> No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result ⁷	X Yes	<input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet ²	X Yes	<input type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	X Yes	<input type="checkbox"/> No	
• Other	• Instrument manual available	X Yes	<input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ⁸	X Yes	<input type="checkbox"/> No	
Comments: Outfall pH meter is calibrated weekly.				

Criteria	Standard Methods Requirement			Rating
Dissolved Oxygen Meter	Acceptable?			
• Calibration Method	• Air or known DO calibration method ¹⁰	X Yes	<input type="checkbox"/> No	S
	• Calibration per manufacturer specification ¹⁰	X Yes	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Logbook maintained ²	X Yes	<input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. ³	X Yes	<input type="checkbox"/> No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil) ¹¹	X Yes	<input type="checkbox"/> No	
	• Instrument manual available	X Yes	<input type="checkbox"/> No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Refrigerator	Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.5 Celsius). ⁵	X Yes <input type="checkbox"/> No	S
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	X Yes <input type="checkbox"/> No	
• Other	• Thermometer held in water bath. ¹	X Yes <input type="checkbox"/> No	
	• Refrigerator temperature ≤6° Celsius. ¹³	X Yes <input type="checkbox"/> No	
	• Do not store volatile solvents, food, or beverages. ¹⁴	X Yes <input type="checkbox"/> No	
Comments: Refrigerator temperature read 3.1° C			

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

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

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Bench sheets		Acceptable?	
<ul style="list-style-type: none"> • General criteria 	• Date(s) ²	X Yes	<input type="checkbox"/> No
	• Analyst initials ²	X Yes	<input type="checkbox"/> No
	• Blue or black ink pen ²	X Yes	<input type="checkbox"/> No
	• Calibration information ²	X Yes	<input type="checkbox"/> No
	• Equations, calculations, units for all measurements, notations, and results. present ²	X Yes	<input type="checkbox"/> No
	• Corrections, single line through, initialed and dated ²	X Yes	<input type="checkbox"/> No
S			

Comments: Log book used.

Criteria	Standard Methods Requirement		Rating
Final Effluent Temperature Monitoring		Acceptable?	
<ul style="list-style-type: none"> • General Criteria 	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	X Yes	<input type="checkbox"/> No
	• Thermometer reads in increments of at least 0.1° C ⁵	X Yes	<input type="checkbox"/> No
	• Log book being maintained ²	X Yes	<input type="checkbox"/> No
S			

Comments:

	Acceptable	8
	Marginal	1
	Unacceptable	0
Total Number of Areas Rated		9

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).

General Lab Criteria

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 |

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
NH3-N	P, G	500	G, C	Analyze as soon as possible or add H_2SO_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	6 hrs transport Start analysis within 2 hrs of receipt in lab.	

General Lab Criteria

7243

				thiosulfate tablet		
Oil and Grease	G	1000	G	HCl or H ₂ SO ₄ to pH <2, Refrigerate ≤6° C	28 d	28 d

Approved Standard Methods	
CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 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