Ohio | Environmental Protection Agency

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

May 3, 2012

Mr. Dwight Culbertson, Assistant Director of Utilities
Clermont County Water Resources Department
4400 Haskell Lane
Batavia, Ohio 45103

RE: Middle East Fork Reg. WWTP, NPDES Permit No. 1PK00010*ND / OH0049387
Compliance Evaluation Inspection

Dear Mr. Culbertson:

On Friday, February 3, 2012, Mr. Ron Ware of this office conducted a Compliance Evaluation Inspection at the above-referenced facility. Clermont County was represented by you, Bill Beyer, Giles Thrift, and Tony Meek during the inspection. The purpose of the inspection was to evaluate plant operation and performance. A copy of the inspection report is enclosed.

"Records/Reports" received a "marginal" rating due to not submitting written notification to the Ohio EPA Southwest District Office of PEL exceedances for low level mercury in the final effluent from this facility (as required by Paragraph J in Part II of this facility's current NPDES permit, 1PK00010*ND).

"Sludge Storage/Disposal" received a "marginal" rating due to a significant backlog of waste sludge in the treatment plant at the time of the inspection. The stated reason for this waste sludge backlog was the unavailability of a sludge dewatering centrifuge that is shared by three of the County's wastewater treatment facilities (the Nine Mile Regional WWTP, the Middle East Fork Regional WWP, and the O'Bannon Creek Regional WWTP). All eight of the aeration tanks at the Middle East Fork facility were on-line at the time of the inspection. The mixed liquor in each aeration tank had a dark brown color. The water surface had thick slimy foam that was also dark brown in color. These conditions are indicative of old sludge. The formation of filamentous bacteria (and settling problems in the secondary clarifiers) is a possibility with old sludge.

A huge backlog of waste sludge can severely hamper the best efforts of operators to keep the treatment works they maintain in compliance with the final effluent limits for those treatment works. The findings of a Compliance Evaluation Inspection at the County's Nine Mile Regional WWTP in June 2005 noted problems with sludge handling at that facility (a copy is enclosed). The rotating schedule for use of this "shared" sludge dewatering centrifuge was cited as a contributing factor to the sludge handling problems at the Nine Mile facility.

Southwest District Office
401 East Fifth Street
Dayton, OH 45402-2911

937 | 285 6357
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Given the annual sludge production at the County's Middle East Fork facility (i.e., 652 dry tons in 2011 versus 487 dry tons from the O'Bannon Creek and Nine Mile facilities combined in 2011), it is highly recommended that Clermont County acquire a sludge dewatering device exclusively for use at its Middle East Fork facility.

If you have any questions regarding this report, please contact Mr. Ware at (937) 285 - 6098.

Sincerely,

Martyn Burt
Compliance and Enforcement Supervisor
Division of Surface Water

Enclosure

cc: Bill Beyer, Clermont County Water Resources Department

MB\bp

OhioEPA

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**
1PK00010*ND	OH0049387	04/25/2012	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
Clermont County - Middle East Fork Regional WWTP 4409 Haskell Lane Batavia, Ohio 45103	12:10 PM	July 1, 2010
	Exit Time	**Permit Expiration Date**
	2:50 PM	January 31, 2015
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
Dwight Culbertson, Asst. Director of Operations, CCWRD Bill Beyer, CCWRD Giles Thrift, Operations Supervisor Tony Meek, Operator	(513) 732 - 7948 (513) 831 - 8124 (513) 732 - 8893	
Name, Address and Title of Responsible Official	**Phone Number**	
Dwight Culbertson, Asst. Director of Operations Clermont County Water Resources Department 4400 Haskell Lane Batavia, Ohio 45103	(513) 732 - 7948	

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

S	Permit	S	Flow Measurement	N	Pretreatment
M	Records/Reports	S	Laboratory	S	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	M	Sludge Storage/Disposal	N	Other
N	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

Records/Reports: A rating of "Marginal" due to not submitting written notification to the Ohio EPA Southwest District Office of PEL exceedances for low level mercury.

Sludge Storage/Disposal: A rating of "Marginal" due to a significant back log of waste sludge in the treatment plant at the time of the inspection.

Inspector	Reviewer
Ron Ware 5/3/12	Martyn Burt 5/4/12
Ron Ware Date Division of Surface Water Southwest District Office	Martyn Burt Date Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Permit # : 1PK00010*ND
NPDES #: OH0049387

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.....	N/E

Comments/Status:

Section F: Compliance

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

Comments/Status:

According to Paragraph J in Part II of this facility's current NPDES permit (1PK00010*ND), this facility has a preliminary effluent limit (PEL) of 12ng/l for low level mercury. Any exceedance of this PEL must be reported to the Ohio EPA Southwest District Office in writing within 30 days of an effluent concentration sample result that exceeds the PEL. This written notification must detail the reasons why the PEL was exceeded and if there is an expectation of continued levels above the PEL.

There were high final effluent readings for low level mercury since July 2010 that exceeded 12 ng/l:

Sept. 3, 2010 - 43.1 ng/l

Jan. 11, 2011 - 19.3 ng/l

April 8, 2011 - 15.4 ng/l

Written notifications of these PEL exceedances were not received by the Southwest District Office of the Ohio EPA.

Section G: Operation & Maintenance

Permit # : 1PK00010*ND
NPDES #: OH0049387

Treatment Works:

Treatment facility properly operated and maintained

(a) Standby power available.....generator ☒ or dual feed ☐..... Y

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

Generator # 1 – Influent pumps, screening and grit removal units, aeration blowers, various small equipment, and SCADA system.

Generator # 2 – Secondary clarifier drives, RAS pumps, aeration blowers, and various small equipment.

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

1 - monthly
2 - weekly

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

Influent pumps, RAS pumps, air blowers.

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

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

software

(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) All eight of the aeration tanks were on-line at the time of the inspection. The mixed liquor in each aeration tank had a dark brown color with heavy slimy foam, which is a sign of old sludge.

Permit # : 1PK00010*ND
NPDES #: OH0049387

Section G: Operation & Maintenance con't

Record Keeping/Operator of Record:

(a) Wastewater Treatment Works classification (OAC 3745-7)..... III
(b) Operator of Record holds unexpired license of class required by Permit..... Y
(c) Copy of certificate of Operator of Record displayed on-site..... Y
(d) Has the Operator of Record submitted an ORC Notification form.. Y
(e) Minimum operator staffing requirements fulfilled (OAC 3745-7).... Y
(f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met.....Y
(g) Operator of Record log book provided..... Y
(h) Format of log book (e.g. computer log, hard bound book)

Hard bound book.

(i) Log book kept onsite (in an area protected from weather)..... Y
(j) Log book contains the following:
  i. Identification of treatment works..... Y
  ii. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... Y
  iii. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)..... N
  iv. Laboratory results (unless documented on bench sheets)... N
  v. Identification of person making entries..... Y
(k) Has the Operator of Record submitted written notifications to the permittee, Ohio EPA and, if applicable, any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred..... Y

Comments/Status:

(j) Preventative maintenance records are kept in separate log books. Laboratory results are also kept in separate log books.

Permit # : 1PK00010*ND
NPDES #: OH0049387

Section G: Operation & Maintenance con't

Collection System:

(a) Are there pump stations in the collection system..... Y
(There are 34 pump stations in the collection system for this facility)
i. How many publicly-owned pump stations equipped with permanent standby power or equivalent..... 16
ii. How many pump stations have telemetered alarms..... 34
iii. How many pump stations have operable alarms..... 34

(b) Any chronic collection system overflows since last inspection..... N
(c) Regulatory agency notified of all overflows..... Y
(d) Are there CSOs in the collection system..... N/A
if so, what is the LCTP status.....

N/A

(e) How are CSOs monitored (chalk, block, level sensor, etc.).....

N/A

(f) Portable pumps available for collection system maintenance..... Y
(g) RDII Program established and active..... Y
(h) Any WIB complaint received since last inspection..... Y (6)
(i) Is there a WIB response plan..... Y
(j) Is any portion of the collection system at or near dry weather capacity..... N

Comments/Status:

Section H: Sludge Management

Permit # : 1PK00010*ND
NPDES #: OH0049387

(a) Method of Sludge Disposal…

☒ Land Application
☐ Haul to Another NPDES Permitee
☒ Haul to a Mixed Solid Waste Landfill

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

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

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 Solids	Option 8 - >75% Percent Solids with Unstabilized Solids
Alternative 1 – Time and Temperature Regime (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – High pH and High Temperature (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Other Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 4 – Unknown Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Composting (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Drying (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Treatment (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Thermophilic Aerobic Digestion (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Beta Ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Gamma ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Pasteurization (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 6 - Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐

Permit # : 1PK00010*ND
NPDES #: OH0049387

(b) Has amount of sludge generated changed significantly since the

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)	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐
Alternative 2 - Aerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Air Drying (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Anaerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Composting (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Lime Treatment (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

last inspection..... N

(c) How much sludge storage is provided at the plant.....

1.7 million gallons of aerobic storage

(d) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... Y

(e) Any complaints received in last year regarding sludge..... N

(f) 5/8" screen at headworks for facilities that land apply sludge..... Y

(g) Are sludge application sites inspected to verify compliance with NPDES permit..... Y

(h) Is a contractor used for sludge disposal..... Y

If so, what is the name of the contractor.....

Utter Construction

Comments/Status:

There was a significant back log of waste sludge in the treatment plant at the time of the inspection.

Permit # : 1PK00010*ND
NPDES #: OH0049387

Section I: Self-Monitoring Program

Flow Measurement:

(a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):
Parshall flume with ultrasonic level sensor

(b) Flow meter calibrated annually ..... Y
(Date of last calibration: November 29, 2011)

(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:

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:

Permit # : 1PK00010*ND
NPDES #: OH0049387

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
- 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 know 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/A

(e) Analyses being performed more frequently than required by permit. Y

(f) If (e) is yes, are results in permittee's self-monitoring report..... Y

(g) Satisfactory calibration and maintenance of instruments/equipment. Y (see score from GLC page)

(h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: Low level mercury, metals (final effluent and sludge), bioassays

Lab name: Belmonte Labs (low level mercury and metals)
Enviroscience (bioassays)

Discharge Monitoring Report Quality Assurance (DMRQA)

(a) Participation in latest USEPA quality assurance performance sampling..... Y
Date: 07/22/11

(b) Were any parameters "Unsatisfactory"..... N

(c) Reasons for "Unsatisfactory" parameters.....
N/A

Comments/Status:

Permit # : 1PK00010*ND
NPDES #: OH0049387

Section J: Effluent/Receiving Water Observations

Outfall # 1PK00010001
Outfall Description: Plant outfall to the East Fork of the Little Miami River

Receiving Stream: The East Fork of the Little Miami River
Receiving Stream Description: Warm Water Habitat, Primary Contact Recreation

Comments/Status:

The plant's final effluent was clear, and free of any visible solids, oil/grease or foam.

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?
(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:

General Lab Criteria

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

Criteria	Standard Methods Requirement			Rating
Drying Oven (Suspended Solids)		Acceptable?		
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☐ Yes	☐ No	
	• Log book maintained[2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1,2]. Correction factor posted on thermometer / equipment[1]	☐ Yes	☐ No	
• Other	• Thermometer temperature accurate to 0.5° Celsius[5]	☐ Yes	☐ No	
	• Acceptable temperature range is 103° – 105° C [4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments: :				

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]	☒ Yes	☐ No	A
	• Logbook maintained[2]	☒ Yes	☐ No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result[7]	☒ Yes	☐ No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet[2]	☒ Yes	☐ No	
• Buffer Expiration Date	• Buffers must not be expired	☒ Yes	☐ No	
• Other	• Instrument manual available	☒ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[8]	☒ Yes	☐ No	
Comments: :				

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

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Incubator (CBOD/ E-Coli)				
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use[1] (E-Coli)	☐ Yes	☐ No	
	• Temperature checked / recorded daily[2] (CBOD)	☐ Yes	☐ No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0 °[12]	☐ Yes	☐ No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5 °[22]	☐ Yes	☐ No	
	• Logbook maintained [2]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
	• Temperature correction information posted on incubator[1]	☐ Yes	☐ No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb) [23]	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Temperature Log (thermometer accurate to 0.5 Celsius).[1]	☐ Yes	☐ No	
Comments: :				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Refrigerator				
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.5 Celsius).[5]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
• Other	• Thermometer held in water bath. [1]	☐ Yes	☐ No	
	• Refrigerator temperature ≤6° Celsius.[13]	☐ Yes	☐ No	
	• Do not store volatile solvents, food, or beverages.[14]	☐ Yes	☐ No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Chlorine Meter		Acceptable?		
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV[15]	☐ Yes	☐ No	
	• 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]	☐ Yes	☐ No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification[16]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Log book being maintained.[2]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments: :				

Criteria	Standard Methods Requirement			Rating
Ammonia 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]	☐ Yes	☐ No	
	• Log book being maintained[2]	☐ Yes	☐ No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	☐ Yes	☐ 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]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[18]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments: :				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Sample Collection/Handling		Acceptable?		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed).[19]	☒ Yes	☐ No	**A**
• Chain of Custody	• Chain of custody (description, date, time, signature).[19]	☒ Yes	☐ No	
• Other	• Composite samples refrigerated during sample collection[14]	☒ Yes	☐ No	
	• Equipment blanks utilized[14]	☐ Yes	☒ No	
	• SOP for cleaning of sampling equipment	☒ Yes	☐ No	
	• Logbook being maintained[2]	☒ Yes	☐ No	

Comments: Sample analysis performed at County lab in Milford. Lab staff cleans and provides sample containers to treatment plant staff. Sample collection tubing is cleaned weekly by treatment plant staff, and changed out when necessary.

It is recommended that equipment blanks be used to confirm that the weekly cleaning of the sample collection tubing is adequate, particularly in the summer.

Criteria	Standard Methods Requirement			Rating
Desiccator		Acceptable?		
• General criteria	• Properly working seals.	☐ Yes	☐ No	
	• Desiccant fresh (blue color)	☐ Yes	☐ No	
• Documentation	• Log book being maintained[2]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Bench sheets		Acceptable?		
• General criteria	• Date(s)[2]	☐ Yes	☐ No	
	• Analyst initials[2]	☐ Yes	☐ No	
	• Blue or black ink pen[2]	☐ Yes	☐ No	
	• Calibration information[2]	☐ Yes	☐ No	
	• Equations, calculations, units for all measurements, notations, and results present[2]	☐ Yes	☐ No	
	• Corrections, single line through, initialed and dated[2]	☐ Yes	☐ No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Hot Water Bath (Fecal Coliform/E. Coli)		Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C)[21]	☐ Yes	☐ No	
	• Incubator temperature 44.5° C ± 0.2° [21/24]			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) [1, 5]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Autoclaves/Steam Sterilizers		Acceptable?		
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C [25]	☐ Yes	☐ No	
	• 10 to 30 minutes time based on material being sterilized[26]	☐ Yes	☐ 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]	☐ Yes	☐ 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]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Log book being maintained [2]	☐ Yes	☐ No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available *Geobacillus stearothermophilus* in spore strips, suspensions, or capsules [1]	☐ Yes	☐ No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Final Effluent Temperature Monitoring		Acceptable?		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☒ Yes	☐ No	A
	• Thermometer accurate to 0.1° Celsius[5]	☒ Yes	☐ No	
	• Log book being maintained [2]	☒ Yes	☐ No	

Number of Criteria Rated:		
	Acceptable	3
	Marginal	
	Unacceptable	
	Total Number of Areas Rated	3

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
2 Method 1020-A, Item 1
3 Method 1020-B, Item 10
4 Method 2540-B, Item 2
5 Method 2550-B, Item 1
6 Method 1020-A, Item 1
7 Method 4500-H B, Item 4
8 Method 4500-H B, Item 2
9 Method 1020-B, Item 2
10 Method 4500-O B, Item 3
11 Method 4500-O G, Item 3
12 Method 5210-B, Item 5
13 CFR 136.3, Table II
14 Method 1060A, Item 1
15 Method 4500-Cl I, Item 2
16 Method 4500-Cl I, Item 4
17 Method 4500-NH3 D, Item 4
18 Method 4500-NH3 D, Item 2
19 Method 1060-B, Item 2
20 Method 1060-B, Item 1
21 Method 9222D, Item 1
22 Method 9223 B, Item 2
23 Method 9223 B, Item 3
24 Method 1603, Item 2
25 Method 9030-B, Item 3
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 ≤6° C	6h	48h
TSS	P, G	200	G, C	Refrigerate ≤6° 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 ≤6° 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 ≤6° C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° 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_2SO_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

OhioEPA
State of Ohio Environmental Protection Agency

Southwest District
401 East Fifth Street
Dayton, Ohio 45402-2911
TELE: (937)285-6357 FAX: (937)285-6249
www.epa.state.oh.us

Bob Taft, Governor
Bruce Johnson, Lt. Governor
Joseph P. Koncelik, Director

July 14, 2005

Mr. Thomas Yeager, Utilities Director
Clermont County Water & Sewer District
2379 Clermont Center Dr.
Batavia, OH 45103

Re: NPDES Permit Compliance Evaluation Inspection
1PK00008*JD / OH0049361 Ninemile Creek WWTP

Dear Mr. Yeager:

On June 23, 2005, Bruce Smith of this office conducted an NPDES Compliance Evaluation Inspection at the above referenced facility. John Teeter and Dave Linville represented the sewer district during the inspection. The purpose of the inspection was to evaluate several aspects of plant operation and performance and to assist in the determination of the facility's overall compliance with its National Pollutant Discharge Elimination System (NPDES) permit.

As indicated in the enclosed NPDES Compliance Inspection Report, all of the areas that were evaluated were rated as satisfactory except Effluent/Receiving Waters and Sludge Storage/Disposal which were rated as marginal.

The marginal ratings for Effluent/Receiving Waters and Sludge Storage/Disposal are related. Wastewater biosolids were noted at the discharge to Ninemile Creek which was attributed primarily to the inability to adequately remove solids from the treatment system. The representatives reported that a dewatering centrifuge is made available to the plant on a rotating basis between three facilities. The frequency was estimated as little as once every three months. The result is a build up of solids in the treatment system leading to "old" poorly settling sludge. Significant scum on the clarifiers along with solids carryover to the stream follow. Please refer to the attached report for additional details regarding conditions at the facility.

In conversation with Bill Slaven, Operations Manger, the county proposes to rent a centrifuge to bring down the solids levels in the treatment system. In addition, chlorination of the activated sludge has been initiated to assist in settling by elimination of filamentous bacteria. These remedies may be adequate in the short term but are not likely sustainable. The long term plan to provide a belt filter press at the County's Middle East Fork facility and rotate the existing centrifuge between two facilities is also likely to improve solids management. However, diligent management of solids until this time must be practiced.

Some other conditions at the facility are worth pointing out and should be considered with respect to adequate operations. Mr. Smith noted that the off-line oxidation ditch appeared to contain significant quantity of septic solids and the off-line clarifier was covered with a dry scum later with vegetative growth. The mechanical coarse bar screen has been inoperable for approximately one year.

If you have any questions about the findings in this report, please contact Mr. Smith in this office at (937) 285-6099.

Sincerely,

Martyn G. Burt
Compliance and Enforcement Group Leader
Division of Surface Water

Attachment

cc: Bill Slaven, Operations Manager
Clermont County Board of Commissioners

Permit # : 1PK00008JD
NPDES #: OH0049361

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**
1PK00008*JD	OH0049361	06/23/2005	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
Clermont County Nine Mile Creek WWTP 560 Locust Corner Rd. New Richmond, OH Clermont County	1:20 p.m.	January 1, 2004
	Exit Time	**Permit Expiration Date**
	3:35 p.m.	December 31, 2008
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
John Teeter, Operator Dave Linville, Operator	513-553-4737	
Name, Address and Title of Responsible Official	**Phone Number**	
Thomas Yeager, Utilities Director Clermont County Water & sewer District 2379 Clermont Center Dr. Batavia, Ohio 45103	513-732-7934	

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	N	Laboratory	N/A	Compliance Schedule
S	Operations & Maintenance	M	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	M	Sludge Storage/Disposal		Other
N	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

See Attached Report and cover letter.

Inspector	Reviewer
Bruce E. Smith 7/14/05	Martyn Burt 7/15/05
Bruce E. Smith Date	Martyn Burt Date
Division of Surface Water Southwest District Office	Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Permit # : 1PK00008JD
NPDES #: OH0049361

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) Product(s) and production rates conform with permit application (Industries)	N/A
(d) Flows and loadings conform with NPDES permit	Y
(e) Treatment processes are as described in permit application	Y
(f) New treatment process(es) added since last inspection	N
(g) Notification given to State of new, different or increased discharges	N/A
(h) All discharges are permitted	Y
(i) Number and location of discharge points are as described in permit	Y

Comments/Status:

Section F: Permit Verification

(a) Any significant violations since the last inspection	N
(b) Permittee is taking actions to resolve violations	N/A
(c) Permittee has a compliance schedule	N
(d) Compliance schedule contained in	
(e) Permittee is meeting compliance schedule	N/A

Comments/Status:
Review Period 1/04 - 5/05

Effluent Limitation Violations
Source of silver tracked to Beechmont lift station and potential sources identified.

Permit No	Reporting Period	Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
1PK00008*JD	November 2004	001	01079	Silver, Total Recoverable	30D Conc	1.3	1.5	11/1/2004
1PK00008*JD	January 2005	001	01079	Silver, Total Recoverable	30D Conc	1.3	1.75	1/1/2005
1PK00008*JD	February 2005	001	01079	Silver, Total Recoverable	30D Conc	1.3	1.4	2/1/2005
1PK00008*JD	April 2005	001	01079	Silver, Total Recoverable	30D Conc	1.3	1.45	4/1/2005

Section G: Operation & Maintenance

Treatment Works:
Treatment facility properly operated and maintained

(a)	Standby power available.....generator ☒ or dual feed ☐.....	Y
(b)	Adequate alarm system available for power or equipment failures..	Y
(c)	All treatment units in service other than backup units.....	N
(d)	Operator holds unexpired license of class required by permit..... Class: III Bill Slaven	Y
(f)	Routine and preventative maintenance schedule/performed on time.....	N/E
(g)	Any major equipment breakdown since last inspection.....	N
(h)	Operation and maintenance manual provided and maintained.....	N/E
(i)	Any plant bypasses since last inspection.....	N
(j)	Regulatory agency notified of bypasses..... On MORs ☐ and/or Spill Hotline (1-800-282-9378) ☐	N/A
(k)	Any hydraulic and/or organic overloads since last inspection.....	N/E

Collection System:

(a)	Percent combined system: 0 %	
(b)	Any collection system overflows since last inspection..... (CSO ☐ and/or SSO ☐)	N/E
(c)	Regulatory agency notified of overflows (SSOs).....	N/E
(d)	CSO O&M plan provided and implemented.....	N/A
(e)	CSOs monitored and reported in accordance with permit.....	N/A
(f)	Portable pumps used to relieve system.....	N/E
(g)	Lift station alarms provided and maintained.....	N/E
(h)	Are lift stations equipped with permanent standby power or equivalent.....	N/E
(i)	Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection.....	N/E
(j)	Any complaints received since last inspection of basement flooding	N/E
(k)	Are any portions of the sewer system at or near capacity.....	N/E

Comments/Status:

c) Grit pump not in operation (approximately 3 months). Repair underway.
Mechanical coarse bar screen not operational (approximately 1 year).
One oxidation ditch off-line. Switched approximately 1/yr. Off-line ditch contained significant quantity of septic solids.
One clarifier off-line. Covered with crusted solids layer.
b) Alarms: Power, High/Low influent, clarifier torque, gen-set activation

Oxidation ditch, trench to clarifiers and clarifier contained significant foam (reportedly Nicardia). Bio-solids in clarifier weir trough.

Two operators (one with duties at Felicity WWTP). Grounds keeping contracted.

Section H: Sludge Management

(a) Sludge management plan (SMP)
Submitted date: **6/19/1996** Approval #: **05-354-PW** Not submitted ☐ N/A ☐

(b) Sludge management plan current..... Y
(c) Sludge adequately disposed..... Y
(Method: Land application)
(d) If sludge is incinerated, where is ash disposed of
(e) Is sludge disposal contracted..... Y
(Name: **Synagro**)
(f) Has amount of sludge generated changed significantly since last inspection.....
(g) Adequate sludge storage provided at plant..... Y
(h) Land application sites monitored and inspected per SMP..... N/E
(i) Records kept in accordance with State and Federal law..... Y
(j) Any complaints received in last year regarding sludge..... Y
(k) Is sludge adequately processed (digestion, pathogen control)..... N/E

Comments/Status:

Dewatering centrifuge shared between three facilities. Only available at Nine Mile WWTP approximately 1/3 months. Sludge digesters full of liquid (some decant volume available) despite recent dewatering. MLSS in Oxidation ditches somewhat high and considered "old".

Sludge Production: 2004 902.61 Dry tons

Influent CBOD average 190.4 mg/l (1/04 - 4/04)
Flow average 1.44 MGD Sludge Yield 1.5 lb biomass / lb BOD
% Volatile SS average 68.8 %

Section I: Self-Monitoring Program

Flow Measurement:

(a) Primary flow measuring device operated and maintained..... Y
Type of device: Ultrasonic & Parshall flume ☐ Ultrasonic & Weir ☒ Weir ☐
Calculated from influent ☐ Other ☐(Specify:)

(b) Calibration frequency adequate .....Y
(Date of last calibration: 1/yr by Rod & Myers)
(c) Secondary instruments operated and maintained.....Y
(d) Flow measurement equipment adequate to handle full range of flows...Y
(e) Actual flow discharged is measured.....Y
(f) Flow measuring equipment inspection frequency
☐Daily ☐Weekly ☐monthly ☐other

Comments/Status:

Flows Period of Review 1/4 - 5/05

Average 1.44 MGD
Maximum 4.91 MGD
days > 3.0 MGD design flow 8 (1.6%)

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
(d) Sample collection procedures are adequate..... Y
  (i) Samples refrigerated during compositing..... Y
  (ii) Proper preservation techniques used..... Y
  (iii) Containers and sample holding times prior to analysis conform with 40 CFR 136.3..... Y
(e) 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
(f) Adequate records maintained of sampling date, time, location, etc.. Y

Laboratory:

General

(a) EPA approved analytical testing procedures used (40 CFR 136.3).. N/E
(b) If alternate analytical procedures are used, proper approval has been obtained..... N
(c) Analyses being performed more frequently than required by permit. N/A
(d) If (c) is yes, are results in permittee's self-monitoring report..... N/A
(e) Commercial laboratory used..... Y
  Parameters analyzed by commercial lab:

  Lab name:

Quality Control/Quality Assurance

(f) Quality assurance manual provided and maintained..... N/E
(g) Satisfactory calibration and maintenance of instruments/equipment. Y
(h) Adequate records maintained..... Y
(i) Results of latest USEPA quality assurance performance sampling program:
☐ Satisfactory ☐ Marginal ☐ Unsatisfactory
Date:

Comments/Status:

Influent sampler had no thermometer or temperature log.
Effluent sampler 2°C

Section J: Effluent/Receiving Water Observations

Outfall Number	Oil sheen	Grease	Turbidity	Visible Foam	Visible Floating Solids	Color	Other
001	-	-	some	-	-	-	

Comments/Status:

Biosolids deposits at outfall.

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?
(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: