



State of Ohio Environmental Protection Agency

Northwest District Office

347 North Dunbridge Rd.
Bowling Green, OH 43402-9398

TELE: (419) 352-8461 FAX: (419) 352-8468
www.epa.ohio.gov

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Re: Richland County
City of Mansfield WWTP
NPDES Permit

November 4, 2010

Mr. Angelo Klousiadis, Interim Public Works Director
City of Mansfield
30 North Diamond Street
Mansfield, Ohio 44902

Dear Mr. Klousiadis,

On September 28, 2010, Walter Ariss completed a compliance sampling inspection of the wastewater treatment facilities serving the City of Mansfield. Mr. Marc Morgan, Plant Manager, was present for a tour of the facilities and to provide information on plant operations and maintenance. The inspection included completion of a checklist designed to evaluate major areas of the treatment plant.

The majority of the treatment units were in operation at the time of the inspection. The bypass to the EQ basin was active however no overflow was occurring from the basin. A clear effluent was being discharged from the final clarifiers.

During the inspection one of the final clarifier tanks was out of service. The floating cover anaerobic digester was also out of service. The digester cover has been leaking for a period of approximately three and a half years. The replacement of the cover should be a priority item for future upgrades at the treatment plant.

During the inspection we reviewed the plant's laboratory procedure and testing of suspended solids. The completed laboratory checklist has been enclosed for your review. Several action items are required and included in the comments section on the checklist. These items should be corrected within the next six months.

A review of your discharge monitoring reports submitted for September 2009 through September 2010 revealed numerous **violations** of the limits contained in your NPDES permit. A printout of these **violations** is included in the attached spreadsheet. During the above time period, the EQ basin overflowed on 31 days.

In summary, the treatment plant appeared to be operating correctly at the time of the inspection. The completed inspection report is enclosed for your review. During the inspection, samples of the effluent were taken. Results will be forwarded upon receipt.

Mr. Angelo Klousiadis, Interim Public Works Director
November 4, 2010
Page 2

If you have any questions, please contact Walter Ariss at 419-373-3070.

Yours truly,



Elizabeth A. Wick, P.E.
District Engineer
Division of Surface Water

/llr

Enclosure

pc: (DSW-NWDO File w/enclosure >
Jim DeSanto, City Engineer, City of Mansfield
Marc Morgan, City of Mansfield WWTP w/enclosure

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..... Y
- (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:

f) sludge and grit drying pads

Section F: Compliance Schedules/Violations

- (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..... Y
- (d) Compliance schedule contained in
- (e) Permittee is meeting compliance schedule..... Y

Comments/Status:

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) Wastewater Treatment Works classification (OAC 3745-7)..... IV
- (e) Operator of Record holds unexpired license of class required by permit..... Y
 Class: IV
- (f) Copy of certificate of Operator of Record displayed on-site..... Y
- (g) Minimum operator staffing requirements fulfilled (OAC 3745-7)... Y
- (h) Routine and preventative maintenance scheduled/performed... Y
- (i) Any major equipment breakdown since last inspection..... N
- (j) Operation and maintenance manual provided and maintained.... Y
- (k) Any plant bypasses since last inspection..... N
- (l) Regulatory agency notified of bypasses..... N/A
 On MORs and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic and/or organic overloads since last inspection..... Y

Record Keeping:

- (a) Log book provided..... Y
- (b) Format of log book (i.e. computer log, hard bound book)

paper work request sheets
- (c) Log book(s) kept onsite (in an area protected from weather)..... Y
- (d) 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 operation and maintenance activities (including preventative maintenance, repairs and request for repairs)..... Y
 - IV. Laboratory results (unless documented on bench sheets)... Y
 - V. Identification of person making log entries..... Y
- (d) Has the operator of record submitted written notification 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

Section G: Operation & Maintenance (con't)

Collection System:

- (a) Percent combined system: 0%
- (b) Any collection system overflows since last inspection..... Y
(CSO and/or SSO)
- (c) Regulatory agency notified of overflows (SSOs)..... Y
- (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
- (g) Lift station alarms provided and maintained..... Y
- (h) Are lift stations equipped with permanent standby power
or equivalent..... Y
- (i) Is there an inflow/infiltration problem (separate sewer system),
or were there any major repairs to collection system since
last inspection..... Y
- (j) Any complaints received since last inspection of basement flooding Y
- (k) Are any portions of the sewer system at or near capacity..... N

Comments/Status:

Treatment Works

- a) generator runs storm screws, clarifiers and blowers, chlorine. Not WAS or RAS pumps
- c) one final clarifier out of service, gas holding digester still out of service.
- g) One class IV, two class III, two class II

Collection system

- g) treatment plant staff in charge of all lift stations, all have either radio or dialer alarms
- h) Park Ave and five smaller stations have backup

Section H: Sludge Management

- (a) Sludge management plan (SMP)
Submitted date: 3/20/2004 Approval #: Not submitted N/A
- (b) Sludge management plan current..... Y
- (c) Sludge adequately disposed..... Y
(Method: Landfill)
- (d) If sludge is incinerated, where is ash disposed of
- (e) Is sludge disposal contracted..... Y
(Name: Santek Crawford Co. Landfill and Rumpke hauling)
- (f) Has amount of sludge generated changed significantly since last inspection..... N
- (g) Adequate sludge storage provided at plant..... N
- (h) Land application sites monitored and inspected per SMP..... N/A
- (i) Records kept in accordance with State and Federal law..... Y
- (j) Any complaints received in last year regarding sludge..... N
- (k) Is sludge adequately processed (digestion, pathogen control)..... Y

Comments/Status:

Gas holder out of service. Methane gas mixing out of service, using recirculation pumps.

c) hope to start using sludge pad by end of 2010

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: magmeters)
- (b) Calibration frequency adequate N
(Date of last calibration: once every two years)
- (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..... N
- (f) Flow measuring equipment inspection frequency
 Daily Weekly monthly other

Comments/Status:

B) Calibration had not been completed during 2009 inspection and has yet to be done since then. This needs to be completed.

Flows measured by adding and subtracting recycle and waste stream flows from influent.

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..... 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).. Y
 - (b) If alternate analytical procedures are used, proper approval has been obtained..... N/A
 - (c) Analyses being performed more frequently than required by permit. Y
 - (d) If (c) is yes, are results in permittee's self-monitoring report..... Y
 - (e) Commercial laboratory used..... Y
- Parameters analyzed by commercial lab: Metals, Pretreatment, P, O&G, Nitrate and Nitrite

Lab name: Alloway and Ginosko

Quality Control/Quality Assurance

- (f) Quality assurance manual provided and maintained..... Y
 - (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: completed testing for 2010 but have not gotten results yet

Comments/Status:

Lab analyst doing much better.

Section J: Effluent/Receiving Water Observations

Outfall Number	Oil sheen	Grease	Turbidity	Visible Foam	Visible Floating Solids	Color	Other
001	none	none	none	none	none	none	none

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?
- (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	Acceptable?		Rating
Balance				
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights ^{1,2}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	M
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used. ³	<input type="checkbox"/> Yes	<input checked="" 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) ¹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams ⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Log book maintained ⁶	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments: Standard weights need to be checked for classification. Standard weights should be used to calibrate the balance every day. This activity should be tracked in a balance log book.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Drying Oven (Suspended Solids)				
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	M
	• Log book maintained ⁶	<input checked="" 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 checked="" type="checkbox"/> No	
• Other	• Thermometer temperature in 0.1° C increments ⁵	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105° F ⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments: All of the thermometers used in the lab need to be calibrated annually with a NIST traceable thermometer. Instrument manual needs to be located.

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH 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	
	• Logbook maintained ⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result ⁷	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ⁸	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Dissolved Oxygen Meter	Acceptable?		
• Calibration Method	• Air or known DO calibration method ¹⁰	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Calibration per manufacturer specification ¹⁰	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Calibration Frequency / Documentation	• Logbook maintained ⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Calibration verification required at least once each day the meter is used. ³	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Other	• 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
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Comments:

Criteria	Standard Methods Requirement		Rating
Incubator (CBOD/ E-Coli)	Acceptable?		
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Acceptable temperature range (CBOD) is 20° C ±1.0° ¹²	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Acceptable temperature range (E-Coli) is 35° C ±0.5° ²²	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Logbook maintained ⁹	<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
	• Temperature correction information posted on incubator ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> 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	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Other	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Temperature Log (thermometer reads to 0.1 Celsius). ⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Comments:

Criteria	Standard Methods Requirement		Rating
Refrigerator	Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.1 Celsius). ⁵	<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
• Other	• Thermometer held in water bath. ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Refrigerator temperature ≤6° Celsius. ¹³	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• 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	
	• 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. ⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

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	
	• Log book being maintained ⁹	<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	Acceptable?		Rating
Sample Collection/Handling				
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). ¹⁹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	M
• 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equipment blanks utilized ¹⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook being maintained ⁹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments: Sample containers should be labeled and chain of custody for plant personnel needs to be kept.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Desiccator				
• General criteria	• Properly working seals.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	M
	• Desiccant fresh (blue color)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• Documentation	• Log book being maintained ⁹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments: Need to keep log of when desiccant is changed or regenerated. Color today is fairly pink.

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

Comments: All entries need to be made in ink. Corrections should not be made with white out.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Hot Water Bath (Fecal Coliform/E. Coli)				
• Temperature Recordkeeping	• Temperature Log (thermometer reads 0.2° C) ²¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• 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 ⁹	<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:

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Autoclaves/Steam Sterilizers			
<ul style="list-style-type: none"> All apparatus utilized is adequately sterilized before use 	<ul style="list-style-type: none"> Sterilizing temperature 121° C ²⁵ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> 10 to 30 minutes time based on material being sterilized²⁶ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> Documentation 	<ul style="list-style-type: none"> 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	
	<ul style="list-style-type: none"> 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	
<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"> Log book being maintained ⁹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> Performance Checks 	<ul style="list-style-type: none"> 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:

Number of Criteria Rated:	Acceptable	1
	Marginal	4
	Unacceptable	
Total Number of Areas Rated		5

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:	<ul style="list-style-type: none"> >60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable
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Notation of Referenced Method

1 Method 9020-B, Item 4	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-B, 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 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 $\leq 6^{\circ}\text{C}$	28 d	28 d

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

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

Form Approved
OMB No. 158-R0035

RATING CODES: S = Satisfactory; U = Unsatisfactory; M = Marginal; IN = In Operation; OUT = Out of Operation

CONDITION OR APPEARANCE		RATING	COMMENTS
General	Grounds	S	
	Buildings	S	
	Potable Water Supply Protection	S	
	Safety Features	S	
	Bypasses	OUT	
	Stormwater Overflows	OUT	
	Alternate Power Source	IN	Peak shaving
	EQ Basin	IN	In use and filling
Preliminary	Maintenance of Collection Systems	M	
	Pump Station	IN	Park avenue station, all pumps have now been rebuilt
	Ventilation	S	
	Bar Screen	IN	2 Mechanical, one manual backup – one mechanical out for repair
	Disposal of Screenings	S	Landfill
	Comminutor		
	Grit Chamber	IN	Aerated
	Disposal of Grit	S	Landfill
	EQ grit	IN	
Primary	Grit Bucket Elevator	IN	
	Settling Tanks	IN	2 tanks
	Scum Removal	IN	
	Sludge Removal	IN	2 pumps
Sludge Disposal	Effluent	S	
	Digesters	IN	4 anaerobic units – gas holder still out of service
	Temperature and pH	S	Insulation on covers starting to come off
	Gas Production	S	Used to run blowers, gas holder out of service
	Heating Equipment	IN	
	Sludge Pumps	IN	2 WAS, 5 RAS, 1 dilution pump – RAS pumps have been rebuilt
	Disposal of Sludge	S	Crawford County Landfill
	Belt Filter Press	IN	2 presses, both in service
	Sludge Gravity Thickener	IN	2 tanks, only use one at a time
	Holding tank fill pumps	OUT	3 sludge holding feed pumps
Other	Holding tank blowers	OUT	2 blowers, they do not use these
	Flow Meter and Recorder	IN	
	Records	S	
	Lab Controls	S	
	Chemical Treatment	OUT	Polymer addition to sludge prior to filter press
Secondary-Tertiary <small>List items as</small>	Sludge rotary screen	IN	
	Aeration Tanks	IN	8 Tanks
	Blowers	IN	4 units
Disinfection	Secondary Clarifiers	IN	4 units, one unit out of service with bad drive
	Effluent	S	
	Disinfection System	IN	Gas chlorine feed, EQ overflow dosing has been repaired
	Effective Dosage	S	
	Contact Time	S	
	Contact Tank	IN	
Dechlorination	IN	Sulfur dioxide	