



State of Ohio Environmental Protection Agency

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MONTGOME DAYTON POWER & LIGHT CO OH HUTCHINGS OSTENDORF, ROBE 2010/02/11
STATION

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



State of Ohio Environmental Protection Agency

Southwest District Office

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

February 11, 2010

Mr. Steve Dawson
Dayton Power and Light
O.H. Hutchings Electric Generating Station
9200 Chautauqua Road
Miamisburg, OH 45342

Re: Montgomery County, Dayton Power and Light Hutchings Station Electric Generating Station, Compliance Evaluation Inspection and Notice of Violation

Dear Mr. Dawson:

On January 27, 2010, I conducted a Compliance Evaluation Inspection at Dayton Power and Light Hutchings Station Electric Generating Station (NPDES Permit No. OH0009261; OEPA Permit No. 11B00004*JD). A copy of my inspection report is enclosed.

During the inspection the following observations were made and will require a written response:

- It was determined that the facility Standard Operating Procedure for analysis performed onsite was deficient. It was also determined that the Chain of Custody procedures currently in place have deficiencies in regards to ensuring that the possession of the samples is documented properly. The Standard Operating Procedures will need to be updated and revised to include all section as required and any procedural changes that might be implemented with regards to Chain of Custody documentation and or sample custody. Please be advised that written Standard Operating Procedures are required per the 40 CFR 136.3 approved analytical procedure. A template of a Standard Operating Procedure has been provided to the facility for its use.

During the inspection the following violation was discovered and will require a written response:

- It was determined that the facility utilizes AAA Wastewater for the disposal of the sludge generated at the wastewater treatment plant. Upon review, it was determined that AAA Wastewater is not an NPDES permit holder. The permit issued to the Dayton Power and Light O.H. Hutchings Electric Generating Station (Permit 11B00004*JD, NPDES OH0009261) requires that sewage sludge be





Mr. Steve Dawson
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transferred to another NPDES permit holder. The Dayton Power and Light O.H. Hutchings Electric Generating Station is also in violation of Ohio Administrative Code 3745-40-03 "Permits plans, and authorizations". OAC 3745-40-03(B) states "A permittee is responsible that any disposal, use, storage, or treatment of sewage sludge is in compliance with this chapter and the conditions of its NPDES permit or sewage sludge management plan." I have spoken to Ms. Varner and a representative from AAA Wastewater regarding this matter and it appears that a return to compliance can be achieved relatively quickly.

Please provide a written response regarding the above mentioned observations and violations to this office by no later than February 26, 2010. The response shall include the requested information and either the date the required action was completed or the date in which the required action is anticipated being completed.

If you have any questions regarding this matter please feel free to contact me at (937) 285-6107 or via email at: Robert.Ostendorf@epa.state.oh.us.

Sincerely,



Bob Ostendorf Jr.
Division of Surface Water
Permits Section

Enclosure





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
11B00004*JD	OH0009261	1/27/10	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Dayton Power and Light O.H. Hutchings Electric Generating Station 9200 Chautauqua Road Miamisburg, OH 45342	8:50 a.m.	August 1, 2009
	Exit Time	Permit Expiration Date
	10:25 a.m.	July 31, 2014
Name(s) and Title(s) of On-Site Representatives		Phone Number(s)
Keisha Varner, Laboratory Supervisor		(937) 865-6298
Name, Address and Title of Responsible Official		Phone Number
Mr. Steve Dawson, Plant Manager 9200 Chautauqua Road Miamisburg, OH 45342		(937) 865-6233

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

Section D: Summary of Findings (Attach additional sheets if necessary)	
<p>Please see the cover letter for a summary of the findings. The details of the findings are documented within this inspection report. It was noted that at the time of the inspection, the progress report as required in Part I Item 1a of the NPDES permit had not been received. The progress report is due February 1, 2010. It is also noted that the Annual Sludge Report for the facility is Due January 31, 2010.</p>	
Inspector	Reviewer
 Bob Ostendorf Jr. Division of Surface Water Southwest District Office Date: 2-8-10	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office Date: 2/10/2010



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

Section E: Permit Verification

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee Y
- (b) Correct name and location of receiving waters..... Y
- (c) Do Categorical Standards apply?...If yes, list applicable standards.. N
- (d) Product(s) and production rates conform with permit application (Industries)..... Y
- (e) Flows and loadings conform with NPDES permit..... Y
- (f) Treatment processes are as described in permit application... Y
- (g) All discharges are permitted..... Y
- (h) Number and location of discharge points are as described in permit..... Y
- (i) Storm water discharges properly permitted..... Y

Comments/Status:

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..... 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:



Section G: Operation & Maintenance

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.....

Entire Facility

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

As needed – the facility is a power generation plant.

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

High and low level alarms for pump station.

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

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

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

(f) Operation and maintenance manual provided and maintained..... N/A

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

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

Comments/Status:

[Empty box for comments/status]

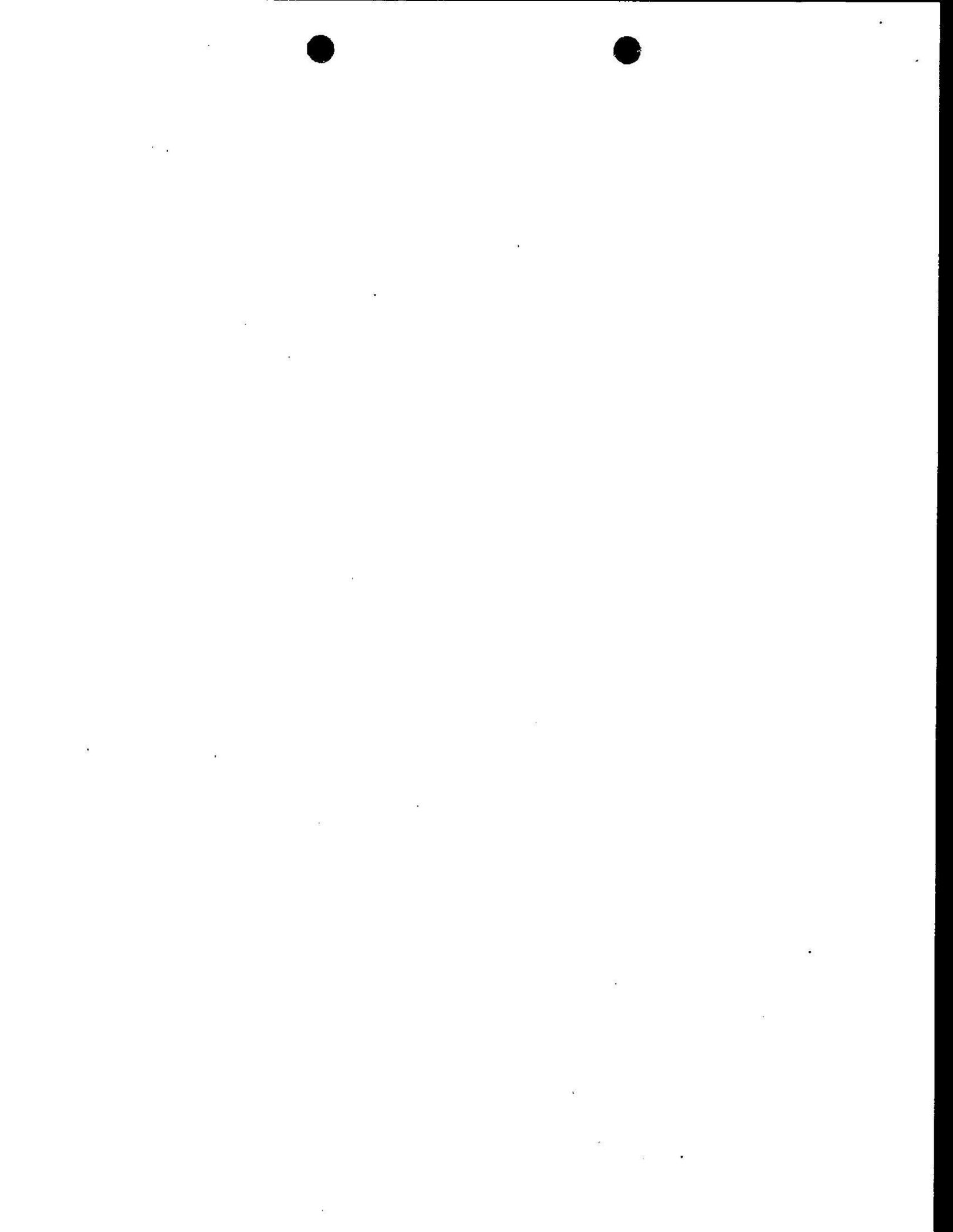


Section H: Sludge Management

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

*if one of the selected methods is land application, complete applicable charts.
Class A - Exception Quality Sewage Sludge (monitoring station 584)

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



Class B Sewage Sludge (monitoring station 581)

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

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

Comments/Status:

This facility has AAA Wastewater pump and haul their sludge to the AAA Wastewater facility for further treatment and disposal. The AAA Wastewater facility is not an NPDES permit holder nor do they have an approved Sludge Management Plan. Ohio Administrative Code 3745-40-03 'Permits, plans, and authorizations" requires that the recipient of the sewage sludge to be a NPDES permit holder or have an approved Sludge Management Plan.



Section I: Self-Monitoring Program

Flow Measurement:

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

Elapsed time meters on pumps

- (b) Calibration frequency adequate N/A
(Date of last calibration:)
- (c) 24-hour recording instruments operated and maintained..... N/A
- (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:

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

Sampling:

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

Comments/Status:

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

Laboratory:

General

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

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

- (c) EPA approved analytical testing procedures used (40 CFR 136.3).. N
- (d) If alternate analytical procedures are used, proper approval has been obtained..... Y
- (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: All but TSS, TRC, and pH which are analyzed onsite.

Lab name: Test America (O&G), Belmont (Balance)

Discharge Monitoring Report Quality Assurance (DMRQA)

- (a) Participation in latest USEPA quality assurance performance sampling..... Y
Date: September 29, 2009
- (b) Were any parameters "Unsatisfactory"..... N
- (c) Reasons for "Unsatisfactory" parameters.....

Comments/Status:

The analytical methods in use at the facility are not fully compliant with the approved methods as found in 40 CFR 136.3. The facilities SOP's are not a single document for each parameter analyzed and do not contain all of the sections required (sampling protocol, chain of custody, and calibration schedules). Due to these deficiencies this area will be rated as marginal. The "SOP" for the analysis of Total Residual



Chlorine was reviewed during the inspection.

Section J: Effluent/Receiving Water Observations

Outfall # 002, 004

Outfall Description: All discharges appeared to be clear with little to no solids.

Receiving Stream: Great Miami River

Receiving Stream Description: The receiving stream appeared to be normal.

Comments/Status:

[Empty box for comments/status]

Section K: Multimedia Observations

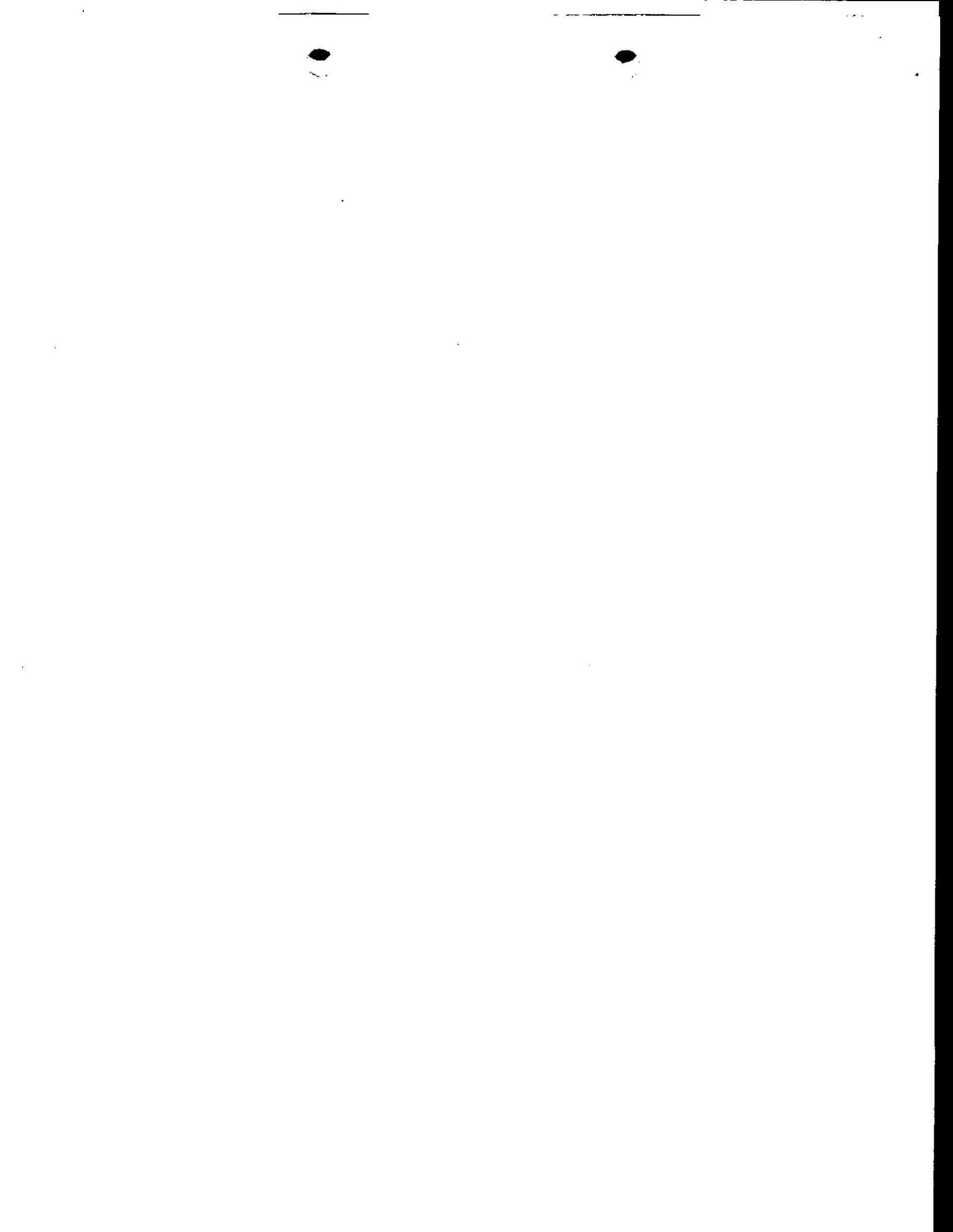
- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
- (d) Do you see unidentified 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:

During the course of the inspection it was discovered that the potential use of biofuels at the facility was being investigated. The facility was in the process of determining the feasibility of the alternate fuel source.



General Lab Criteria
Dayton Power and Light - O.H. Hutchings Station, 1/27/10

<p>pH Meter</p> <ul style="list-style-type: none"> • Buffers Used for Calibration • Minimum of 2 point calibration • Buffer Expiration Date • Calibration Frequency / Documentation • Slope Documentation / Acceptability 	<ul style="list-style-type: none"> • Calibration per manufacturer specification and calibration buffers must bracket anticipated result⁷ • 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 • Teflon covered magnetic stirrer for sample mixing or equivalent⁸ • Buffers must not be expired • Slope acceptable range indicated on benchsheet² • Instrument manual available • Logbook maintained⁹ 		N/A
<p>Comments:</p>			
<p>DO Meter</p> <ul style="list-style-type: none"> • Calibration Frequency / Documentation • Calibration Method 	<ul style="list-style-type: none"> • Calibration per manufacturer specification¹⁰ • Air or known DO calibration method¹⁰ • Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)¹¹ • Logbook maintained⁹ • Instrument manual available • Calibration verification required at least once each day the meter is used 		N/A
<p>Comments:</p>			



General Lab Criteria
Dayton Power and Light - O.H. Hutchings Station, 1/27/10

<p>Incubator</p> <ul style="list-style-type: none"> • Temperature Recordkeeping • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Check / record temperature twice daily for each shelf in use¹ • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Temperature correction information posted on incubator¹ • Acceptable temperature range is 20° C +/-1.0°¹² • Instrument manual available • Logbook maintained⁹ • Temperature Log (thermometer reads to 0.1 Celsius).⁵ 		N/A
<p>Comments:</p>			
<p>Refrigerator</p> <ul style="list-style-type: none"> • Temperature Recordkeeping • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.1 Celsius).⁵ • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Thermometer held in water bath.¹ • Refrigerator temperature ≤6° Celsius¹³ • Do not store volatile solvents, food, or beverages.¹⁴ 		N/A
<p>Comments:</p>			
<p>Chlorine Meter</p> <ul style="list-style-type: none"> • Calibration Frequency / Documentation • Calibration Method • Standard expiration date • Standards used for calibration • Slope Documentation / Acceptability 	<ul style="list-style-type: none"> • pH / millivolt meter read to 0.1 mV¹⁵ • Electrode free of deposits and foreign material • Calibration using three iodate solutions 0.2, 1.0, 5.0 or Calibration per manufacturer specification¹⁶ • Calibration verification required for 	<p style="text-align: center;">Not Applicable Not Applicable Not Applicable Acceptable</p>	Marginal



General Lab Criteria
Dayton Power and Light - O.H. Hutchings Station, 1/27/10

	<ul style="list-style-type: none"> • testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)³ • Calibration curve (acceptable slope) • Log book being maintained.⁹ • Instrument manual available • Standards Expiration Date 	<p align="center">Acceptable Unacceptable Acceptable Acceptable</p>	
<p>Comments: The "SOP" for this analysis was composed of several documents. The annual calibration schedule was not found within any of the documents. The documents were out of date and in need of revision. All of the sections required to be within an acceptable SOP were not present within the existing SOP documentation. The facility utilizes a Hach 4000 Spectrophotometer, DPD method for the determination of Total Residual Chlorine.</p>			
<p>Ammonia Meter</p> <ul style="list-style-type: none"> • Calibration Frequency / Documentation • Calibration Method • Standard expiration date • Standards used for calibration • Slope acceptability 	<ul style="list-style-type: none"> • Electrode free of deposits and foreign material • 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 • Teflon covered magnetic stirrer for sample mixing or equivalent¹⁸ • Standards used for calibration (3 ammonia solution 10 mg/l, 1 mg/l, and 0.1 mg/l) or calibration per manufacturer specification¹⁷ • Verify calibration slope is acceptable (per manufacturer Spec.). • Log book being maintained⁹ • Instrument manual available 		N/A
<p>Comments:</p>			
<p>Sample Handling / Collection</p> <ul style="list-style-type: none"> • Sample Labeling 	<ul style="list-style-type: none"> • Samples container labeled (description, date, time, preservative added, initialed).¹⁹ 	Acceptable	Marginal



General Lab Criteria
Dayton Power and Light - O.H. Hutchings Station, 1/27/10

<ul style="list-style-type: none"> Chain of Custody 	<ul style="list-style-type: none"> Chain of custody (description, date, time, signature).¹⁹ Composite samples refrigerated during sample collection¹⁴ Equipment blanks utilized¹⁴ SOP for cleaning of sampling equipment Logbook being maintained⁹ 	<p style="text-align: center;">Marginal</p> <p style="text-align: center;">Not Applicable</p> <p style="text-align: center;">Not Applicable</p> <p style="text-align: center;">Not Applicable</p>	
<p>Comments: It was determined during the inspection that from time to time there is a time gap in the custody of samples sent off-site for analysis. I suggested that the use of tamper tape may be a good solution to this issue. Should this procedure be utilized the SOP will need to be updated to reflect this procedural change.</p>			
Desiccator	<ul style="list-style-type: none"> Properly working seals. Desiccant fresh (blue color) Log book being maintained⁹ 		N/A
<p>Comments:</p>			
Benchsheets	<ul style="list-style-type: none"> Date(s)² Analyst initials² Equations, calculations, units for all measurements, notations, and results present² Calibration information² Blue or black ink pen² Corrections, single line through, initialed and dated² 	<p style="text-align: center;">Acceptable</p> <p style="text-align: center;">Acceptable</p> <p style="text-align: center;">Acceptable</p> <p style="text-align: center;">Acceptable</p> <p style="text-align: center;">Acceptable</p> <p style="text-align: center;">Acceptable</p>	Acceptable



General Lab Criteria
Dayton Power and Light - O.H. Hutchings Station, 1/27/10

Comments:			
<p>Hot Water Bath</p> <ul style="list-style-type: none"> • Temperature Recordkeeping • Temperature Calibration / Documentation • Water Level 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads 0.2° C)²¹ • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Thermometer total immersion or partial (line on thermometer to ID immersion depth)^{1,5} • Incubator temperature 44.5° C +/- 0.2°²¹ for fecal coliform 45.5° C ±0.2° for E. Coli. • Log book being maintained⁹ 		N/A
Comments:			
<p>Autoclaves / Steam Sterilizers</p> <ul style="list-style-type: none"> • All apparatus utilized is adequately sterilized before use 	<ul style="list-style-type: none"> • Sterilizing temperature 121° C¹ • Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used¹ • Test monthly for sterilization efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules¹ • Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached.¹ 		N/A



General Lab Criteria
Dayton Power and Light - O.H. Hutchings Station, 1/27/10

	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer ^{1,2} • Log book being maintained ⁹ 		
Comments:			
		Acceptable	1
		Marginal	2
		Unacceptable	0

Acceptable Ratings – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).

Marginal Ratings – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).

Unsatisfactory Rating - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).

PAI Audit Recommendation Criteria:

>60% Marginal Rating = Recommend PAI Audit from DES

>45% Combination of Marginal and Unacceptable Rating = Recommend PAI Audit from DES

>30% Unacceptable = Recommend PAI Audit from DES

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 Degrees 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
- Oil and Grease USEPA 1664A or Std Methods 5520B



General Lab Criteria

Dayton Power and Light - O.H. Hutchings Station, 1/27/10

- 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

Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}$ C	6h	48h
TSS	P, G	200	G, C	Refrigerate 4° C $\pm 2^{\circ}$	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH ₃ -N	P, G	500	G, C	Analyze as soon as possible or add H ₂ SO ₄ to pH <2, Refrigerate 4° C $\pm 2^{\circ}$	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 4° C $\pm 2^{\circ}$	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate 4° C $\pm 2^{\circ}$	7 d	7 d until extraction 40 day after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate 4° C $\pm 2^{\circ}$	7 d	7 d until extraction 40 day after extraction



General Lab Criteria

Dayton Power and Light - O.H. Hutchings Station, 1/27/10

Fecal Coliform	G, P (Sterilized)	100	G	Refrigerate 10° C, If chlorine present add sodium thiosulfate tablet,	start analysis within 2 hrs of sample collection.	Up to 6 hrs travel time, 2 hrs to analyze at lab
Oil and Grease	G	1000	G	HCl or H_2SO_4 to pH <math><2</math>, Refrigerate $4^{\circ}</math> C \pm 2^{\circ}</math>$	28 d	28 d

Notation of Referenced Method

1. Method 9020-B, Item 4	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-B, 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. Method 1060B, Table 1060I	14. Method 1060A, Item 2
15. Method 4500-Cl I, Item 2	16. Method 4500-Cl I, Item 24
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.

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.

