



**Environmental
Protection Agency**

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



1PC0000420091223

WARREN

MASON WWTP NO 2

WALLER, MICHELLE 2009/12/23



State of Ohio Environmental Protection Agency

Southwest District Office

401 E. Fifth St.
Dayton, Ohio 45402

TELE: (937) 285-6357 FAX: (937) 285-6249
www.epa.state.oh.us

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

December 23, 2009

Mayor and Council
City of Mason
6000 Mason Montgomery Road
Mason, Ohio 45040

RE: City of Mason Water Reclamation Plant/Compliance Evaluation Inspection,
NPDES Permit No. OH0020494/ OEPA Permit No. 1PC00004*HD

Ladies and Gentlemen:

On December 16, 2009, Mike Zimmerman and I conducted an NPDES Compliance Evaluation Inspection at the City of Mason Water Reclamation Plant. Keith Collins, Director of Public Utilities and Bob Beyer, Chief Operator/Pretreatment Coordinator were present. The purpose of the inspection was to evaluate compliance with the terms and condition of the facility's NPDES permit.

All areas that were evaluated received a satisfactory rating. No actions are recommended at this time. A copy of the inspection report is enclosed.

The next compliance inspection to be conducted at the Mason Water Reclamation Plant will most likely include a more in depth examination of the laboratory than has been done previously. The intent is to assist Mason in being able to document that the data produced by the laboratory is "true and accurate" and is therefore defensible. The emphasis will be on the Standard Operating Procedures and Quality Assurance measures required by 40 CFR 136. A copy of the draft checklist we propose to use is included for your information.

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

Respectfully,

Michelle Waller
Environmental Specialist II
Division of Surface Water

Enclosures

Cc: Keith Collins and Bob Beyer, City of Mason



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
1PC00004*HD	OH0020494	12/16/2009	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
City of Mason Water Reclamation Plant 6000 Mason Montgomery Road Mason, Ohio 45040	1:00 PM	11/1/2005
	Exit Time	Permit Expiration Date
	3:15 PM	1/31/2010
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Keith Collins – Director of Public Utilities Bob Beyer – Chief Operator/Pretreatment Coordinator	(513) 229-8570 (513) 229-8570	
Name, Address and Title of Responsible Official	Phone Number	
Keith Collins – Director of Public Utilities 6000 Mason Montgomery Road Mason, Ohio 45040	(513) 229-8570	

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

Section D: Summary of Findings (Attach additional sheets if necessary)	
See attached report.	
Inspector	Reviewer
<i>Michelle Waller</i> 12/23/09	<i>Martyn G Burt</i> 12/23/09
Michelle Waller Division of Surface Water Southwest District Office	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

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:

Permit renewal was submitted 7/21/2009.

Section F: Compliance

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

Comments/Status:

Review period 6/1/2008 – 11/1/2009
 Four limit violations for Total Phosphorus were reported in June 2008. No report was found for these violations. **Please submit explanations for these violations to the Ohio EPA within fourteen days.**

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
June 2008	Phosphorus, Total (P)	30D Conc	1.0	1.7015	6/1/2008
June 2008	Phosphorus, Total (P)	7D Conc	1.5	4.02	6/8/2008
June 2008	Phosphorus, Total (P)	7D Qty	73.8	81.2518	6/8/2008
June 2008	Phosphorus, Total (P)	7D Conc	1.5	1.6	6/22/2008

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..... Y
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... III
- (e) Operator of Record holds unexpired license of class required by permit..... Y
- (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..... N

Record Keeping:

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

Log book is hard bound . Three log books are kept around the plant, the main one is located in the lab. Operator hours are not maintained in the log book. Operator hours can be verified with timecards.

- (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..... N
 - 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)... N
 - 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/A
- (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:

Operations and Maintenance manuals are being combined and will be available for access on the computer by next year.

Phase III of the 1999 Master Plan will be completed in 2010.
The Master Plan will be redone in 2010.

80-90% of the system has been smoke tested.

Section H: Sludge Management

- (a) Sludge management plan (SMP)
Submitted date: 10/21/1991 Approval #: 05-258 PW Not submitted
- (b) Sludge management plan current.....N
(c) Sludge adequately disposed..... Y
(Method: Land applied – Class A)
(d) If sludge is incinerated, where is ash disposed of N/A
(e) Is sludge disposal contracted..... N
(Name:)
(f) Has amount of sludge generated changed significantly since
last inspection..... N
(g) Adequate sludge storage provided at plant.....Y
(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:

Mason now produces Class A EQ sludge.
Mason is considering a plan to use most of their sludge in the city parks.

Section I: Self-Monitoring Program

Flow Measurement:

- (a) Primary flow measuring device operated and maintained..... Y
Type of device: Ultrasonic & Parshall flume Ultrasonic & wier Weir
Calculated from influent Other (in-line mag meters).
- (b) Calibration frequency adequate Y
(Date of last calibration: 9/09)
(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:

Flow meter was reading 7.22 MGD at the time of the inspection.

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

Sampling:

- (a) Sampling location(s) are as specified by permit..... N
- (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. N
- (d) If (c) is yes, are results in permittee's self-monitoring report..... N/A
- (e) Commercial laboratory used..... Y

Lab name: Belmont Labs

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:

Comments/Status:

Downstream sampling location was moved 100 feet further downstream then when the permit was issued. The location was moved last year to a bridge downstream in accordance with discussions with Ohio EPA to allow for additional mixing.

CBOD, TSS, NH3-N, pH, DO, temperature, and fecals are analyzed at the on-site lab. All other parameters sent off-site.

Josh Creech is the operator who performs most lab work. Bob Beyer and three other operators also perform lab work.

Section J: Effluent/Receiving Water Observations

Outfall Number	Outfall sign in place?	Oil sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	No	None	None	None	None	None	Clear	

Comments/Status:

Section K: Multimedia Observations

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
- (d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
- (e) Do you notice any unusual odors or strong chemical smells..... N
- (f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

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?

Draft General Lab Criteria

Criteria	Std Methods Required	Status	Rating
Balance <ul style="list-style-type: none"> • Standard Weights • Calibration Frequency / Documentation • Cleanliness, air movement, vibration 	<ul style="list-style-type: none"> • Either NIST Class S or ASTM/ANSI Class 1 weights^{1,2} • 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 • Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum¹ • Service and recalibrate annually (manufacturer representative or comparable)¹ • Must be able to measure to 0.1 grams⁴ • Instrument manual available • Log book maintained⁶ 		
Comments:			
Drying Oven <ul style="list-style-type: none"> • Temperature Recordkeeping • Calibration Frequency / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Correction factor posted on thermometer / equipment¹ • Temperature recorded with each use⁴ • Thermometer temperature in 0.1° C increments⁵ • Acceptable temperature range is 103° – 105° F⁴ • Instrument manual available • Log book maintained⁶ 		

Draft General Lab Criteria

Comments:			
<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 • <i>Instrument manual available</i> • Logbook maintained⁹ 		
Comments:			
<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 for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)³ 		

Draft General Lab Criteria

Comments:			
Incubator <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^{o12} • Instrument manual available • Logbook maintained⁹ • Temperature Log (thermometer reads to 0.1 Celsius).⁵ 		
Comments:			
Refrigerator <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 4° Celsius (+/-2°).¹³ • Do not store volatile solvents, food, or beverages.¹⁴ 		
Comments:			

Draft General Lab Criteria

<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 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>Comments:</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 		

Draft General Lab Criteria

Comments:			
Sample Handling / Collection <ul style="list-style-type: none"> • Sample Labeling • Chain of Custody 	<ul style="list-style-type: none"> • Samples container labeled (description, date, time, preservative added, initialed).¹⁹ • 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 		
Comments:			
Desiccator	<ul style="list-style-type: none"> • Properly working seals. • Desiccant fresh (blue color) • Log book being maintained⁹ 		
Comments:			

Draft General Lab Criteria

<p>Benchsheets</p>	<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>Comments:</p>			
<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 • Log book being maintained⁹ 		
<p>Comments:</p>			
<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 		

Draft General Lab Criteria

	efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules ¹ <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. ¹ • Thermometer calibrated annually with NIST traceable thermometer ^{1,2} • Log book being maintained ⁹ 		
Comments:			
		Acceptable	
		Marginal	
		Unacceptable	

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

Draft General Lab Criteria

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
- 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 4° C +/-2°	6h	48h
TSS	P, G	200	G, C	Refrigerate 4° C +/-2°	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 ₂ SO ₄ to pH <2, Refrigerate 4° C +/-2°	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 +/-2°	7 d	14 d
Base/Neutrals	G (solvent)	1000	C, G	Refrigerate 4° C +/-2°	7 d	7 d until

Draft General Lab Criteria

and acids	rinsed or baked)					extraction 40 day after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate 4° C +/-2°	7 d	7 d until extraction 40 day after extraction
Fecal Coliform	G, P (Sterilized)	100	G	Refrigerate 4° C +/-2°, If chlorine present add sodium thiosulfate tablet,	start analysis within 2 hrs of sample collection.	
Oil and Grease	G	1000	G	HCl or H ₂ SO ₄ to pH <2, Refrigerate 4° C +/-2°	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-CI I, Item 2	16. Method 4500-CI 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.

