



**Environmental
Protection Agency**

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



1PE0000220110218

BUTLER HAMILTON WATER RECLAMATION FACILITY SARLE, EDWARD 2011/02/18



Environmental
Protection Agency

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

February 17, 2011

Mr. Joshua Smith
City of Hamilton
One Renaissance Building
345 High Street
Hamilton, Ohio 45011

Re: Butler County, Hamilton WWTP, Compliance Evaluation Inspection

Dear Mr. Smith:

On February 9, 2011, I conducted a Compliance Evaluation Inspection at this facility (NPDES Permit No. OH0025445; OEPA Permit No. 1PE00002*MD). Rich Engle, Billy Slaven, Greg Hildebrand and Bill Decker were representing this facility. A copy of my inspection report is enclosed.

In the past year, three of the five sewage collection system overflow locations have been eliminated. Design of the trunk sewer to address the remaining two overflow locations continues. The city has or will be designing the necessary treatment works to eliminate the WWTP bypasses. The Ohio EPA appreciates the city's continuing efforts to address the sewage collection and treatment system bypasses.

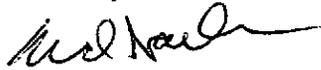
In the attached inspection report, the Operations & Maintenance section was rated unsatisfactory as a result of the numerous Water in Basement events and sewage collection bypasses that were caused by sewer blockages. The city must continue their efforts to increase the amount of sanitary sewers that are cleaned and visually inspected each year. The city should also develop a plan for cleaning and visually inspecting the whole sanitary sewage collection system within a certain specific period of time.

The areas noted in the report summary will require a written response by March 18, 2011. The response should include a description of the actions proposed to correct the noted areas and the dates anticipated for completion of these actions.

Mr. Joshua Smith
February 17, 2011
Page 2

If you have any questions, please call me at (937) 285 - 6096.

Sincerely,



Ned Sarle
Division of Surface Water
Permits Section

Enclosure

cc: Rich Engle, City of Hamilton
Billy Slaven, City of Hamilton



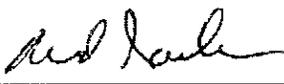
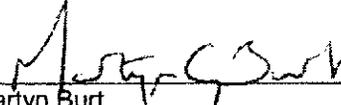
State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PE00002*MD	OH0025445	2/9/2011	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
City of Hamilton WWTP 2451 River Road Hamilton, OH 45015	9:30 A.M.	9/1/2009
	Exit Time	Permit Expiration Date
	3:20 P.M.	7/31/2014
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Rich Engel, Acting Director of Public Works	(513) 785-7273	
Billy Slaven, Water Reclamation Superintendent	(513) 868-5971	
Greg Hildebrand, Asst. Water Reclamation Supt.	(513) 868-5971	
Bill Decker, Laboratory Superintendent	(513) 868-5971	
Name, Address and Title of Responsible Official	Phone Number	
Joshua Smith, City Manager One Renaissance Building 345 High Street Hamilton, Ohio 45011	(513) 785-7000	

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

Section D: Summary of Findings (Attach additional sheets if necessary)	
See Attached Summary of Findings / Comments.	
Inspector	Reviewer
	
Date	Date
Ned Sarle Division of Surface Water Southwest District Office	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

NPDES Permit #: OH0025445
OEPA Permit #: 1PE00002*MD

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

Section E: Permit Verification

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee Y
- (b) Flows and loadings conform with NPDES permit..... Y
- (c) Treatment processes are as described in permit application... Y
- (d) All discharges are permitted..... Y
- (e) Number and location of discharge points are as described
in permit..... Y
- (f) Storm water discharges properly permitted..... Y

Comments/Status:

See Attached Summary of Findings / Comments.

Section F: Compliance

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

Comments/Status:

See Attached Summary of Findings / Comments.

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.....

The City of Hamilton is planning on installing a backup generator later this year.

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

N/A.

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

The WWTP is staffed with two shifts a day for 7 days a week. SCADA and telemeter systems are also provided to alert the operators of any alarms. The monitoring system is for the whole WWTP.

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

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

A computer program is used by maintenance staff for providing this maintenance.

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

(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:

See Attached Summary of Findings / Comments.

Section G: Operation & Maintenance con't

Record Keeping/Operator of Record:

- (a) Wastewater Treatment Works classification (OAC 3745-7)..... IV
- (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..... N/A
- (g) Operator of Record log book provided..... Y
- (h) Format of log book (e.g. computer log, hard bound book)

Hard bound books are maintained by each shift operator.
- (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.)..... Y
 - iv. Laboratory results (unless documented on bench sheets)... Y
 - 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:

None.

Section G: Operation & Maintenance con't

Collection System:

- (a) Are there pump stations in the collection system..... Y
 - i. How many publicly-owned pump stations equipped with permanent standby power or equivalent.....7
 - ii. How many pump stations have telemetered alarms.....7
 - iii. How many pump stations have operable alarms.....7

- (b) Any chronic collection system overflows since last inspection..... Y
- (c) Regulatory agency notified of all overflows..... Y
- (d) Are there CSOs in the collection system..... N/A
if so, what is the LTCP status.....
- (e) How are CSOs monitored (chalk, block, level sensor, etc.).....
- (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
- (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:

See Attached Summary of Findings / Comments.

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 checked="" 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 checked="" 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"/>

- (b) Has amount of sludge generated changed significantly since the last inspection..... N
- (c) How much sludge storage is provided at the plant.....
- (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.....

Comments/Status:

Section I: Self-Monitoring Program

Flow Measurement:

- (a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):
Radar and open channel.
- (b) Flow meter calibrated annually Y
(Date of last calibration: 7/15/2010)
- (c) 24-hour recording instruments operated and maintained..... Y
- (d) Flow measurement equipment adequate to handle full range of flows..... Y
- (e) All discharged flow is measured..... Y

Comments/Status:

Flow monitoring equipment may measure between 0 - 70 MGD.

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:

None.

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 known precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.

- (c) EPA approved analytical testing procedures used (40 CFR 136.3).. Y
- (d) If alternate analytical procedures are used, proper approval has been obtained..... N/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: Metals and sludge.

Lab name: Ginosko Labs

Discharge Monitoring Report Quality Assurance (DMRQA)

- (a) Participation in latest USEPA quality assurance performance sampling..... Y
Date: 7/21/2010
- (b) Were any parameters "Unsatisfactory"..... Y
- (c) Reasons for "Unsatisfactory" parameters.....

Calculation error (NH3) and Equipment failure (Cr, Cu, Se and Hg).

Comments/Status:

None.

Section J: Effluent/Receiving Water Observations

Outfall # 001

Outfall Description: Effluent pipe discharge.

Receiving Stream: Great Miami River.

Receiving Stream Description: No adverse conditions were noted.

Comments/Status:

Effluent sign posted as required.

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:

None.

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Summary of Findings / Comments

Areas Requiring a Response

For 2010, 43 Water in Basement events (WIBs) were reported due to sanitary sewer blockages. In 2009, 38 WIBs were reported due to sewer blockages. In 2008, 40 WIBs were reported due to sewer blockages. In 2010, two sanitary sewer overflows were also reported due to sewer blockages. These events are not concentrated in any single area in the city. The Ohio EPA is concerned about the large number of basement backups and sanitary sewer bypasses due to these sewer blockages.

The sewage collection system consists of approximately 240 miles. In 2010, the City of Hamilton (Hamilton) cleaned 13.66 miles or 5.7 % of the sanitary sewers. Hamilton also visually inspected 6.47 miles or 2.7% of the sanitary sewers. In the past, the city had only one vactor truck and one TV truck. Another TV truck was purchased at the end of 2010. Another vactor truck is on order for this summer. The personnel used for these trucks will also have other duties. As a result, they may not be available for between 10 and 20% of the time.

During the inspection, Hamilton indicated that they did not have any goals for the amount of sanitary sewers that will be either cleaned or visually inspected. The Ohio EPA is concerned that the current sanitary sewer cleaning and inspection program is not adequate to prevent the basement backups or sewage collection bypasses. Hamilton appears to be reacting to these events instead of being proactive to prevent them. Many communities in Butler County clean their sanitary sewers once every 5 to 10 years and visual inspected them once every 10 to 15 years. Currently, the Hamilton sanitary sewers are being cleaned once every 17.5 years based on the current 5.7% cleaning rate. The Hamilton sanitary sewers are visual inspected once every 37 years based on the 2.7 % rate.

Cleaning and visually inspecting the sanitary sewers on a more frequent basis must be considered to prevent the basement backups and sanitary sewer overflows. With the additional equipment, Hamilton should be able to clean and visually inspect more sanitary sewers than they have in the past. However, the city should strive to become more proactive than reactive as they have been in the past. The city should develop a goal for the sanitary sewer cleaning and visual inspection program. The city should also develop a plan for cleaning and visually inspecting the whole sanitary sewage collection system within a certain specific period of time.

The Hamilton WWTP laboratory was inspected. The inspection findings are addressed in the General Lab Criteria. Several items were noted as requiring a response.

Areas Not Requiring a Response

A review of the Discharge Monitoring Reports (DMRs) for the period of February through December 2010 indicated one pH violation. The violation was reported on April

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4, 2010 and was due to the Hamilton WTP lime sludge lagoon discharge. This violation has been adequately addressed. Future violations must continue to be reported as required by the NPDES Permit as detailed in Part III.12 titled "Noncompliance Notification."

On January 19, 2007, a new Consent Order (CO) became effective for Hamilton. Hamilton was in violation of the previous CO due to bypasses from the sewage collection and treatment system. The new CO requires Hamilton to take action to address these bypasses.

All Sanitary Sewer Overflows (SSOs) are required to be reported in accordance to the NPDES Permit, CO and the Overflow Emergency Response Plan (OERP). Hamilton must report the SSOs in accordance to the NPDES Permit as detailed in Part III, Section 11 titled "Unauthorized Discharges" and in Part III, Section 12 titled "Noncompliance Notification." The CO also requires SSOs from overflow locations 002, 014, 022, 027 and 037 to be reported on the DMRs.

For the SSOs addressed in the CO, Attachment I lists the bypasses reported for February through December 2010. All other SSOs are addressed on Attachment II. Future SSOs must continue to be reported in accordance to the NPDES Permit, CO and OERP.

Overflow location 002 was plugged in June 2010. Overflow locations 014 and 022 were also plugged in December 2010.

To address overflow locations 027 and 037, a new 60 inch trunk sewer constructed between overflow location 027 and the WWTP is currently being designed. The design is now 60% complete. The trunk sewer will be approximately 18,000 feet long. A Permit to Install application for this trunk sewer should be submitted this summer. Easement acquisitions are also underway for this project. Construction should start in the fall of 2011 and should be completed by late 2013.

The CO also requires the internal WWTP bypasses be reported on the DMRs at station 603. Three internal WWTP bypasses were reported for February through December 2010. These bypasses are listed on Attachment III. Finally, a 500 gallon wastewater bypass from the primary clarifier splitter box was reported on November 30, 2010.

The quarterly reports required by the CO were received on July 7, 2010; October 4, 2010; and January 4, 2011.

The WWTP is designed for an average daily flow rate of 32.0 MGD. A review of the DMRs for February through December 2010 indicated the average daily flow was 11.19 MGD. The peak daily flow rate was reported as 34.69 MGD. Smart Papers contributed approximately 2.2 MGD for 2010. Mohawk Papers also contributed approximately 1.2 MGD for 2010.

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For many years, the Hamilton WWTP has experienced color pass through as a result of two local industrial dischargers. The resulting WWTP discharges alter the Great Miami River's color and are violations of the NPDES Permit and the Water Quality Standards. Smart Papers no longer produces color paper and should not contribute to these pass through events. Since the last inspection, color pass through events were reported on September 8, 2010 and October 16, 2010. Both events were due to Mohawk Paper. Hamilton should continue their efforts to address these pass through events.

Sludge produced at the Hamilton WWTP is land applied, composted or landfilled. Synagro land applies the lime stabilized sludge. They are also contracted to haul the sludge to Rumpke landfill. The composted sludge is removed by Evans Landscaping and is taken to their Hamilton County facility. The composted sludge is then used as a soil amendment and is sold around the state. In 2010, 1484.9 dry tons of sludge was lime stabilized and then land applied. The composting facility processed 2212 dry tons of sludge. Finally, 726.2 dry tons of sludge was hauled to the landfill.

Two WWTP odor complaints were received since the last inspection. The odor source of these complaints most likely was the composting facility. The composting facility is in need of substantial repairs. Due to several reasons, the city has decided to discontinue using the composting facility at the end on February 2011. Hazen and Sawyer has been hired to conduct a biosolids master plan to determine how the sludge should be treated and disposed. A final report will be submitted to the Ohio EPA in September 2011. The city will then implement the recommendations of this report. Finally, the sludge currently generated at this WWTP will continue to be either hauled to the landfill or land applied.

The Ohio EPA conducted a Sewage Sludge Compliance Evaluation Inspection on January 12, 2011. Hamilton was found to be in compliance with the sludge disposal regulations.

In the last inspection, a surface aerator was noted as falling into the aeration tank. NPDES Permit violations have not been reported as a result of this equipment failure. This aeration equipment will not be repaired since the whole aeration system will be replaced this summer as part of the WWTP Phase I improvements.

The sludge landfill groundwater continues to be monitored on a semiannual basis. Some of the monitoring wells have shown an increase in nitrites. One monitoring well has been documented on several occasions to have levels above the drinking water standards. High ammonia concentrations have also been routinely detected at several of the monitoring wells.

The WWTP will be upgraded in the next several years to eliminate internal wastewater bypasses. These improvements were proposed to be separated into three phases. The first phase is to replace the aeration equipment in the activated sludge tank, construct a new vector dump station, and add a new WWTP backup generator. The PTI for these improvements was approved on October 27, 2010. This construction

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should start and be substantially completed in 2011. The second and third phases are currently being combined into one project. This combined project will consist of constructing a new bio actiflow high rate treatment system and upgrading the Hamilton pump station, the primary clarifier effluent flow splitter box, the piping to the aeration tanks, the return activated sludge pumps, and the secondary clarifiers. The project designed will be started at the end of 2011. Construction should start in the spring of 2012 and should be completed in 2014.

In the past, a bottle neck upstream of the aeration tanks has been noted. As currently designed, the aeration tanks and secondary clarifiers can only receive 21 MGD of flow from the city and the Smart Paper flow. Smart Paper is only generating 2.2 MGD of flow. The limitation is the piping between the primary clarifier effluent splitter box and the wastewater pumps that discharge to the aeration tanks. Any flow in excess of the 21 MGD is first redirected to the old WWTP. Once these tanks are full, wastewater is then bypassed. This bottleneck will be addressed as part of the WWTP improvements. Hamilton should eliminate this flow restriction as soon as possible.

Attachment I

Sewage Collection System Bypasses

February through December 2010

Station	Parameter	Units	Date	Reported Value
37	Overflow Volume	Million Gallons	3/12/2010	0.05343
27	Overflow Volume	Million Gallons	3/13/2010	0.52389
37	Overflow Volume	Million Gallons	3/13/2010	0.44903
27	Overflow Volume	Million Gallons	3/14/2010	0.05124
37	Overflow Volume	Million Gallons	3/25/2010	0.09894
14	Overflow Volume	Million Gallons	6/12/2010	0.00009
27	Overflow Volume	Million Gallons	6/12/2010	0.01734
37	Overflow Volume	Million Gallons	6/12/2010	0.08657
37	Overflow Volume	Million Gallons	6/13/2010	0.04589
14	Overflow Volume	Million Gallons	6/14/2010	0.03898
22	Overflow Volume	Million Gallons	6/14/2010	0.00089
27	Overflow Volume	Million Gallons	6/14/2010	0.20993
37	Overflow Volume	Million Gallons	6/14/2010	1.21033
27	Overflow Volume	Million Gallons	6/15/2010	0.19608
37	Overflow Volume	Million Gallons	6/15/2010	0.71358
37	Overflow Volume	Million Gallons	6/27/2010	0.3511
27	Overflow Volume	Million Gallons	6/28/2010	0.13115
37	Overflow Volume	Million Gallons	6/28/2010	0.64087

NPDES Permit #: OH0025445
OEPA Permit #: 1PE00002*MD

Attachment II
Sewage Collection System Bypasses
February through December 2010

Date	Location	Overflow Volume	Cause
6/2/10	MH 67-047	Unknown	Rain/Blockage
6/12/10	MH 35-004	Unknown	Rain
9/18-19/10	MH 64-005	Unknown	Blockage

NPDES Permit #: OH0025445
OEPA Permit #: 1PE00002*MD

Attachment III

WWTP Bypasses for February through December 2010

Station	Parameter	Units	Date	Reported Value
603	Bypass Volume	MGAL	3/13/2010	9.411
603	Bypass Volume	MGAL	3/14/2010	10.676
603	Bypass Volume	MGAL	3/15/2010	1.543



General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance				A
• Standard Weights	• Either NIST Class 5 or ASTM/ANSI Class 1 weights ^{1,2}	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: Please address the calibration verification requirements.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Drying Oven (Suspended Solids)				A
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained ²	<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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Thermometer temperature accurate to 0.5° Celsius ⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105° C ⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: None.

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
pH Meter	Acceptable?		A
• 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook maintained ²	<input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet ²	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ⁸	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: None.			
Criteria	Standard Methods Requirement		Rating
Dissolved Oxygen Meter	Acceptable?		A
• Calibration Method	• Air or known DO calibration method ¹⁰	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration per manufacturer specification ¹⁰	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Logbook maintained ²	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. ³	<input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: None.			

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Incubator (CBOD/ E-Coli)	Acceptable?		
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use ¹ (E-Coli)	<input type="checkbox"/> Yes <input type="checkbox"/> No	A
	• Temperature checked / recorded daily ² (CBOD)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0° ¹²	<input checked="" 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 ²	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Temperature correction information posted on incubator ¹	<input type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Temperature Log (thermometer accurate to 0.5 Celsius). ¹	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: Please address posting the temperature correction information.

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

Comments: None.

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	A
	• 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. ²	<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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
	• Log book being maintained ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	<input checked="" 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 checked="" type="checkbox"/> No	
	• Standards used for calibration not expired	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ¹⁸	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: Only the 10 mg/l and 1 mg/l standards are being used. The city indicated they would start using the 0.1 mg/l standard. Please confirm that the three standards will be used as required .				

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Sample Collection/Handling		Acceptable?	
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). ¹⁹	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A
• Chain of Custody	• Chain of custody (description, date, time, signature). ¹⁹	<input checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook being maintained ²	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: None.

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

Comments: None.

Criteria	Standard Methods Requirement		Rating
Bench sheets		Acceptable?	
• 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 checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: None.

General Lab Criteria

Criteria	Standard Methods Requirement		Acceptable?	Rating
Hot Water Bath (Fecal Coliform/E. Coli)				
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C) ²¹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	M
	• 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 checked="" type="checkbox"/> No	
	• Log book being maintained ²	<input checked="" 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	
<p>Comments: The city uses a hot block incubator for this test. Means for documenting the temperature in this unit did not appear to be provided. The city must be able to document the temperature in this unit during the test period. The temperature monitoring equipment must also be calibrated once a year using an NIST traceable thermometer. If this incubator will not be acceptable, the city must purchase a water bath incubator or other acceptable equipment. The city may also want to consider switching to the E. coli test method which will be required by the next NPDES Permit.</p>				
Criteria	Standard Methods Requirement		Acceptable?	Rating
Autoclaves/Steam Sterilizers				
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C ²⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
	• 10 to 30 minutes time based on material being sterilized ²⁶	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Performance Checks	• 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 checked="" type="checkbox"/> No	
<p>Comments: None.</p>				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating	
Final Effluent Temperature Monitoring	Acceptable?				
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A	
	• Thermometer accurate to 0.1° Celsius ⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
	• Log book being maintained ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments: None.					
Number of Criteria Rated:				Acceptable	12
				Marginal	1
				Unacceptable	0
				Total Number of Areas Rated:	13
<p>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).</p>					
<p>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).</p>					
<p>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).</p>					
Consider recommending PAI Audit from DES when:		>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable			

Notation of Referenced Method

- | | |
|----------------------------|------------------------------|
| 1 Method 9020-B, Item 3 | 14 Method 1060A, Item 1 |
| 2 Method 1020-A, Item 1 | 15 Method 4500-CI I, Item 2 |
| 3 Method 1020-B, Item 10 | 16 Method 4500-CI I, Item 4 |
| 4 Method 2540-B, Item 2 | 17 Method 4500-NH3 D, Item 4 |
| 5 Method 2550-B, Item 1 | 18 Method 4500-NH3 D, Item 2 |
| 6 Method 1020-A, Item 1 | 19 Method 1060-B, Item 2 |
| 7 Method 4500-H B, Item 4 | 20 Method 1060-B, Item 1 |
| 8 Method 4500-H B, Item 2 | 21 Method 9222D, Item 1 |
| 9 Method 1020-B, Item 2 | 22 Method 9223 B, Item 2 |
| 10 Method 4500-O B, Item 3 | 23 Method 9223 B, Item 3 |
| 11 Method 4500-O G, Item 3 | 24 Method 1603, Item 2 |
| 12 Method 5210-B, Item 5 | 25 Method 9030-B, Item 3 |
| 13 CFR 136.3, Table II | 26 Method 9020 B, Table IV |

Equipment Logbook Content - all maintenance performed on a piece of equipment should be documented in the logbook. This should include parts replacement and routine maintenance activities. Entries should include date, maintenance performed and initials of person making entry.

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 $\leq 6^{\circ}\text{C}$	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
NH ₃ -N	P, G	500	G, C	Analyze as soon as possible or add H ₂ SO 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 ₂ SO 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-NH ₃ 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