

**Ohio**

**Environmental  
Protection Agency**

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



\*1PK0001320081031\*

CLARK

SOUTHWEST WWTP

LEIBFRITZ, SANDRA 2008/10/31



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street  
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Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

October 31, 2008

Clark County Board of Commissioners  
50 E. Columbia Street  
Springfield, OH 45502

**RE: Clark County Southwest Regional WWTP – NPDES No. PK00013\*ID/OH0049794  
Compliance Evaluation Inspection – Clark County**

Dear Commissioners:

On October 23, 2008, Sandra Leibfritz and Robert Ostendorf conducted an inspection at Southwest Regional WWTP located at 3990 Woodbury Road, Medway, Ohio. Kevin Krejny was representing the facility. All areas that were evaluated were rated as satisfactory. An inspection report for the facility is enclosed.

The County requested that the effluent sampler be moved from the tertiary building (i.e., prior to the chlorine contact) to after the parshall flume (i.e., after chlorine contact tank). Ohio EPA does not object; however, the County will need to reevaluate all analytical methods in accordance with 40 CFR 136 Test Methods that be affected by having a chlorine residual in the sample.

There is one item <sup>2008</sup> that requires a response. We ask for a response no later than November 21, 2009. If you should have any questions about the inspection, please call Ms. Leibfritz at (937) 285-6104 or me at (937) 285-6034.

Sincerely,

Martyn G. Burt  
Environmental Supervisor  
Division of Surface Water

cc: Clark County Health Department  
Kevin Krejny, Chief Operator  
Charles Godsey, Utilities





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
1PK00013*JD	OH0049794	10/23/08	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Clark County Southwest Regional WWTP 3990 Woodbury Road Medway, OH 45323	9:05 a.m.	July 1, 2006
	Exit Time	Permit Expiration Date
	12:30 p.m.	July 31, 2010

Name(s) and Title(s) of On-Site Representatives	Phone Number(s)
Kevin Krejny, Chief Operator Clark County Department of Utilities Springview Government Center 3130 E. Main Street Springfield, OH 45505	(937) 849-0507 (937) 605-2032 (cell)

Name, Address and Title of Responsible Official	Phone Number
Clark County Board of Commissioners 50 E. Columbia Street Springfield, OH 45502	(937) 328-2405
Alice Godsey, Director of Utilities Clark County Department of Utilities Springview Government Center 3130 E. Main Street Springfield, OH 45505	(937) 521-2158 (Alice Godsey) (937) 521-2155 (Charles Bauer)

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

Section D: Summary of Findings (Attach additional sheets if necessary)	
See attached report.	
Inspector	Reviewer
Sandra D. Leibfritz Division of Surface Water Southwest District Office	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
10/31/08 Date	11/3/08 Date

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..... Y
- (h) All discharges are permitted..... Y
- (i) Number and location of discharge points are as described in permit..... Y

**Comments/Status:**

- The WWTP consists of influent pumping, (2) screw pumps, a back-up sump pump, coarse bar screen, automatic screen, aerated grit, influent parshall flume, (2) equalization basins (converted 1° clarifiers), (3) oxidation ditches, splitter box, (2) secondary clarifiers, (2) tertiary screw pumps, (4) tertiary sand filters, chlorination/dechlorination with post aeration and effluent parshall flume.  
 - The design flow of the WWTP is 2.0 MGD. The NPDES permit has a construction schedule for expanding the WWTP from 2.0 to 4.0 MGD. During the period from January 2007 through December 2007, the average flow was 1.55 MGD.  
 - The County has plans to dismantle the old RBC plant.

**Section F: Compliance**

- (a) Any significant violations since the last inspection..... N
- (b) Permittee is taking actions to resolve violations..... N/A
- (c) Permittee has a compliance schedule..... Y
- (d) Compliance schedule contained in NPDES No. 1PK00013\*JD
- (e) Permittee is meeting compliance schedule..... Y

**Comments/Status:**

- Clark County requested an extension to their Schedule of Compliance for expansion of their WWTP. This request was made due to slower growth in their service area over the past 24 months. This request was granted by the Director.

**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) Operator holds unexpired license of class required by permit..... Y  
Class: III
- (f) Routine and preventative maintenance schedule/performed  
on time..... Y
- (g) Any major equipment breakdown since last inspection..... Y
- (h) Operation and maintenance manual provided and maintained..... Y
- (i) Any plant bypasses since last inspection..... Y
- (j) Regulatory agency notified of bypasses..... Y  
Notified Inspector  and/or Spill Hotline (1-800-282-9378)
- (k) Any hydraulic and/or organic overloads since last inspection..... Y

**Comments/Status:**

- The generator is automatically placed under load once a week for ½ hour. The County has scheduled for an electrician to evaluate whether or not the load from the disinfection and post-aeration systems can be handled by the existing generator (200 hp) or whether a new generator needs to be purchased.

- The alarm system is capable of handling 32 different situations. Currently, the system is utilized for high water levels in the lift stations, secondary clarifier, bar screen, grit blowers, and etc. Telescopic valves on the digesters have been added to the alarm system.

- There are 4 Class III licensed operators and three Class I licensed operators. There is 1 Class I and 1 Class II licensed for collections. The chief operator also has a wastewater analyst I certification.

- The WWTP experienced a hydraulic overload in March 2008 due to heavy rains.

- There are 2 influent screw pumps and another channel to allow for expansion. There are two major lift stations that discharge to the wet well. Park Layne feeds from the bottom and Mud Run feeds from the top. The screw pumps are manually alternated on a monthly to quarterly basis. Rags/debris from the bar screen are disposed of at a solid waste landfill (i.e., waste management).

- Both grit chambers are operable. One is off-line due to low flows. Screenings are disposed of at a solid waste landfill (i.e., waste management). The wastewater in the grit chamber was pinkish/purple. The County has tried to identify the source of this wastewater and will continue to try and track the source. The primary clarifiers function as an equalization basin. The valve, that drains the basins to the head of the plant, is operable.

- In addition to the using a settleometer, spin test, MLSS, dissolved oxygen, ammonia and MCRT to determine how much and how often to waste solids, the operators have also begun to use SVI. The MLSS have been reduced from 5,000 mg/l to 3,600 mg/l. The goal in the winter months is 3,000 mg/l. The goal in the summer months will be lower.

- The outer ring in the oxidation ditch is off-line and was cleaned of grit and residuals. Currently, the County is using the inner and middle ditch. The bearings on motor no. 1 have been replaced. There is a new motor on aerator no. 4.

- The activated sludge in the oxidation ditch was sent out for identification of filamentous bacteria. Results indicate that the filament is associated with low F/M ratio and septicity/sulfides. The County will be investigating the source of septicity/sulfides in the collection system (Mud Run, Park Layne and Donnelville lift stations) and adjusting operations by increasing solids removal and better process control in the sludge digesters. The operator has implemented ORP for monitoring and controlling sludge digestion.

- Upgrades to the clarifiers have been completed; however, 10% (~\$100,000) of the final payment has been withheld for as-built drawing. Both clarifiers are on-line. The north clarifier was off-line the previous week for routine cleaning (low flow conditions). The clarifier was placed back on-line yesterday. The upgrade to the clarifiers included a skimmer arm, stanford baffles and launder covers for the weirs. Ashing was observed on the surface of the clarifiers and a small amount of pin floc overflowing the weirs.
- All tertiary filters were operational. Flows in excess of 3.0 MG bypass the tertiary building and recombines with the final effluent prior to discharge. The operator has increased the backflow rate of the filters to help keep the filters from clogging. Backwash from the filters is discharged to a mud pit where it is bled back into the plant at the screw conveyor.
- The effluent from the chlorine contact tank was clear. There was white foam in the channel after the chlorine contact tank and after the final effluent parshall flume. Approximately 80% of the chlorine is added at the tertiary screw pumps and the remaining 20% is added at the head of the tank. The County is investigating upgrading disinfection to ultraviolet disinfection.
- The County has plans to update the O&M manual. There are three O&M manuals from three different upgrades. These will be updated and combined into one.
- The County has plans to update a monthly preventive maintenance plan.

**Section G: Operation & Maintenance (con't)**

**Collection System:**

- (a) Percent combined system: 0 %
- (b) Any collection system overflows since last inspection..... N  
 (CSO  and/or SSO )
- (c) Regulatory agency notified of overflows (SSOs)..... N/A
- (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..... Y
- (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 N
- (k) Are any portions of the sewer system at or near capacity..... Y

**Comments/Status:**

- Dave Hasting is responsible for the collection system.
- There are 7 lift stations to the collection system.
- There are a total of 14 lift stations that the County is responsible for (includes satellite collection systems). Five of the seven have permanent power or dual feed.
- Mud Run has an alternate power source.
- All of the lift stations are on dialers. The County has on hand two 4-inch, one 3-inch and one 6-inch pump to relieve the remaining lift stations, if necessary.
- The Raymond lift station is slated for replacement.
- The County has installed flow meters and has purchased a camera to assist with evaluating I/I sources.
- Northridge (satellite collection system) will be investigated within the next year for I/I sources, followed by Garden Acres (satellite collection system).
- Garden Acres (satellite collection system) is near capacity.

**Section H: Sludge Management**

- (a) Sludge management plan (SMP)  
 Submitted date: \_\_\_\_\_ Approval #: \_\_\_\_\_ Not submitted  N/A
- (b) Sludge management plan current..... N/E
- (c) Sludge adequately disposed..... N/E  
 (Method: **land application**)
- (d) If sludge is incinerated, where is ash disposed of ..... N/A
- (e) Is sludge disposal contracted..... Y  
 (Name: **Synagro**)
- (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/E
- (i) Records kept in accordance with State and Federal law..... N/E
- (j) Any complaints received in last year regarding sludge..... N
- (k) Is sludge adequately processed (digestion, pathogen control)..... N/E

**Comments/Status:**

- The County has purchased and is using a geotube for dewatering sludge. They are in process of purchasing a second geotube. Geotubes are custom made to fit inside the existing sludge drying beds. A polymer is added to increase binding and settleability of the solids. The geotubes are placed in the sludge drying beds to allow the filtrate to return to the head of the plant. The quality of sludge has improved since using the geotube (more volatile reduction, increased percent solids and decreased wetness).

- The County believes that geotubes will reduce cost of sludge handling by 40%.

- The County is investigating different options of sludge handling including purchasing a belt filter press or centrifuge instead of using of portable press.

- For the next three years, the County has a contract with Synagro for sludge disposal (land application).

**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary flow measuring device operated and maintained..... Y  
 Type of device: Ultrasonic & Parshall flume  Ultrasonic & Weir  
 Weir  Calculated from influent  Other
- (b) Calibration frequency adequate ..... Y  
 (Date of last calibration: **May 2008**)
- (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:**

- The final effluent flow meter is used to report flows on the DMRs. This flow meter is located after the chlorine contact tank.

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

**Comments/Status:**

- The influent sample is collected after the screw pumps, but before the screens.  
 - The effluent sample is collected after the tertiary building, but prior to the chlorine contact tank. -  
 - The upstream sample is collected at the bridge located on Spangler Road.  
 - The downstream sample is collected at the bridge where the Mad River crosses Osborn Road.  
 - Ohio EPA, SWDO has requested Ohio EPA's Division of Environmental Services (lab) to inspect Southwest Regional WWTP's lab.

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

**Laboratory:**

*General*

- (a) EPA approved analytical testing procedures used (40 CFR 136.3).. N/E
- (b) If alternate analytical procedures are used, proper approval has been obtained..... N/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  
 Parameters analyzed by commercial lab:

Lab name: Test America - oil/grease, metals, cyanide, nitrite, phosphorus, aldrin, heptachlor expoxide, hexachlorbenzene and lindane.  
 Lab name: Genisco – mercury.  
 Lab name: SW Regional WWTP – TSS, NH<sub>3</sub>, pH, DO, Fecals, chlorine, temperature and CBOD<sub>5</sub>.

**Quality Control/Quality Assurance**

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

**Comments/Status:**

**Section J: Effluent/Receiving Water Observations**

Outfall Number	Oil sheen	Grease	Turbidity	Visible Foam	Visible Floating Solids	Color	Other
001	None	None	None	White	None	Clear	None

**Comments/Status:**

- The final effluent was clear and odor free. The receiving stream, both upstream and downstream of the outfall, were similar in appearance.
- The discharge was nonturbulent and shore hugging.

**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:**

**FINAL EFFLUENT VIOLATIONS – OUTFALL 001\***

Reporting Period	Parameter	Limit/Type	Limit	Reported Value	Violation Date
March 2008	Nitrogen, Ammonia (NH3)	30D Qty	19.	21.9994	3/1/2008
March 2008	Total Suspended Solids	7D Conc	18.	23.6666	3/15/2008
March 2008	Total Suspended Solids	7D Qty	136.	350.165	3/15/2008
March 2008	Nitrogen, Ammonia (NH3)	7D Qty	38.	39.637	3/15/2008
June 2008	Total Suspended Solids	7D Qty	136.	151.347	6/1/2008
September 2008	Fecal Coliform	7D CT/100 ml	1000	AK	9/17/2008
September 2008	Fecal Coliform	30D CT/100 ml	2000	AK	9/1/2008

\* Violations noted are during the period from September 2007 through September 2008.

**Areas Requiring a Response**

1. Is the chlorine sensor working? Is there a protective and respirator gear on site that meets the requirements of NIOSH? If so, what is the location of the personal protective equipment?

**Areas Not Requiring a Response**

Due to the age of the disinfection facility, Ohio EPA recommends that Southwest Regional WWTP evaluate the chlorine room in accordance with the design specifications in Ten State Standards. As part of this evaluation, Southwest Regional should review maintenance records for frequency of repair. If it is determined that there is substantial risk for public exposure and/or substantial cost is required to comply with Ten State Standards, Southwest Regional might want to evaluate alternate treatment technologies (i.e., uv disinfection, ozone and etc.)