



State of Ohio Environmental Protection Agency

Southwest District Office

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

January 23, 2008

Village of Sardinia
Tim Mock, Village Administrator
151 Maple Ave., P.O. Box 27
Sardinia, OH 45171

Corresp.
**RE: Village of Sardinia WWTW/Compliance Evaluation Inspection Report
NPDES Permit No. OH0020729 / OEPA PERMIT NO. 1PB00108*FD
Notice of Violation**

Dear Mr. Mock:

On January 17, 2008, I conducted an NPDES Compliance Evaluation Inspection at the Village of Sardinia wastewater treatment works (WWTW). You were present during the inspection as well as Mr. Stuart Patrick (contract operator), Bill North (operator) and Larry O'Hara (construction inspector). The purpose of the inspection was to evaluate compliance with the terms and conditions of the NPDES Permit.

A copy of Mr. Jackson's report on the inspection is enclosed. As indicated in the report, all evaluated sections received "Satisfactory" ratings with the exception of the "Effluent/Receiving Waters" and "Compliance Schedule" sections which received "Unsatisfactory" ratings. **Please pay special attention to the "items requiring correction", which are shown in bold type.**

Thank you and your staff for the time extended during the inspection process. If you have any questions, please feel free to contact me by phone at (937) 285-6029 or by e-mail at joshua.jackson@epa.state.oh.us.

Respectfully,

Joshua Jackson
Environmental Specialist II
Division of Surface Water

Cc: John Van Harlingen, H2O Company

Enclosures





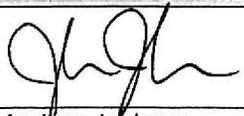
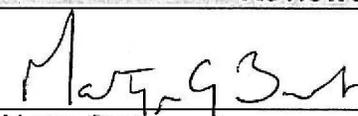
State of Ohio Environmental Protection Agency
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NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PB00108*FD	OH0020729	1/17/2008	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Village of Sardinia WWTP Purdy Road, (Behind Library) Sardinia, OH	9:30 a.m.	8/1/2005
	Exit Time	Permit Expiration Date
	12:00 p.m.	7/31/2010
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
John Van Harlingen, Operator of Record Bill North, Operator	513-827-3295 937-446-2110	
Name, Address and Title of Responsible Official	Phone Number	
Tim Mock, Village Administrator 151 Maple Avenue PO Box 27 Sardinia, OH 45171	937-446-3807	

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	U	Compliance Schedule
S	Operations & Maintenance	U	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 Report.	
Inspector	Reviewer
 Joshua Jackson Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
1-23-08 Date	1/23/08 Date

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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)..... Y
- (d) Flows and loadings conform with NPDES permit..... Y
- (e) Treatment processes are as described in permit application... Y
- (f) New treatment process(es) added since last inspection..... Y
- (g) Notification given to State of new, different or increased discharges..... Y
- (h) All discharges are permitted..... Y
- (i) Number and location of discharge points are as described in permit..... Y

Comments/Status:

Section E: Permit Verification

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

Comments/Status:

Construction of the expanded WWTW was scheduled for completion by January 1, 2007 (NPDES permit). It will not be completed until March 15, 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)..... II
- (e) Operator of Record holds unexpired license of class required by permit..... Y
 Class: III
- (f) Copy of certificate of Operator of Record displayed on-site..... N
- (g) Minimum operator staffing requirements fulfilled (OAC 3745-7)... Y
- (h) Routine and preventative maintenance scheduled/performed... N
- (i) Any major equipment breakdown since last inspection..... Y
- (j) Operation and maintenance manual provided and maintained..... N
- (k) Any plant bypasses since last inspection..... Y
- (l) Regulatory agency notified of bypasses..... Y
 On MORs and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic and/or organic overloads since last inspection..... Y

Record Keeping:

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

Hard bound

- (c) Log book(s) kept onsite (in an area protected from weather)..... Y
- (d) Log book contains the following:
 - I. Identification of treatment works..... Y
 - II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... Y
 - III. Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs)..... Y
 - IV. Laboratory results (unless documented on bench sheets)... Y
 - V. Identification of person making log entries..... Y
- (e) 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

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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..... Y
- (g) Lift station alarms provided and maintained..... Y
- (h) Are lift stations equipped with permanent standby power
or equivalent..... N
- (i) Is there an inflow/infiltration problem (separate sewer system),
or were there any major repairs to collection system since
last inspection..... N
- (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:

The Village has 5 lift stations (all with visual alarms). The Village contracts with Barber Septic Service to haul wastewater from a lift station to the WWTW in the event of a localized power outage or pump station malfunction; this contract is for 24-hour service.

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Section H: Sludge Management

- (a) Sludge management plan (SMP)
Submitted date: Approval #: Not submitted N/A
- (b) Sludge management plan current..... N/A
(c) Sludge adequately disposed..... Y
(Method:Landfilling)
(d) If sludge is incinerated, where is ash disposed of
(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:

Section I: Self-Monitoring Program

Flow Measurement:

- (a) Primary flow measuring device operated and maintained..... Y
Type of device: Ultrasonic & Parshall flume Ultrasonic & Weir Weir
Calculated from influent Other (Specify:)
- (b) Calibration frequency adequate Y
(Date of last calibration: 12/1/2007)
- (c) Secondary instruments operated and maintained..... N/A
(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:

Data from the influent and effluent flow meter will be stored electronically. This system was not connected yet. It will be completed by March 2008.

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

Sampling:

- (a) Sampling location(s) are as specified by permit..... Y
- (b) Parameters and sampling frequency agree with permit..... Y
- (c) Permittee uses required sampling method..... N
- (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

Parameters analyzed by commercial lab: Everything except DO, pH and temperature

Lab name: Test America, Village of Mt. Orab and Alloway.

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:

Alloway performs low-level mercury monitoring. Test America performs metals, total phosphorus, nitrate+nitrite and oil & grease. Mt. Orab performs testing for CBOD5, TSS, nitrogen-ammonia and fecal coliform.

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Section J: Effluent/Receiving Water Observations

Outfall Number	Oil sheen	Grease	Turbidity	Visible Foam	Visible Floating Solids	Color	Other
001	none	none	medium	medium	some	brownish tint	

Comments/Status:

Section K: Multimedia Observations

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

If any of the above are observed, ask the following questions:

- (1) What is the cause of the condition?
- (2) Is the observed condition or source a waste product?
- (3) Where is the suspected contaminant normally disposed?
- (4) Is this disposal permitted?
- (5) How long has the condition existed and when did it begin?

Comments/Status:

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Inspection Findings
(Items for correction are in bold type)

The permit to install for the Village of Sardinia wastewater treatment works (WWTW) expansion/upgrade was approved on July 7, 2005. Improvements for the upgrade/expansion of the existing WWTP included the following: influent pump station, mechanical bar screen, manual bar screen, grit removal, Sequencing Batch Reactor, ultraviolet disinfection, post aeration, sludge holding tanks (converted from existing Can-Tex tanks), sludge storage pad. The expanded WWTW is designed to treat and discharge an average daily flow 0.3 MGD (peak hourly influent rate of 1.2 MGD). A review of the 2007 discharge monitoring reports, show an average daily flow of 0.093 MGD.

At the time of the inspection, a substantial portion of the WWTW was completed. There was some electrical work to be completed such as the alarm systems, centralizing the SBR controls (PLC programming) to the operator's room, syncing the automated composite samplers with the flow metering system, etc. It is estimated that all work will be completed by March 15, 2008.

Effluent Limit Violations

(Period of Review: January 2007 – December 2007)

7D = Weekly 30D = Monthly 1D = Daily
 Conc. = Concentration (mg/l) Qty.= Quantity (Kg/Day)

Reporting Period	Parameter	Limit Type	Limit	Reported Value
January 2007	Total Suspended Solids	7D Conc	30	33.4
February 2007	Total Suspended Solids	7D Conc	18	22.25
April 2007	Total Suspended Solids	7D Conc	18	18.2
May 2007	Total Suspended Solids	7D Conc	18	22.
May 2007	Nitrogen, Ammonia (NH3)	30D Conc	0.89	1.33
May 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	1.8
May 2007	Dissolved Oxygen	1D Conc	6.0	2.6
May 2007	Dissolved Oxygen	1D Conc	6.0	4.8
May 2007	Dissolved Oxygen	1D Conc	6.0	5.4
June 2007	Nitrogen, Ammonia (NH3)	30D Conc	0.89	4.51
June 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	9.495
June 2007	Nitrogen, Ammonia (NH3)	30D Qty	1.0	1.36524
June 2007	Nitrogen, Ammonia (NH3)	7D Qty	1.5	3.01856
June 2007	Fecal Coliform	30D Conc	1000	2757.00
June 2007	Fecal Coliform	7D Conc	2000	3597.08
June 2007	Dissolved Oxygen	1D Conc	6.0	5.7
June 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	3.605
June 2007	Fecal Coliform	7D Conc	2000	2189.42
June 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	3.605
June 2007	Fecal Coliform	7D Conc	2000	3000.

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June 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	1.335
June 2007	Fecal Coliform	7D Conc	2000	2445.40
July 2007	Nitrogen, Ammonia (NH3)	30D Conc	0.89	3.36375
July 2007	Nitrogen, Ammonia (NH3)	30D Qty	1.0	1.04443
July 2007	Fecal Coliform	30D Conc	1000	2729.71
July 2007	Fecal Coliform	7D Conc	2000	3549.64
July 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	6.85
July 2007	Nitrogen, Ammonia (NH3)	7D Qty	1.5	2.1584
July 2007	Fecal Coliform	7D Conc	2000	36166.2
July 2007	Dissolved Oxygen	1D Conc	6.0	5.6
July 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	5.
July 2007	Nitrogen, Ammonia (NH3)	7D Qty	1.5	1.52763
July 2007	Fecal Coliform	7D Conc	2000	2041.62
July 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	2.87
August 2007	Fecal Coliform	7D Conc	2000	6800.
August 2007	Dissolved Oxygen	1D Conc	6.0	5.5
August 2007	Dissolved Oxygen	1D Conc	6.0	5.7
August 2007	Total Suspended Solids	7D Conc	18	26.5
August 2007	Dissolved Oxygen	1D Conc	6.0	3.9
August 2007	Dissolved Oxygen	1D Conc	6.0	4.8
September 2007	Nitrogen, Ammonia (NH3)	30D Conc	0.89	1.04
September 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	1.86
September 2007	Fecal Coliform	30D Conc	1000	2563.35
September 2007	Fecal Coliform	7D Conc	2000	37653.6
September 2007	Nitrogen, Ammonia (NH3)	7D Conc	1.3	2.215
September 2007	Fecal Coliform	7D Conc	2000	3469.87
October 2007	Total Suspended Solids	30D Conc	12	91.55
October 2007	Total Suspended Solids	30D Qty	14	131.663
October 2007	Total Suspended Solids	7D Conc	18	69.
October 2007	Total Suspended Solids	7D Conc	18	374.5
October 2007	Total Suspended Solids	7D Qty	20	637.253
October 2007	CBOD 5 day	7D Conc	15	20.15
October 2007	CBOD 5 day	7D Qty	17	34.3204
October 2007	Dissolved Oxygen	1D Conc	6.0	5.9
November 2007	Total Suspended Solids	30D Conc	12	33.6875
November 2007	pH	1D Conc	9.0	9.2
November 2007	Total Suspended Solids	7D Conc	18	88.
November 2007	Total Suspended Solids	7D Qty	20	23.9287
November 2007	Total Suspended Solids	7D Conc	18	32.5

Many of these violations occurred because the WWTW upgrade was not completed according to the NPDES compliance schedule. The WWTW was unable to meet the more stringent technology-based limits during the 2007-transition. For this reason, a rating of "Unsatisfactory" was given to the "Compliance Schedule" and "Effluent/Receiving Waters" sections of this report.

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Items Noted During the Inspection

1. The digesters, which were converted from the original Can-Tex tanks, were empty at the time of the inspection. Work on these units was almost complete (should begin filling them within a week or so of the inspection). The Village has contracted with a local septic hauler to remove settled sludge directed from the SBR tanks and haul to an NPDES permit holder.
2. The Village will be utilizing geotextile bags for sludge dewatering. The bags and the polymer system was not yet onsite; there are plans to acquire this in the spring, for it will take some time to fill up the digesters. Bags capable of dewatering 15 dry tons will be kept in a roll-off box on the 10-inch thick concrete sludge storage pad (filtrate will drain to the influent pump station). Dewatered sludge will be taken to Rumpke mixed solid waste landfill.
The Village should provide cover for this sludge storage pad to maximize dewatering during inclement weather and to prevent extraneous water from entering the drain system (and influent lift station).
3. The SBR tanks had a significant amount of foam. Whenever the tank is in "decant" mode, some of this foam has been inadvertently removed and discharged. The Village is working with the manufacturer of the SBR to correct this.
4. At the time of the inspection, the post aeration channel contained some solids and a small amount of brown foam (from the SBR tank).
5. There was no discharge (with the exception of a very small amount of overflow from the post aeration basin) at the time the outfall pipe was inspected because neither of the SBR tanks were in decant mode. The receiving stream contained fresh sediment from what appeared to be run-off from the construction site. I instructed the construction inspector to put silt fencing around the perimeter of the site. He also agreed to provide more stabilization for the outfall structure.
6. The Village reported one collection system overflow this year (pump station). **Since there is no telemetry alarm system in place for pump station failures, the Village shall inspect all pump stations on a daily basis to ensure proper operation.**

Inflow and Infiltration

At the time of the inspection, the Village of Sardinia did not have an infiltration & inflow (I&I) removal program established. The Village does have, however, an I&I survey conducted by consultants with a list of improvement projects and associated priority ratings. The Village has completed some of the recommended improvements.

With aging sewer infrastructures, more and more communities are investing time and money into sewer investigation and repair work in order to remove extraneous water from the collection system. Groundwater and surface water

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run-off can enter the sewers through deteriorated manholes, sewer joints, cracked sewer mains/laterals and cross-connections (including downspouts, sump pumps and driveway drains). During precipitation events, surges of "clean" water in the collection system can create compliance problems at the WWTW or even illegal sanitary sewer overflows.

The Village of Sardinia has recently made a substantial investment with the newly constructed WWTW. Attention should also be given to the sewage collection system in order to protect that investment. Initiating an I&I removal program should consist of the following items (at a minimum):

1. Dye/smoke testing.
2. Collection system flow monitoring to identify and prioritize problems areas.
3. Establish and implement a rotating schedule for CCTVing of the sewer mains (starting with the problem areas identified by the collection system flow monitoring)
4. Inventory manhole conditions and residential downspout connections.
5. Prioritize and initiate specific I&I removal projects.

All of the items shown above must be documented and available for review by Ohio EPA.