WASTEWATER TREATMENT SYSTEM
COMPLIANCE EVALUATION INSPECTION REPORT

Purpose: NPDES Compliance Evaluation Inspection

Facility: City of Vermilion WPCF
799 West River Road
Vermilion, Ohio 44089

NPDES Permit Number: OH-0023612

Dates of Inspection: July 14-15, 2021

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Garrett Fannin, operator (class 2)
Eric Mayer, operator (class 2)
Branden Clark, facility maintenance
John Majer, laboratory technician and operator (class 3)

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I. INTRODUCTION

On July 14-15, 2021, I inspected the City of Vermilion WPCF ("Facility"). I assessed the Facility's compliance with its National Pollutant Discharge Elimination System ("NPDES") permit and the Clean Water Act. The inspection consisted of the following major activities:

- Inspection opening conference;
- Interview/discussions with representatives from the Facility including a description of facility operations and maintenance ("O&M"), results of Discharge Monitoring Report (DMR) review, causes of effluent limit exceedances, the status of NPDES permit-specific reports, self-monitoring and laboratory activities, and sanitary sewer overflows ("SSOs");
- Physical inspection of the Facility, including the in-house laboratory;
- Physical inspection of select SSO locations; and
- Closing conference.

This report summarizes the results of the inspection. The following organizations and representatives were involved in the inspection of the Facility:

City of Vermilion WPCF:
Robert Yost, superintendent and operator (class 3)
Garrett Fannin, operator (class 2)
Eric Mayer, operator (class 2)
Branden Clark, facility maintenance
John Majer, laboratory technician and operator (class 3)

U.S. EPA:
Dean Maraldo, inspector
Ken Gunter, chemist

II. BACKGROUND

The Facility is authorized to discharge under NPDES permit OH-0023612 ("permit"). The City of Vermilion ("City") is responsible for the Facility's operation and compliance with NPDES permit requirements. The City is responsible for conducting monitoring activities and reporting monitoring results to the Ohio Environmental Protection Agency ("Ohio EPA"). Currently, the City employs two Ohio Class 3 certified operators for the Facility, including the Facility Superintendent, Robert Yost, and John Majer, who serves as a laboratory technician. In addition, two Ohio Class 2 certified operators, Garrett Fannin and Eric Mayer, are responsible for maintenance of the Facility and associated lift stations, along with maintenance technicians Branden Clark and Michael Lazuski. Sewer collection system maintenance is managed by the City's Water Department.

According to the NPDES Permit Fact Sheet (Ohio EPA, 2016), the Facility was built in 1967 with a design flow of 2.5 million gallons per day ("MGD") and a peak flow of 6.5 MGD.

Vermilion WPCF has the following treatment processes (see Attachment A for a diagram of the Facility wastewater treatment system):

- Mechanical Bar Screen
- Bucket Grit Removal
- Primary Clarification
- Activated Sludge (extended aeration/fine bubble)
- Phosphorus Removal (ferrous chloride)
- Final Clarifiers
- Chlorination (sodium hypochlorite)
- Dechlorination (sodium bisulfite)

The Facility was subject to an Ohio EPA Director's Final Findings and Orders ("DFF&O") to eliminate pump station overflows. The DFF&O was signed on May 25, 2011, ordering the elimination of overflows at Elberta Beach pump station and Romps pump station. According to the NPDES Permit Fact Sheet (Ohio EPA, 2016), as of May 2016, Vermilion WPCF eliminated SSOs at both pump stations, thereby fulfilling the requirements in the DFF&O.

The Facility reported, via electronic discharge monitoring reports ("DMRs") submitted to Ohio EPA, 50 permit effluent limit exceedances from June 2016 to May 2021, and 64 SSOs from February 2017 to May 2021. Prior to the inspection and per my request, the Facility Superintendent provided, via email, the Facility DMRs and associated laboratory bench sheets from July 2020 to May 2021. I reviewed the information and confirmed the effluent limit exceedances and SSOs summarized below:

Effluent Limit Exceedances Summary
OH0023612: CITY OF VERMILION WPCF, VERMILION, OH 44089-1324
Monitoring Period Date Range: 07/01/2020 to 05/31/2021

Monitoring Period Date	Parameter Description	Limit Type	DMR Value	DMR Value Unit	Limit Value	Limit Value Qualifier
7/31/2020	Solids, total suspended	MO AVG	69.98	mg/L	30	<=
7/31/2020	Solids, total suspended	WKLY MAX	1611	kg/d	426	<=
7/31/2020	Solids, total suspended	MO AVG	414.7	kg/d	284	<=
7/31/2020	Solids, total suspended	WKLY MAX	267.2	mg/L	45	<=
7/31/2020	N, ammonia total (as N)	MO AVG	5.9	mg/L	5.8	<=
7/31/2020	N, ammonia total (as N)	WKLY MAX	15	mg/L	8.7	<=
7/31/2020	N, ammonia total (as N)	WKLY MAX	92	kg/d	82	<=
7/31/2020	Chlorine, total residual	DAILY MX	0.19	mg/L	0.02	<=
10/31/2020	Solids, total suspended	WKLY MAX	1500	kg/d	426	<=
10/31/2020	Solids, total suspended	WKLY MAX	76.9	mg/L	45	<=
10/31/2020	Solids, total suspended	MO AVG	382	kg/d	284	<=
10/31/2020	N, ammonia total (as N)	WKLY MAX	98	kg/d	82	<=
10/31/2020	E. coli, MTEC-MF	WK GEOMN	490.571	MPN/100mL	284	<=
11/30/2020	Mercury, total low level	MO AVG	2.71E-06	mg/L	2.6E-06	<=
2/28/2021	Solids, total suspended	WKLY MAX	2360	kg/d	426	<=
2/28/2021	Solids, total suspended	WKLY MAX	159	mg/L	45	<=
2/28/2021	Solids, total suspended	MO AVG	44	mg/L	30	<=
2/28/2021	Solids, total suspended	MO AVG	608	kg/d	284	<=
2/28/2021	Phosphorus, total (as P)	WKLY MAX	25.4	kg/d	14.2	<=

Reported SSOs July 2020-May 2021

Station	Parameter	Date	Reported Value
300	Overflow Occurrence	5/11/2021	1
300	Overflow Occurrence	3/1/2021	1
300	Overflow Occurrence	12/5/2020	1
302	Overflow Occurrence	11/24/2020	1
302	Overflow Occurrence	10/22/2020	1
302	Overflow Occurrence	10/21/2020	1
302	Overflow Occurrence	9/7/2020	1
302	Overflow Occurrence	8/31/2020	1
300	Overflow Occurrence	8/28/2020	1

I also compared bench sheets from July 2020 to May 2021 against reported values in the DMRs and found no issues or errors.

III. INSPECTION ACTIVITY SUMMARY

III. A. Opening Conference

I arrived at the Facility with U.S. EPA Chemist Ken Gunter on July 14, 2021 at 8:30 a.m. We met Robert Yost, Facility Superintendent, in his office and began the opening conference with introductions. I presented my U.S. EPA Inspector credentials to Mr. Yost and then discussed the intended scope of the inspection. I thanked Mr. Yost for providing the Facility DMRs and associated bench sheets prior to the inspection. We then began the Interview portion of the inspection.

III. B. Interview

I started the interview portion of the inspection by asking Mr. Yost if the City submitted an NPDES permit reapplication package, as the Facility's NPDES permit expires on November 30, 2021. He confirmed that the permit reapplication package was submitted to Ohio EPA. I asked Mr. Yost to describe current staffing for wastewater operations. He said the Facility staff includes two maintenance technicians, two operators, and a laboratory technician. I then asked Mr. Yost to provide some general information about the sewer system, including the length of sewer conveyance, number of lift station, and number of service connections. He explained that management of the sewer collection system was managed by the Water Department so he would have to get back to me with details. Mr. Yost did confirm that the system includes 11 lift stations. [On July 21, 2021, Mr, Yost confirmed, via email, that there were 4,588 sanitary sewer connections, including commercial, residential, and multi-units in the system]. At this point in the interview the Facility's two class 2 operators, Garrett Fannin and Eric Mayer, joined the discussion. Mr. Fannin added that all of the lift stations are alarmed and all but three have remote telemetry. Mr. Yost and Mr. Fannin also mentioned the City is investing in a new SCADA-type technology from Mission Communications and plans to have the system in place by the end of the year. Following up on the earlier discussion about the collection system, Mr. Fannin estimated, based on the number of water service connections, about 5,500 sewer service connection in the system, serving about 10,000 residents. Mr. Mayer added that there were some septic areas in the City so the estimate of sewer service connections may be a bit lower. I asked

about current SSO points in the collection system. Mr. Yost and Mr. Fannin confirmed there are three re-occuring SSO points in the collection system, including Elberta Lift Station, River Lift Station, and Vermilion-on-the-Lake ("VOL") Lift Station.

Reserving the discussion about SSOs for later in the inspection, I asked Mr. Yost how things were going at the wastewater treatment plant. He summarized by saying that "lots of things need to be replaced" and added that they have replaced or upgraded system components recently, including a new bar screen. I asked about specific effluent limit exceedances and potential causes, starting with July 2020 exceedances of total suspended solids ("TSS") and nitrogen-ammonia total (as N). Mr. Yost explained that two of the six clarifiers were down since he started at the Facility in 2018. Operator Branden Clark joined the discussion and added that the two clarifiers were placed back on line in October 2020. I asked about the cause of effluent limit exceedances in October 2020, including TSS, nitrogen-ammonia total (as N), and *E. coli*; and TSS exceedances in February 2021. Mr. Yost attributed the exceedances to air lift issues and insufficient air to support aeration. He added that a third blower was recently installed to help address the issue. Last, I asked about the phosphorus effluent limit exceedance in February 2021. Mr. Yost said the exceedance was caused by a ferrous chloride system pump failure.

I asked Mr. Yost to talk about operation and maintenance ("O&M") practices at the Facility. Mr. Yost explained that Facility had O&M plans but was not sure if the Water Department had a written O&M plan for the collection system. Routine O&M practices include visiting key lift stations every day and recording maintenance activities in a written log (see Attachment B for example of daily O&M log entries). I asked Mr. Yost to describe how the Facility is operating. He said infiltration and inflow ("I&I") is the biggest issue leading to compliance issues, with average daily flows of approximately 1 MGD and peak daily flows of up to 6.5 MGD. He also described recent issues with key wastewater treatment system components. As discussed above, for most of the past year the Facility operated without the use of all six clarifiers and insufficient air support aeration, and is currently operating without clarifier #6 and the grit removal unit.

After the O&M discussion, I asked about SSO and basement backup complaints. Mr. Yost said he wasn't aware of many backup complaints. He added that the Water Department would receive complaints and said he would check to see if they recorded backups and complaints and let me know if any records existed. Mr. Yost said he was aware of one resident concerned about SSOs.

I went over the status of various non-DMR reports required under the permit. Mr. Yost provided a copy of the Ammonia-Nitrogen Reduction Evaluation (Attachment B) which was dated December 2, 2020, but due to Ohio EPA, pursuant to the Permit Part I.C.3.e., by December 1, 2019.

Mr. Yost also provided the Annual Mercury PMP report required pursuant to the permit (Attachment B). The report was submitted by the March 1, 2021 deadline. However, the copy of the report provided was missing required information such as a list of potential mercury sources (Permit Part II.U.1.g.ii) and a summary of efforts to reduce mercury (Permit Part II.U.1.g.iii).

Pursuant to Permit Part I.C.5.e.ii., the Facility was required to submit a No Feasible Alternatives Analysis and Schedule ("NFA") regarding the reduction of I&I by December 1, 2019. Mr. Yost provided documentation including letters sent to Ohio EPA and a related Notice of Violation and

correspondence from Ohio EPA (Attachment B) discussing the Facility's failure to comply with Permit Part I.C.5.e.ii., and eventual resolution of the violation via a permit modification request.

I asked to see the written notification procedures between the Facility and the downstream public water supply system, required pursuant to Permit Part II.AA.3. He was not aware of the requirement and said he would look into it and get back to me. [On July 21, 2021, Mr. Yost provided a written notification procedure via email. However, the procedure was not dated and did not cover upsets, spills, and bypasses. He later confirmed that the procedure was recently developed].

Last, I asked Mr. Yost about the status of the Facility's storm water pollution prevention plan ("SWPPP") required pursuant to Permit Part V. He was not able to produce the SWPPP and said he would look for it and get back to me. [On July 21, 2021, Mr. Yost provided an update on the SWPPP status, explaining that it is currently being developed by a contract engineering firm].

III. C. Physical Facility Inspection

The physical inspection of the Facility began at 10:10 a.m. on July 14, 2021. The physical inspection is summarized below. Photographs referenced below are included in the Photo Log (Attachment C). A diagram of the wastewater treatment system is provided in Attachment A. Facility laboratory technician John Majer joined us for the inspection of the on-site laboratory. I started by mentioning that I planned to take photographs during the inspection and asked if there were any concerns regarding potential confidential business information ("CBI"). Mr. Yost stated that there were no concerns regarding potential CBI.

Laboratory: Based on our review of laboratory bench sheets, Mr. Gunter recommended adding the dates and times for both sample collection and analysis on laboratory bench sheets to allow for confirmation of holding times. Mr. Gunter also requested a copy of a recent chain-of-custody form for samples sent to the contract laboratory for analysis. Mr. Yost provided a copy of a recent chain-of-custody form (Attachment B). Mr. Gunter noted that there was a gap in time on the form from when a sample was collected (6/22/2021) to when it was turned over to the contract laboratory (7/1/2021). Mr. Gunter pointed out that the chain-of-custody form should allow reviewers to track custody of a sample from the time of collection to the time the sample is delivered to the laboratory.

I asked Mr. Majer and Mr. Yost if they conduct any process monitoring. Mr. Majer stated that they conduct settling tests two or three times per day and routinely monitor for dissolved oxygen in the aeration tanks.

On our walk through of the laboratory we were able to see adequate bench, instrumentation, storage, and recordkeeping space. The laboratory was a clean and orderly work area. We found the laboratory to have adequate space for personnel to circulate and at least two options for entry and egress. The laboratory appeared to have adequate humidity and temperature control, adequate lighting and ventilation, and a fume hood system. We noted that the laboratory appears to have the necessary equipment such as hot plate, incubator, water bath, refrigerator for samples, glassware, pH meter, thermometer, and balance. The laboratory had emergency equipment such as a fire extinguisher, eye wash station, shower, first aid kit, lab coats, gloves, and goggles.

Mr. Majer described how he maintains records of each set of analyses performed, including the order in which calibration, QA/QC, and samples were analyzed (*i.e.*, analysis run logs or instrument run logs) and instrument calibration (see Photograph VWPC0001.jpg). Mr. Majer said he follows written requirements (*e.g.*, standard operating procedures or "SOPs") for daily operation of instruments and equipment, and the SOPs were available in the laboratory at the time of inspection (see updated SOPs in Photograph VWPC0002.jpg and bench sheets in VWPC0003.jpg).

Mr. Majer appears to appropriately use standards and blanks to perform standard calibration procedures, and uses standard concentrations that closely bracket actual sample concentrations. Sources of standards are documented and where possible, traceable to a national standard (e.g., National Institute of Standards and Technology (see Photograph VWPC0004.jpg - buffer solutions documenting opening and expiration dates).

Mr. Gunter pointed out that the laboratory should ensure that drying oven thermometers are equipped with appropriate heat sinks to ensure that temperature readings do not fluctuate when opening and closing the oven door, and recommended they document accurate oven temperatures are maintained (see Photograph VWPC0005.jpg – drying oven with thermometer bulb located in open air).

Mr. Gunter asked about the procedure for analyzing total suspended solids. After Mr. Majer described the process, Mr. Gunter explained that the process was not consistent with the approved standard method (Standard Method 2540D). He further explained that the analyses must include and document weighing to a constant weight, as required in the approved standard method. Section 3.C. of the approved standard method requires repeat cycles of drying, cooling, desiccating, and weighing until a constant weight is obtained or until the weight change is less than 4% of the previous weight or 0.5 mg, whichever is less.

At this point we agreed to break for lunch and return at noon. Upon our return to the Facility, we met with Mr. Yost and he provided copies of SSO annual reports (required pursuant to Permit Part II.D.2.b.), for 2016, 2018, 2019, and 2020, requested earlier in the day. He could not locate the annual report for 2017 and was not sure it was submitted to Ohio EPA. To fill in for the missing report, he provided all SSO-related DMRs for 2017. We returned to the laboratory to take the photographs referenced above.

Headworks: We left the Facility office and were joined by Mr. Yost, Mr. Fannin and Mr. Mayer for the physical inspection of the wastewater treatment system. Mr. Fannin explained the a third of the incoming sewage comes into the plant by gravity flow and through the twin screws (Photographs VWPC0006.jpg and VWPC0007.jpg), and the remaining flow comes into the plant via a force main from the River Lift Station. The west screw was running at the time and Mr. Fannin said they alternate screws monthly. Next we viewed the parshall flume designed to measure flow after the screws (Photograph VWPC0008.jpg). Mr. Yost stated that they do not monitor incoming flow at this location as it is not required by the permit. Next we walked along the influent flow channel to the point where sewage from the force main joins the gravity flow (Photograph VWPC0009.jpg) before heading into the bar screen building. We observed the operating bar screen (Photograph VWPC0010.jpg) and inoperable grit removal system

(Photograph VWPC0011.jpg). Operators were manually cleaning grit while the grit removal system is down for repairs. The bar screen building also houses the influent composite sampler (Century 3000). I noticed the inside of the influent sample hose tubing was coated with debris (Photograph VWPC0012.jpg) and recommended replacement or cleaning on a routine basis to avoid sample contamination. The inside of the influent composite sampler is captured in Photograph VWPC0013.jpg.

Primary Clarifiers: Primary treatment consists of three primary clarifiers (Photograph VWPC0014.jpg, Clarifier #3 in foreground). Mr. Yost mentioned that Clarifier #3 was rebuilt two years ago, Clarifier #2 about seven years ago, and Clarifier #1 is due for a rebuild. I noted a PVC pipe with a significant flow of clear water appearing to flow into a grate-covered vault leading to the primary clarifiers (Photograph VWPC0015.jpg). Mr. Fannin explained that river water infiltrates the basement and is collected and pumped into the primary clarifiers to avoid flooding.

Aeration: Wastewater aeration consists of four aeration tanks (Photograph VWPC0016.jpg, Aeration Tank #1 in foreground).

Final Clarifiers: The final wastewater clarification system consists of six clarifiers (Photograph VWPC0017.jpg). Mr. Fannin explained that four clarifiers operate every day and one is shut down daily for routine maintenance. He added that Clarifier #6 is currently shut down for repairs. The rails in Clarifier #6 were rotted out (see the center area of Photograph VWPC0018.jpg) and they are waiting for new rail parts. I observed Clarifier #5 and noted significant debris and plant material (likely duckweed) in the effluent troughs and channels (Photograph VWPC0019.jpg). I asked if the clarifier had been cleaned recently and Mr. Yost replied that he was not sure and would make sure the clarifier is cleaned to remove the debris. I mentioned that at this point in the treatment process effluent exiting the clarifier should be free of visible debris.

Disinfection: Facility wastewater disinfection relies on a liquid chlorine feed system (Photograph VWPC0020.jpg, chlorine feed pipe). After the chlorine feed, effluent flows into a chlorine contact tank. I noticed floating plant material (likely duckweed) at the end of the chlorine contact tank and at the point where chlorinated effluent flows to the final outfall, according to Mr. Yost (Photograph VWPC0021.jpg). I mentioned to Mr. Yost that significant debris at this point in the treatment process (only dechlorination remaining), has the potential to result in permit effluent exceedances, including total suspended solids. Sodium bisulfate is used for dechlorination (Photograph VWPC0022.jpg, dechlorination drip tubing in effluent channel after chlorine contact tank and prior to final outfall).

Chemical Room: The chemical room contains process chemicals and the final effluent composite sampler (Hach, Photograph VWPC0023.jpg). I asked if the composite sampler is set up to collect time or flow-based composite samples. Mr. Fannin confirmed that the composite sampler is set up to collect flow-based samples, consistent with permit requirements. I noted that the sample container appeared to be heavily stained. I mentioned that the container should be cleaned routinely or replaced as needed, along with the effluent tubing.

Final Outfall 001: The final outfall (#001) to the Vermilion River was the last stop on the physical inspection of the Facility. The river appeared to be high and murky (see contrast between effluent discharge and river water in Photograph VWPC0024.jpg).

III. D. Physical Inspection of Select SSO Locations

We completed the physical inspection of the Facility wastewater treatment system at 1:35 p.m., and the group returned to the Facility office. Upon our return, I noticed copies of operator log books and photographed (VWPC0025.jpg) recent pages for 6/22-7/7/21.

We then began the physical inspection of select SSO locations including the River Lift Station, Elberta Lift Station, and the Vermilion-on-the-Lake ("VOL") Lift Station (see Attachment E, July 14, 2021 Inspection Location Map). We were joined by Mr. Fennin, Mr. Mayer, and Mr. Yost. We started by driving to the River Lift Station, located in a private marina area. I observed the lift station components, including the wet well (Photograph VWPC0026.jpg). Mr. Fannin described what happens when SSO occurs at this location. He said SSOs discharge from a nearby manhole along the railroad track berm and flow towards an open area between the berm and marina access road. We could not locate the manhole due to security fencing and heavy vegetation in the berm area. He added that SSOs reach the marina waters only during extreme rain events.

Next we drove to the Elberta Lift Station, which has a constructed outfall to Lake Erie. Mr. Fannin explained that when the lift station overflows the SSOs enter a sewer inlet (in the foreground of Photograph VWPC0027.jpg), and flows via a pipe to an outfall to Lake Erie. He added that SSOs occur at this location during heavy rains.

Last, we drove to the VOL Lift Station area. Here, SSOs enter a stormwater catch basin along Edgewater Drive (Photograph VWPC0029.jpg), which flows via a pipe to an outfall to Lake Erie. At this point (2:20 p.m.), we concluded the physical inspection of select SSO locations and concluded the inspection activities for the day. We agreed to meet the next morning (July 15, 2021) at 8 a.m. to conduct the inspection close out conference.

IV. Closing Conference, Areas of Concern, and Other Observations

Ken Gunter and I returned to the Facility office at 7:45 a.m. on July 15, 2021. We met with Mr. Yost in his office to conduct the closing conference. First we went over the status of documents I requested the previous day. Mr. Yost agreed to provide the SSO O&M Response Plan, collection system O&M plans, the Facility SWPPP, and the Water System Notification procedure by Wednesday, July 21, 2021. He also agreed to provide additional details on the collection system, including the number of sewer connections/customers, miles/feet of conveyance, and any sewer backup complaint logs by Wednesday, July 21, 2021.

Next, I went over preliminary areas of concern, and noted that I may identify other areas of concern after further review of inspection notes and documents received as part of the inspection.

The preliminary areas of concern included:

- The Facility reported, via electronic DMRs submitted to Ohio EPA, 50 permit effluent limitation exceedances from June 2016 to May 2021.

- Reporting (non-DMR related) Areas of Concern:
  - The Ammonia-Nitrogen Reduction Evaluation was dated December 2, 2020, but due to Ohio EPA, pursuant to the Permit Part I.C.3.e., by December 1, 2019;
  - The Annual Mercury PMP report required pursuant to the permit was submitted by the March 1, 2021 deadline. However, the copy of the report provided was missing required information such as a list of potential mercury sources (Permit Part II.U.1.g.ii) and a summary of efforts to reduce mercury (Permit Part II.U.1.g.iii);
  - Pursuant to Permit Part I.C.5.e.ii., the Facility was required to submit a No Feasible Alternatives Analysis and Schedule ("NFA") regarding the reduction of I&I by December 1, 2019. Mr. Yost provided documentation including letters sent to Ohio EPA and a related Notice of Violation and correspondence from Ohio EPA discussing the Facility's failure to comply with Permit Part I.C.5.e.ii.;
  - Pursuant to Permit Part II.AA.3., written notification procedures between the Facility and the downstream public water supply system were required by June 1, 2016; The Facility was not aware of this requirement or if the procedures existed. On July 21, 2021, Mr. Yost provided a written notification procedure via email. However, the procedure was not dated and did not cover upsets, spills, and bypasses. He later confirmed that the procedure was recently developed; and
  - Facility representatives were unable to provide the Facility's SWPPP, required pursuant to Permit Part V, upon request. On July 21, 2021, Mr. Yost provided an update on the SWPPP status, explaining that it is currently being developed by a contract engineering firm.

- Operation and Maintenance Areas of Concern, noting that Permit Part III.3.A requires "[a]t all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit."
  - Two of the six final clarifiers were down from 2018 to October 2020;
  - Effluent limit exceedances in October 2020, including TSS, nitrogen-ammonia total (as N), and *E. coli*; and TSS exceedances in February 2021 were attributed to air lift issues and insufficient air to support aeration;
  - Phosphorus effluent limit exceedance in February 2021 were attributed to a ferrous chloride system pump failure;
  - For most of the past year, the Facility operated without the use of all six clarifiers and insufficient air support aeration, and is currently operating with without Clarifier #6 and the grit removal unit;
  - According to Mr. Yost, I&I is the biggest issue leading to compliance issues with average daily flows of approximately 1 MGD and peak daily flows of up to 6.5 MGD;
  - Clear river water is infiltrating into the Facility basement and pumped to the primary clarifiers, adding to amount of non-sanitary flow being treated at the Facility;
  - Inside of the influent sample hose tubing was coated with debris;
  - Clarifier #6 is currently offline due to rotted rails. Facility is waiting for new parts.

  - I observed significant debris and plant material (likely duckweed) in the effluent troughs and channels in Clarifier #5;
  - I observed floating plant material (likely duckweed) at the end of the chlorine contact tank, at the point where treated effluent exits the chlorine tank; and
  - The effluent sample container appeared to be heavily stained. The container should be cleaned routinely or replaced as needed, along with the effluent tubing.

- SSOs (all SSOs are prohibited as stated in Permit Part I.B.):
  - The Facility reported, via electronic DMRs submitted to Ohio EPA, 64 SSOs from February 2017 to May 2021;
  - Facility representatives could not locate the SSO annual report for 2017 and were not sure if it was submitted to Ohio EPA, as required pursuant to Permit Part II.D.2.b.iii..

- Laboratory Areas of Concern:
  - Laboratory bench sheets do not include dates and times for both sample collection and analysis to allow for confirmation of holding times;
  - Chain-of-custody form provided for July 1, 2021 did not allow for tracking of custody of a sample from the time of collection (June 22, 2021) to the time the sample was delivered to the laboratory on July 1, 2021;
  - Drying oven thermometers are not equipped with appropriate heat sinks to ensure that temperature readings do not fluctuate when opening and closing the oven door, and oven temperatures records are not maintained; and
  - TSS analytical process is not consistent with the approved standard method (Standard Method 2540D). The analyses must include and document weighing to a constant weight, as required in the standard method. Section 3.C. of the standard method requires repeat cycles of drying, cooling, desiccating and weighing until a constant weight is obtained or until the weight change is less than 4% of the previous weight or 0.5 mg, whichever is less.

<u>Additional laboratory-related observations include:</u>

- Careful review of contract laboratory case narratives. Case narratives are an important part of the data deliverables from a contract laboratory. The case narrative is typically a short summary statement about the analyses that might include the number and type of samples analyzed. Any significant receipt, analysis, or QA/QC problem should be documented in this section. The case narrative may not actually be called a “case narrative” but is the explanatory text at or near the beginning of the data package. The data user should carefully read this part of the report, as it helps identify problem samples or problem analyses that could lead to limitations on the use of the data or, in extreme cases, data rejection.
- Laboratory personnel should maintain an instrument log documenting replacement, cleaning, checking, and/or adjustment by service personnel for all laboratory instruments and all out-of-control data, the situation, and the corrective action taken.
- Laboratory personnel should perform annual Method Detection Limit (MDL) studies for all in house analyses (Ammonia, phosphorus, Total Residual Chlorine and Total Suspended Solids). The procedure to determine MDL’s was revised in the 2017 Method Update Rule and is included in Attachment D.

After sharing the preliminary areas of concern, I asked Mr. Yost if he had any questions. With no questions from Mr. Yost, I provided an estimated timeframe for completion of the inspection report and we concluded the closing conference. We departed the Facility at 8:45 a.m. on July 15, 2021.

V. DOCUMENTS RECEIVED AND REFERENCES

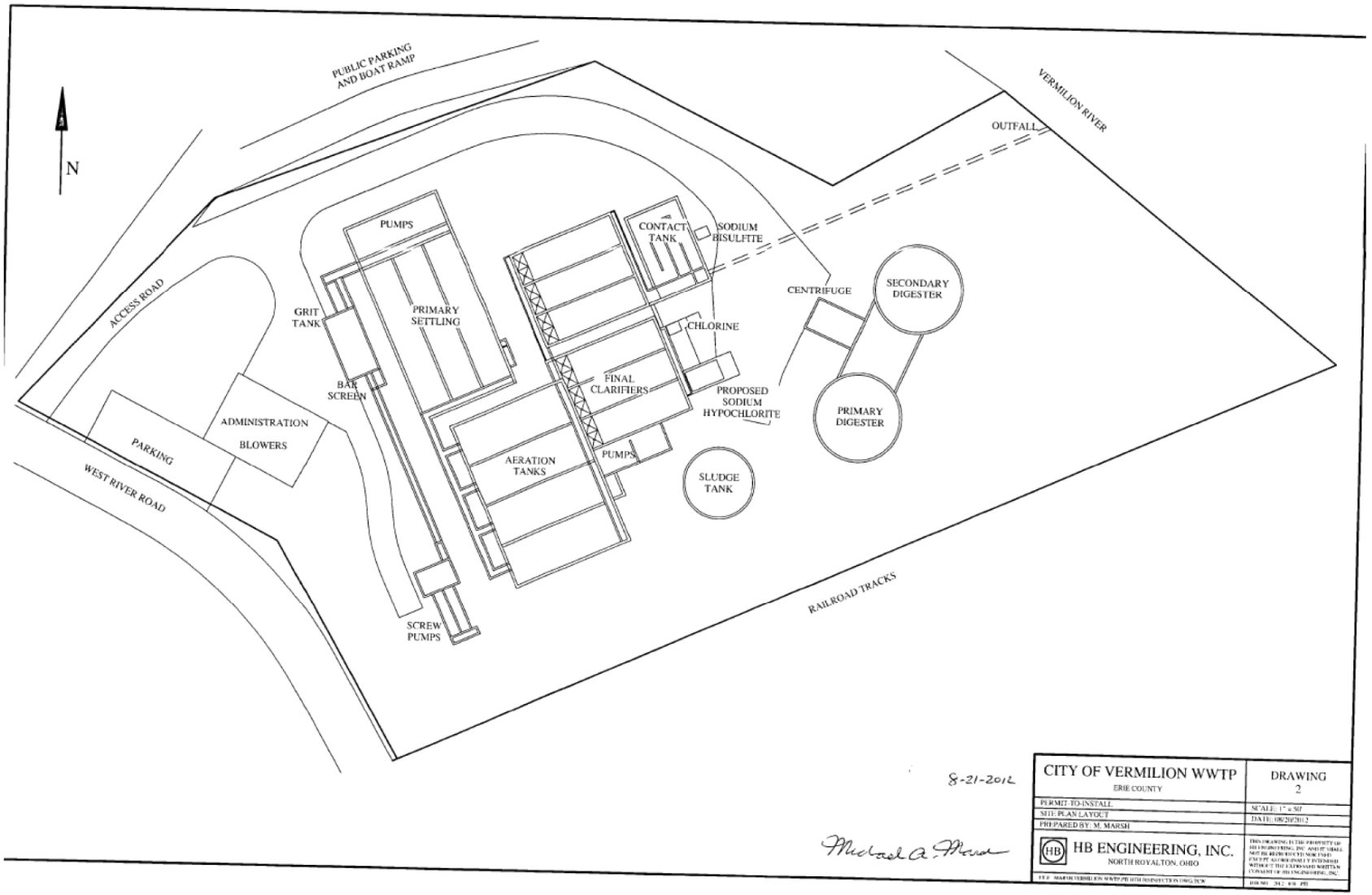
Documents received during the inspection:

- Laboratory narrative and chain-of-custody forms (9/9/2020);
- Laboratory chain-of-custody form (7/1/2021);
- Ohio EPA compliance sampling inspection report, dated 9/30/2019;
- Ohio EPA Notice of Violation ("NOV"), dated 12/29/2020;
- City of Vermilion letter to Ohio EPA, regarding SSO NFA, dated 12/17/2020;
- City of Vermilion letter to Ohio EPA, dated January 28, 2021, regarding Ohio EPA NOV, dated 12/29/2020;
- Ohio EPA letter to City of Vermilion regarding SSO NFA and permit modification, dated 2/9/2021;
- Mercury PMP Annual Report, dated 3/2/2021;
- Ammonia-Nitrogen Reduction Evaluation, dated 12/2/2020; and
- SSO Annual Reports (2016-2018, 2019-2020), SSO-related DMRs for 2017; and SSO 5-day reports for 3/5/2021, 5/11/2021, and 6/10/2021.

Specific resources included by reference:

- City of Vermilion WPCF NPDES Permit# OH-0023612 (Ohio ID# 2PD00032*MD); issued by Ohio EPA on December 1, 2016 ; expiration date November 30, 2021;
- Fact Sheet: City of Vermilion WPCF NPDES Permit# OH-0023612 (Ohio ID# 2PD00032*MD), Public Notice Date - July 29, 2016.

Attachment A: Diagram of the Facility wastewater treatment system



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Attachment B: Documents received during the inspection

- Laboratory narrative and Chain-of-Custody forms (9/9/2020);
- Laboratory Chain-of-Custody form (7/1/2021);
- Ohio EPA compliance sampling inspection report, dated 9/30/2019
- Ohio EPA NOV, dated 12/29/2020;
- City of Vermilion letter to Ohio EPA, regarding SSO NFA, dated 12/17/2020;
- City of Vermilion letter to Ohio EPA, dated January 28, 2021, regarding Ohio EPA NOV, dated 12/29/2020;
- Ohio EPA letter to City of Vermilion regarding SSO NFA and permit modification, dated 2/9/2021;
- Mercury PMP Annual Report, dated 3/2/2021;
- Ammonia-Nitrogen Reduction Evaluation, dated 12/2/2020; and
- SSO Annual Reports (2016-2018, 2019-2020), and SSO-related DMRs for 2017; and SSO 5-day reports for 3/5/2021, 5/11/2021, and 6/10/2021.

Alloway
Your Resource for Defensible Data

Customer: City of Vermilion WWTP
Outfall: 001
Report Date: 9/9/20
Ohio EPA Permit No.: 2PD00032*MD
Alloway Lab #: L20-17850-01

Date: 9/9/20

Rob Yost
City of Vermilion WWTP
5511 Liberty Avenue
Vermilion, OH 44089

Dear Mr. Yost:

Enclosed is the report of the biomonitoring on the sample listed above. The objective of the chronic biomonitoring was to determine the effects, both the acute endpoint (mortality) and chronic endpoints (mortality and growth, or reproduction), from the test water. Fathead minnow larvae (*Pimephales promelas*) and neonate water fleas (*Ceriodaphnia dubia*) were the test organisms.

Acute toxicity was determined by locating the median lethal concentration (LC50) and the median effective concentration (EC50). Growth was determined from the dry weight of surviving *Pimephales promelas* larvae. Reproduction was monitored daily by counting the number of young produced by each female *Ceriodaphnia dubia*.

Dissolved oxygen, pH, and temperature were recorded daily at each renewal and at the end of each 24-hour exposure period. Results may be found in Appendix C "Parameter Data Sheets". Samples were analyzed for alkalinity, hardness and conductivity. These results may also be found in Appendix C.

Alloway (Lima, OH) performs biomonitoring testing in accordance with procedures established by the Environmental Protection Agency. The Standard Operating Procedures for the testing is on file with the Ohio EPA.

Please call if you have any questions or need additional information.

Brian Good
Bioassay Lab Manager

1101 N. Cole St. • Lima, Ohio 45805
419.223.1362 • Fax 419.227.3792
800.436.1243

1500 W. Fourth St., Suite 4 • Mansfield, Ohio 44906
419.525.1644 • Fax 419.524.5575
800.635.3222

1776 Marion-Waldo Rd. • Marion, Ohio 43302
740.389.5991 • Fax 740.389.1481
800.873.2835

www.alloway.com

Alloway
Your Resource for Defensible Data

Chain of Custody Record

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement

1/2

- 1101 North Cole Street, Lima, OH 45805 (P) 800-436-1243 (F) 419-227-3792
- 1776 Marion-Waldo Road, Marion OH 43302 (P) 800-873-2835 (F) 740-389-1481
- 1500 W. Fourth Street, Suite 4, Mansfield, OH 44906 (P) 419-525-1644 (F) 419-524-5575

Report To: Name: Rob Yost
Company: City of Vermilion
Address: 5511 Liberty Ave
Vermilion, OH 44089

Invoice To (If Different):
Name:
Company:
Address:

Notes/Comments: [illegible] wastewater

Phone #: Fax #:
E-mail: PO#:

Project: M20-29752

Project Name
Sampler (Print) [illegible] (Signature) [signature]

2 Working Days ☐ 5 Working Days ☐ Routine ☐

	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	Effluent	8/27/20	0752	✓		ww	1	3	[illegible]	01
2	Upstream	8/28/20	0842		✓	sw	1	1	Acute Tox Bioassay	
3	Effluent	8/28/20	0858	✓		ww	1	1	" "	
4										
5										
6										
7										
8										

	Relinquished by:	Received by:	Date	Time
1	[signature]	[signature]	8.28.20	9:48
2				
3				
4				
5				
6				

Received for Laboratory By: (circle one): Mansfield (Lima) (Marion) TL

(Signature) [signature] 8-28-20 12:10

Method of Delivery: UPS ☐ Fed Ex ☐ Client ☐ Alloway Pick Up ☐ Alloway Sampling ☐ Other ☐

Matrix Codes:
- ww - wastewater
- gw - groundwater
- dw - drinking water
- sw - surface water
- w - water
- oil - oil
- s - solid
- sg - sludge
- l - leachate
- a - acid
- p - product
- o - other

Preservation Codes:
- 1 - None
- 2 - HNO_3
- 3 - H_2SO_4
- 4 - HCl
- 5 - NaOH
- 6 - NaOH & Zinc Acetate
- 7 - Sodium Thiosulfate
- 8 - Ascorbic Acid
- 9 - Maleic Acid
- 10 - EDA
- 11 - Ammonium Chloride
- 12 - $(NH_4)_2SO_4$ & NH_4OH
- 13 - Zinc Acetate
- 14 - Sodium Sulfite
- 15 - Potassium Dihydrogen Citrate
- 16 - Sodium Sulfite/Sodium Bisulfate

Sample Receiving (For Lab Use Only)
Ice Present? Y☑ N☐
Proper Preservation? Y☑ N☐
Mart 105
Container Temperature: 1.1 °C

Transported to: Lima Marion By: TL Received By: [signature] Date: 8/28/20 Time: 1355
Transported to: Lima Marion By: Received By: Date: Time:

REV 01-16

over →

Project # M20- 29752

Cooler Temp 1.1 C°

Analyst: AHR

Form 6002-2

	Sample ID	Metals (HNO3) pH		(H2SO4) pH - (EXCLUDES O&G)			Cyanide (NaOH) pH		Cyanide Chlorine check	
		Bottle A	Bottle B	Bottle A	Bottle B	Bottle C	Bottle A	Bottle B	Bottle A	Bottle B
1	Cl			2						
2										
3										
4										
5										
6										
7										
8										
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10										
11										
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26										
27										
28										
29										
30										

Alloway
Your Resource for Defensible Data

Chain of Custody Record

Project: M21-24588

1101 North Cole Street, Lima, OH 45805
(P) 800-436-1243 (F) 419-227-3792

1776 Marion-Waldo Road, Marion OH 43302
(P) 800-873-2835 (F) 740-389-1481

1500 W. Fourth Street, Suite 4, Mansfield, OH 44906
(P) 419-525-1644 (F) 419-524-5575

Report To:
Name: Rob Yost
Company: City of Vermilion
Address: 5371 Liberty Ave
Vermilion, OH 44089

Address:

Phone #:

Fax #:

E-mail:

PO#:

Project Name

Sampler (Print) John Magee (Signature)

Notes/Comments:
Wastewater
ortho P sample was filtered
Sub Diethyl Phthalate to Lima

Turnaround: (Rush Charges May Apply)
Next Day ☐ 3 Working Days ☐ Routine ☐
2 Working Days ☐ 5 Working Days ☐

	Customer Sample ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #	Analysis Required	Alloway LIMS # For Lab Use Only
1	Effluent	7/1/21	0817	✓		ww	4	1, 2, 3	Diethyl Phthalate, TDS, Fe, Ba, Al, Cd, Cu, Ni, Zn, Pb, Cr, TKN, NO3, P	01
2										↓
3	Effluent	7/1/21	0821		✓	ww	3	1, 3, 5	ortho P, O&G, CN-F	02
4	Influent	7/1/21	0826		✓	ww	1	5	CN-F	03
5	Influent	7/1/21	0828	✓		ww	1	2	Cl, Cu	04
6	Effluent	6/22/21	0803	✓		ww	1	3	P	05
7										
8										

	Relinquished by:	Received by:	Date	Time
1			7-1-21	1005
2				
3				
4				
5				
6				
	Received for Laboratory By: (circle one): Mansfield Lima Marion			
	(Signature)		7/1/21	1630

Method of Delivery: UPS ☐ Fed Ex ☐ Client ☐ Alloway Pick Up ☐ Alloway Sampling ☐ Other ☐

Matrix Codes: ww - wastewater; gw - groundwater; dw - drinking water; sw - surface water; w - water; oil - oil; s - solid; sg - sludge; l - leachate; a - acid; p - product; o - other

Preservation Codes: 1 - None; 2 - HNO_3; 3 - H_2SO_4; 4 - HCl; 5 - NaOH; 6 - NaOH & Zinc Acetate; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - Maleic Acid; 10 - EDA; 11 - Ammonium Chloride; 12 - $(NH_4)_2SO_4$ & NH_4OH; 13 - Zinc Acetate; 14 - Sodium Sulfite; 15 - Potassium Dihydrogen Citrate; 16 - Sodium Sulfite/Sodium Bisulfate

Sample Receiving (For Lab Use Only)
Ice Present? Y ☐ N ☐
Proper Preservation? Y ☐ N ☐
Container Temperature: 2.6 C

Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____

Transported to: Lima Marion By: _____ Received By: _____ Date: _____ Time: _____

REV 01-16

City of Vermilion WPCF CEI Inspection Report
Attachment B, page-5

Form 6002-2

Project # M21- 24588 Cooler Temp 2.6 C° Analyst: CWM

	Sample ID	Metals (HNO3) pH		(H2SO4) pH - (EXCLUDES O&G)			Cyanide (NaOH) pH		Cyanide Chlorine check	
		Bottle A	Bottle B	Bottle A	Bottle B	Bottle C	Bottle A	Bottle B	Bottle A	Bottle B
1	01	<2		<2	<2	AM 7/1/21 <2				
2	02						>12		ND	
3	03						>12		ND	
4	04	<2								
5	05			<2						
6										
7										
8										
9										
10										
11										
12										
13										
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30										

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

September 30, 2019

Mr. Robert Yost, Superintendent
Vermilion WPCF
5511 Liberty Avenue
Vermilion, Ohio 44089

Re: Vermilion WPCF
Inspection
NPDES
Erie County
2PD00032

Dear Mr. Yost:

Thank you for accompanying me during Ohio EPA's September 24, 2019, compliance sampling inspection of Vermilion Water Pollution Control Facility (WPCF) located in Vermilion, Ohio. Along with myself from the Ohio EPA's Northwest District Office, Eugene Baker was also present during the inspection.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your National Pollutant Discharge Elimination System (NPDES) permit and to evaluate the operation and maintenance of the plant. An effluent composite sample was collected by Ohio EPA from September 23-24, 2019, to determine compliance with NPDES permit limits. Sample results will be forwarded to you, once they are received.

Findings:

1. At the time of inspection, the discharge was clear and colorless with no noticeable odor as observed from the final outfall at the Vermilion River.

2. The facility has three outstanding milestones that need to be completed. Two Notice of Violation (NOV) letters were sent to the City regarding these outstanding compliance milestones. The City has indicated that it will provide their response for the outstanding milestones by December 31, 2019.

3. During the inspection, it was noted that the backup generator is not started on a regular basis to test its functionality.

4. A review of our current records shows that Tim Cox is listed as the Operator of Record. Our records currently do not list you as an Operator of Record. Our records do list Mr. Baker as the person overseeing the collection system.

5. At the time of the inspection, a storm water pollution prevention plan was not prepared and, therefore, was not able to be reviewed.

6. Also, at the time of the inspection, it was indicated that quarterly storm water inspections of the WPCF grounds were not conducted and that quarterly visual assessments for the storm water discharges from the WPCF's storm sewers were not collected.

7. It was indicated during the laboratory portion of the inspection that a written standard operating procedure (SOP) for cleaning of sampling equipment has not been developed.

Recommendations:

The recommendation(s) set out below are not Orders. The recommendations are offered by Ohio EPA in an effort to provide compliance assistance to your facility.

1. We recommend that you test the WPCF's generator for functionality on a regular basis. In our experience, many WPCFs start and run their backup generators for a minimum of 30 minutes, once per week and also operate their backup generators under load once per month to help ensure proper and reliable operation.

2. We recommend that you submit an updated Operator of Record Notification Form to add you as an Operator of Record. If the City no longer plans to have Tim Cox serve in any Operator of Record capacity for the WPCF, we also recommend that the City request he be removed from our list by submit his name for removal on the Operator of Record Notification Form.

3. In an effort to help you comply with the City's NPDES permit, we recommend that you review Parts IV, V, and VI of the City's NPDES permit and develop the required storm water pollution prevention plan as soon as possible.

4. Also, in an effort to help you comply with the City's NPDES permit, we recommend that you start conducting quarterly storm water inspections of the WPCF grounds and start collecting quarterly visual samples for the storm water discharges from the WPCF.

5. Lastly, we recommend that you create a Standard Operating Procedure (SOP) for cleaning of sampling equipment or that you add a section for cleaning of sampling equipment to your existing SOPs.

If you have any questions or comments concerning the enclosed inspection report, please contact me at 419-373-3022 or e-mail at Justin.Williams@epa.ohio.gov.

Sincerely,

Justin A. Williams
Environmental Specialist II
Compliance and Enforcement
Ohio EPA Division of Surface Water

/jlm
Enclosure
ec: Inspection Tracking

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING						
Permit #	NPDES #	Inspection Type	Sig. Non-Compliance	Inspection Date	Entry Time	Exit Time
OH0023612	2PD00032	CSI	No	9/24/2019	10:50am	2:50pm

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Vermilion WPCF 799 West River Road City of Vermilion, Erie County	12/1/2016 Permit Expiration Date 11/30/2021
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Robert Yost, Wastewater Treatment Plant Superintendent Eugene Baker, Water Treatment Plant Superintendent	(419) 602 – 3344 (440) 320 – 4490
Name and Title of Responsible Official	Phone Number
Robert Yost, Superintendent	(440) 204 – 2455

SECTION C: AREAS EVALUATED DURING INSPECTION		
Evaluated? Y-Yes; N-No	Area Evaluated	Recommendations noted in report? Y – Yes; N – No; N/A – Not Applicable
Y	E. NPDES Compliance	N
Y	F. Operations & Maintenance	Y – See Recommendation #1.
Y	G. Operator Certification	Y – See Recommendation #2,
Y	H. Collection System	N
Y	I. Sludge Management	N
Y	J. Storm Water	Y – See Recommendations #3 and #4.
Y	K. Self-Monitoring Program	N
Y	L. Laboratory	Y – See Recommendation #5.
Y	M. Effluent / Receiving Water Observations	N

Signatures	
Justin A. Williams 09/26/19	Thomas Poffenbarger 9/26/19
Justin A. Williams Date Compliance and Enforcement Division of Surface Water Northwest District Office	Thomas Poffenbarger, P.E. Date Water Quality Engineer II/Unit Supervisor Division of Surface Water Northwest District Office

Compliance Data for Vermilion WPCF between 9/1/2017 and 9/1/2019

Summary

Permit Effluent Limit Violations: 20
Permit Effluent Code Events: 11
Permit Effluent Frequency Violations: 3
Compliance Schedule Milestones Not Entered: 3
Reported SSO Events: 11

Limit Violations						
Reporting Period	**Station**	**Parameter**	**Limit Type**	**Limit**	**Reported Value**	**Violation Date**
September 2017	001	pH	1D Conc	6.5	6.27	9/20/2017
February 2018	001	Mercury, Total (Low Le	30D Conc	2.6	3.48	2/1/2018
May 2018	001	Chlorine, Total Residu	1D Conc	0.02	.85	5/14/2018
May 2018	001	Chlorine, Total Residu	1D Conc	0.02	.5	5/15/2018
August 2018	001	pH	1D Conc	6.5	5.83	8/2/2018
August 2018	001	Chlorine, Total Residu	1D Conc	0.02	1.8	8/2/2018
August 2018	001	pH	1D Conc	6.5	5.79	8/3/2018
August 2018	001	Chlorine, Total Residu	1D Conc	0.02	1.08	8/3/2018
August 2018	001	pH	1D Conc	6.5	6.36	8/4/2018
September 2018	001	Chlorine, Total Residu	1D Conc	0.02	.56	9/17/2018
October 2018	001	Chlorine, Total Residu	1D Conc	0.02	6.1	10/1/2018
February 2019	001	Total Suspended Solids	7D Qty	426	437.007	2/8/2019
April 2019	001	Copper, Total Recovera	30D Conc	16	390.	4/1/2019
April 2019	001	Copper, Total Recovera	30D Qty	0.152	1.92933	4/1/2019
April 2019	001	Copper, Total Recovera	1D Qty	0.247	1.92933	4/9/2019
April 2019	001	Copper, Total Recovera	1D Conc	26	390.	4/9/2019
June 2019	001	E. coli	7D Conc	284	1083.77	6/15/2019
July 2019	001	Chlorine, Total Residu	1D Conc	0.02	.06	7/26/2019
July 2019	001	Chlorine, Total Residu	1D Conc	0.02	.07	7/27/2019
July 2019	001	Chlorine, Total Residu	1D Conc	0.02	.06	7/28/2019

Code Events				
Reporting Period	**Station**	**Parameter**	**Reported Value**	**Event Date**
November 2017	302	Overflow Volume	AD	11/5/2017
November 2017	302	Overflow Volume	AD	11/18/2017
February 2018	601	CBOD 5 day	AD	2/19/2018
February 2018	001	CBOD 5 day	AD	2/19/2018
February 2018	001	Nitrogen, Ammonia (NH3	AD	2/19/2018
February 2018	001	Total Suspended Solids	AD	2/19/2018
February 2018	601	Total Suspended Solids	AD	2/19/2018
March 2018	302	Overflow Volume	AD	3/1/2018
February 2019	001	Dissolved Oxygen	AD	2/19/2019
February 2019	001	Dissolved Oxygen	AD	2/20/2019
February 2019	001	Dissolved Oxygen	AD	2/21/2019

Frequency Violations						
Reporting Period	**Station**	**Parameter**	**Sample Frequency**	**Expected**	**Reported**	**Violation Date**
February 2019	801	Phosphorus, Total (P)	1/Month	1	0	2/1/2019
February 2019	801	Nitrite Plus Nitrate,	1/Month	1	0	2/1/2019
February 2019	001	Nitrogen, Ammonia (NH3	3/Week	3	2	2/15/2019

Compliance Schedule Milestones				
Schedule Due Date	**Completion Date**	**Event Code**	**Schedule Type**	**Schedule Milestone**
December 2019		95999	Other	Status Report
December 2019		95999	Other	Status Report

Vermilion WPCF SSO Events			
Parameter	**Units**	**Date**	**Reported Value**
Overflow Occurrence	No./Month	11/5/2017	3
Overflow Occurrence	No./Month	11/18/2017	2
Overflow Occurrence	No./Month	3/1/2018	2
Overflow Occurrence	No./Month	7/5/2018	1
Overflow Occurrence	No./Month	7/6/2018	1
Overflow Occurrence	No./Month	11/1/2018	1
Overflow Occurrence	No./Month	11/2/2018	1

High Flow Data for Vermilion WPCF between 9/1/2017 and 9/1/2019

Top 10 Flows	
Date	Flows (MGD)
11/18/2017	9.303
3/2/2018	7.153
1/23/2019	6.771
4/20/2019	6.610
11/2/2018	6.544
11/1/2018	6.470
1/24/2019	6.368
5/2/2019	6.072
1/12/2018	5.991
2/12/2019	5.920
Average	1.559

SECTION D: PERMIT VERIFICATION

	Yes	No	N/A
a. Correct name and mailing address of permittee	☒	☐	
b. Correct name and location of receiving waters	☒	☐	
c. Flows and loadings conform with NPDES permit	☒	☐	
d. Treatment processes are as described in permit application	☒	☐	
e. New treatment process added since last inspection	☐	☒	
f. Notification given to State of new, different or increased discharges	☐	☐	☒
g. All discharges are permitted	☒	☐	
h. Number and location of discharge points are as described in permit	☒	☐	☐
i. Are all storm water discharges properly permitted?	☒	☐	
For Industrial Facilities Only			
j. Products and production rates conform with permit application?	☐	☐	☒
k. Do categorical standards apply? If yes, which ones?	N/A		

Comments:

-

SECTION E: COMPLIANCE

See previous page for more compliance information.

	Yes	No	N/A
a. NPDES renewal app submitted 180 days prior to expiration	☐	☒	☐
b. Permittee has a compliance schedule	☒	☐	☐
c. Document containing compliance schedule	NPDES		
d. Permittee is meeting compliance schedule	☐	☒	☐
e. Any bypasses since last inspection	☐	☒	
f. Regulatory agency notified of all bypasses	☐	☐	☒
g. Permittee or representative reporting all noncompliance per Part III of NPDES	☒	☐	☐

Comments:

- **Compliance (d):** Permittee received two notice of violation letters for schedule of compliance. Permittee is working to make submittal of the required documents by December 31, 2019.

SECTION F: OPERATION AND MAINTENANCE

a.	Standby power available	Generator	
b.	Standby power provides power to which treatment components?	Entire plant.	
c.	Which treatment components have alarm system available for power or equipment failures?	SCADA system for major treatment components.	
		Yes	No
d.	All treatment units in service other than backup units	☒	☐
e.	Routine and preventative maintenance scheduled and performed	☒	☐
f.	Any major equipment breakdown since last inspection	☒	☐
g.	Operation and maintenance manual provided and maintained	☒	☐
h.	Any operational problems due to influent quality or quantity since last inspection	☐	☒
i.	Are WWTP operations changed during high-flow events?	☒	☐
j.	Does your facility accept trucked in wastewater, and if so, from what sources?	Septage	

Comments:

- **Operation and Maintenance (e):** Paper logbooks are used for maintenance records.
- **Operation and Maintenance (f):** Belt for screw pumps
- **Operation and Maintenance (i):** Turn up revolution rate of bar screen, take two aeration tanks offline with air on, other two aerations tanks remain online with no air.

SECTION G: OPERATOR CERTIFICATION				
a. Wastewater Treatment Works Classification	III			
	Yes	No	N/A	
b. Operator of Record holds unexpired license of class required by Permit?	☒	☐		
c. Current Operator of Record form submitted?	☐	☒		
d. Copy certificate(s) and renewal card(s) of all professional operators displayed on-site?	☒	☐		
e. Minimum operator staffing requirements fulfilled (OAC 3745-7)	☒	☐		
f. If required (Class A or 1), are daily visits conducted by an owner's representative?	☐	☐	☒	
g. If a Staffing Reduction plan has been approved, are the stipulations of the plan being met?	☐	☐	☒	
h. 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?	☒	☐	☐	
i. Professional Operator of Record logbook provided?	☒	☐		
j. Logbook location	Superintendent's Office			
k. Logbook Format	Hardbound			
l. Has the professional Operator of Record(s) completed their electronic time submission (DMR or other option)?	Yes.			
m. Do the electronic time submissions match the logbook?	N/E.			
Log book contains the following:				
n. Identification of treatment works	☒	☐		
o. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7	☒	☐		
p. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)	☒	☐		
q. Laboratory results (unless documented on bench sheets)	Bench Sheets			
r. Identification of person making entries	☒	☐		

SECTION H: COLLECTION SYSTEM

Collection System Overview

a. Which department oversees collection system operation and maintenance	Distribution/Collection
b. Who is the certified operator serving as the professional Operator of Record for the collection system?	Eugene Baker
c. Professional Operator(s) of Record holds unexpired license of class required by Permit?	Yes, Class II Collection
d. Current Operator of Record form submitted?	Yes.
e. Copy of certificate(s) and renewal card(s) of all professional operators displayed on-site?	Not onsite at WWTP
f. Minimum operator staffing requirements fulfilled (OAC 3745-7)	WC2-101-3490-08 It was indicated during the inspection that daily visits to the collection system are made, but the collection system logbook is kept at the distribution department.
g. Is there a plan for collection system maintenance? If yes, to what extent is this plan being implemented?	Nothing written; as needed cleaning.
h. Were there any major repairs or improvements to collection system since last inspection?	None
i. Name the satellite communities that discharge into your collection system	Portions of Erie County.

Pumps and Force Mains

a. How many lift stations are within the collection system?	11
b. How many lift stations have alarms?	11
c. How many lift stations are equipped with permanent standby power or equivalent?	11

Continued... SECTION H: COLLECTION SYSTEM

Capacity / SSOs / I&I / WIB	Yes	No
a. Are portable pumps used to relieve the system?	☒	☐
b. Any complaints received since last inspection of basement flooding?	☐	☒
c. Have there been any SSOs since the last inspection?	☒	☐
d. What progress has been made in SSO elimination if applicable?	Identify problem areas and work to correct/eliminate.	
e. Are any portions of the sewer system at or near dry weather capacity? If yes, describe plans.	None.	
f. Is there an inflow and infiltration reduction plan being followed? If yes, describe plans.	Drafting plan at this time. Monitoring sewers to find excess flow.	

Combined Sewer System	Yes	No
a. Does the collection system include combined sewers?	☐	☒
Skip following questions if there are no combined sewers		
b. Are all CSOs included in your NPDES permit? If not, explain.		
c. What is the status of the LTCP implementation?		
d. If there is no LTCP, what is the status of preparation of the LTCP?		

SECTION I: SLUDGE MANAGEMENT

a. Date of last sludge inspection	September 15, 2015
b. Sludge disposal method	Haul to Mixed
c. Name of sludge disposal contractor	Midwest Compost
d. How many days of sludge storage are provided at plant?	Approximately 40 to 50 days

	Yes	No
e. Has amount of sludge generated changed significantly since last inspection?	☐	☒
f. Sludge records maintained for a minimum of 5 years?	☒	☐
g. Any complaints received last year regarding sludge	☐	☒
h. Is sludge adequately processed (digestion, pathogen control)	☒	☐
i. Is inadequate sludge handling causing operational problems?	☐	☒

Comments:

SECTION J: STORM WATER PROGRAM - POTW

POTW Part IV, V, VI	Yes	No	N/A
a. Is design flow > 1 MGD or is facility required to have a pretreatment program?	☒	☐	
b. Are industrial materials and activities exposed to storm water?	☒	☐	
If yes			
i. Does permit contain Parts IV, V and VI, or	☒	☐	☐
ii. Does facility have coverage under general NPDES permit for storm water associated with industrial activity?	☐	☒	☐
If no			
i. NOE submitted within last 5 years?	☐	☐	☒
ii. Does facility meet NOE requirements? (See guidance)	☐	☐	☒

Storm Water Pollution Prevention Plan (SWP3) – N/O	Yes	No	N/A
a. Certification statement signed & dated since most recent modification	☐	☐	
b. List current Pollution Prevention team, w/ names & SWP3 responsibilities	☐	☐	
c. Description of pollutant sources (including as applicable):	☐	☐	
i. Grit, screenings, and other solids handing, storage, or disposal areas	☐	☐	
ii. Sludge drying beds	☐	☐	

iii. Dried sludge piles	☐	☐	
iv. Compost piles	☐	☐	
v. Septage or hauled waste receiving station	☐	☐	
vi. Access roads and rail lines	☐	☐	
d. Site map current with size of property, location and extent of significant structures and impervious surfaces, drainage patterns, storm sewers/catch basins/outfalls, receiving waters, BMPs, pollutant sources, locations of significant spills/leaks, material handling & storage areas, storm water monitoring locations and location of non-storm water discharges marked?	☐	☐	
i. Storm water outfalls should be numbered (001, 002, etc.).	☐	☐	
ii. Must show location of grit, screenings and other solids handling, storage or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides and pesticides	☐	☐	
e. Inventory of all exposed materials	☐	☐	
f. List of spills and leaks	☐	☐	
g. Description of control measures, schedules, and procedures	☐	☐	
i. Minimize Exposure	☐	☐	
ii. Salt piles covered or enclosed	☐	☐	☐
iii. BMPs for material transfer areas minimize exposure	☐	☐	☐
iv. Dumpsters/roll-offs covered and/or leak proof	☐	☐	☐
v. Good Housekeeping	☐	☐	
vi. Materials orderly and labeled	☐	☐	
vii. Exposed areas clean	☐	☐	
viii. Minimize dust & offsite tracking	☐	☐	
ix. Controls for Waste, Garbage & Floatable Debris	☐	☐	
x. Permanent (Post-Construction) Storm Water Management Practices	☐	☐	
xi. Sediment & Erosion Controls	☐	☐	
i. Any areas of bare soil or sparse vegetation	☐	☐	
ii. Flow dissipation devices at outfalls and along channels	☐	☐	
xii. Spill Prevention and Response	☐	☐	

i. Traffic barriers/Secondary containment/Emergency shutoff switch	☐	☐	
ii. Spill response supplies & ER Hotline Number (1-800-282-9378) readily accessible and available?	☐	☐	
h. All equipment and controls maintained and repaired (including catch basins & storm sewer)	☐	☐	
i. Runoff Management: Has BMPs to divert, infiltrate, reuse, or otherwise reduce runoff	☐	☐	
j. Annual Employee Training records includes			
i. petroleum product management,	☐	☐	☐
ii. process chemical management	☐	☐	☐
iii. spill prevention and controls,	☐	☐	☐
iv. fueling procedures	☐	☐	☐
v. general good housekeeping practices	☐	☐	☐
vi. proper procedures for using fertilizer, herbicides and pesticides	☐	☐	☐
vii. Names	☐	☐	
k. Non-storm water discharge evaluation (Must include a description of how equipment and vehicle washwater is managed. Discharges of sanitary and industrial wastewater and equipment vehicle washwater from the storm water conveyance system are prohibited.			

POTW Storm Water Inspections – N/O	Yes	No	N/A
a. Routine facility inspections conducted quarterly?	☐	☐	
b. Quarterly visual assessment of storm water discharge conducted?	☐	☐	☐
i. Samples taken within first 30 minutes of discharge from storm event with 72-hour or greater antecedent dry period?	☐	☐	☐
ii. If claiming substantially identical outfalls, is that accurate?	☐	☐	☐
c. Comprehensive site inspection conducted annually?	☐	☐	☐
i. Annual report completed?	☐	☐	☐

SECTION K: SELF-MONITORING PROGRAM

Flow Measurement	Yes	No
a. Actual flow discharged is measured?	☒	☐
b. Flow measurement equipment adequate to handle full range of flows – adequate to 10 MGD	☒	☐
c. Is the primary flow measuring device calibrated at least annually or in accordance with manufacturers specifications	☒	☐
d. Date of last calibration	March 2019	
e. Who calibrates the flow measuring device?	Control Associates	
f. Frequency of calibration	Yearly	
g. How often is the flow measuring device checked for functionality?	Daily	

Sampling, Monitoring, and Records	Yes	No	N/A
a. Secondary instruments operated and maintained – SCADA totalizer	☒	☐	
b. Sampling location(s) are as specified by permit	☒	☐	
c. Sampling frequency agree with permit (look at compliance table for frequency violations or missing DMRs)	☒	☐	
d. Are proper sampling methods used (i.e. Oil & Grease collected in a glass container)	☒	☐	
e. Are the proper sampling types used (i.e., Grab, Composite, Flow proportionate, etc.)	☒	☐	
f. Are the field parameters (pH, DO, total residual chlorine, temperature) measured within 15 minutes of collection?	☒	☐	☐
g. 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)	☒	☐	

Comments:

- **Sampling, Monitoring, and Records (c):** Three frequency violations noted.

SECTION L: LABORATORY

In-House Sampling;

Parameter	Analytical testing methods used
Temp, DO, pH, TRC, TSS, NH3,	N/E
E. Coli, CBOD5	

	Yes	No	N/A
a. Quality assurance manual provided and maintained?	☒	☐	
b. Does quality assurance manual contain SOPs for all sampling and analyses conducted on site?	☒	☐	
c. If alternate procedures are used, are they U.S. EPA approved?	☐	☐	☒
d. Are permit required parameters analyzed more frequently than required by the permit?	☒	☐	
i. If yes, are results recorded in permittee's e-DMR report?	☐	☒	☐

Commercial Laboratory Sampling:

Laboratory Name: J&H (low lever mercury only); Alloway (all others)

Parameter	Analytical testing methods used
All others	N/E

Quality Assurance and Quality Control	Yes	No	N/A
a. Does the lab participate in DMRQA or other QC programs?	☒	☐	
b. Has corrective action been taken for any parameters found unsatisfactory in the last DMRQA or water Pollution Studies?	☒	☐	☐
i. Date of last study:	August 2019		
ii. Parameters found unsatisfactory:	CBOD 5-day		
c. Has a Performance Audit Inspection (PAI) been conducted by Ohio EPA, Division of Environmental Services since the last inspection?	☐	☒	
i. If yes; have the recommendations from that PAI been implemented?	☐	☐	☒

SECTION M: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Odor
001	Y	N	N	N	N	N	N	N

Comments:

Form Approved

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

OMB No. 158-R0035

RATING CODES: S = Satisfactory; **U** = Unsatisfactory; **M** = Marginal; **IN** = In Operation; **OUT** = Out of Operation; **NE**=Not evaluated

CONDITION OR APPEARANCE		RATING	COMMENTS
General	Grounds	S	
	Buildings	S	
	Potable Water Supply Protection	IN	Backflow preventors. Inspected by Gross Brothers Plumbing
	Safety Features	IN	Fence.
	Bypasses	NA	
	Storm Water Overflows	IN	Four storm drains within WWTP fence. Two separate outfalls.
	Alternate Power Source	IN	Not tested. Recommend testing weekly or monthly.
Preliminary	Maintenance of Collection Systems	S	See collection system portion of this report.
	Pump Station	IN	Two screw pumps; one in service, one on standby.
	Ventilation	S	Open to atmosphere.
	Fine Screen	IN	One unit. ¼ inch screen size.
	Bar Screen	IN	On standby; used when fine screen is taken offline.
	Disposal of Screenings	S	Landfill.
	Chemical Addition	NA	
	Grit Chamber	IN	Aerated grit channel with bucket grit removal system.
	Disposal of Grit	S	Landfill.
	Septage Receiving	IN	Septage enters WWTP just upstream of fine screen.
Primary	Settling Tanks	IN	Three units; two in service, one out for drive replacement.
	Scum Removal	IN	
	Sludge Removal	IN	
	Chemical Addition	IN	Ferrous chlorine; one pumping unit.
	Primary Clarifier Effluent	S	Mostly clear and colorless with no noticeable odor.
Secondary-Tertiary	Aeration Tanks	IN	Four units; all in service, fine bubble aeration, red-brown tint
	Blowers	IN	Four units; two big, two small, one big and one small in service.
	Pre-aeration Chamber (Settled)	NA	
	RAS Chamber	NA	
	Final Clarifiers	IN	Six units; four in service, two out for drive gear replacement
	Final Clarifier Effluent	S	Clear and colorless with no noticeable odor.
	Nitrification Towers	NA	
Disinfection	Disinfection System	IN	Sodium hypochlorite.
	Effective Dose	NE	
	Contact Time	S	One hour or more.
	Contact Tank	IN	Serpentine tank, clear contents.
	Dechlorination	IN	Sodium bisulfite.
	Step Aeration	IN	
	Final Effluent	S	Clear and colorless with no noticeable odor.

CONDITION OR APPEARANCE		RATING	COMMENTS
Sludge Disposal	Anaerobic Digesters	IN	Two units; primary and secondary
	Temperature and pH	NA	
	Gas Production	NA	No gas production used.
	Heating Equipment	OUT	Used to heat the building; natural gas only, no digester gas
	Sludge Pumps	IN	Two digester feed pumps, one polymer feed pump, one Centrifuge feed pump, two transfer pumps, and two recirculation pumps.
	Sludge Comminutor	IN	Two units; one for centrifuge, one for recirculation.
	Centrifuge	IN	One unit.
	Sludge Storage Tanks	NA	
	Belt Presses	NA	
	Chemical Addition	IN	Polymer (flocculant).
	Windrow Building	NA	
	Disposal of Sludge	S	Landfill.
Other	Flow Meter and Recorder	IN	Ultrasonic.
	Records	NE	
	Lab Controls	S	See laboratory section of this report.
	Automatic Samplers	IN	Influent and effluent sampling units.

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NWDO 1/08

Compliance Sampling Inspection – Sampling Procedures

Grab Sample	Yes	No	N/A
Grab Sample Taken	☒	☐	
Chain of custody employed	☒	☐	☐
Sample split with permittee	☐	☒	☐
Preservation and Handling			
No Preservation – Various including CBOD5, TDS, TSS	☒	☐	☐
Nitric Acid (HNO_3) – Metals	☐	☒	☐
Sulfuric Acid (H_2SO_4) – TOC, COD, NO_3, NH_3, TKN, TP, etc.	☒	☐	☐
Hydrochloric Acid (HCL) - VOCs	☐	☒	☐
Sodium Hydroxide (NaOH) - Cyanide	☒	☐	☐

Composite Sample	Yes	No	N/A
Composite Sample Taken	☒	☐	
Chain of custody employed	☒	☐	☐
Sample split with permittee	☐	☒	☐
Sample refrigerated during compositing Ice	☒	☐	☐
Automatic Sampler Used	☒	☐	☐
Flow proportioned sample obtained	☐	☒	☐
If not flow proportioned, what is the compositing frequency?	**200ml/15min/24hrs**		
Preservation and Handling			
No Preservation – Various including CBOD5, TDS, TSS	☒	☐	☐
Nitric Acid (HNO_3) – Metals	☒	☐	☐
Sulfuric Acid (H_2SO_4) – TOC, COD, NO_3, NH_3, TKN, TP, etc.	☒	☐	☐
Hydrochloric Acid (HCL) - VOCs	☐	☒	☐
Sodium Hydroxide (NaOH) - Cyanide	☐	☒	☐

Facility Sampling Device Sample	Yes	No	N/A
Sample Taken	☐	☒	
Chain of custody employed	☐	☐	☒
Preservation and Handling			
No Preservation – Various including CBOD5, TDS, TSS	☐	☐	☒
Nitric Acid (HNO_3) – Metals	☐	☐	☒
Sulfuric Acid (H_2SO_4) – TOC, COD, NO_3, NH_3, TKN, TP, etc.	☐	☐	☒
Hydrochloric Acid (HCL) - VOCs	☐	☐	☒
Sodium Hydroxide (NaOH) - Cyanide	☐	☐	☒

Sample representative of volume and nature of discharge? – **Yes**

Comments:

Criteria	Standard Methods Requirement			Rating
Balance		Acceptable?		
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights [1,2]	☐ Yes	☐ No	NR
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used.[3]	☐ Yes	☐ No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum[1]	☐ Yes	☐ No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable)[1]	☐ Yes	☒ No	
	• Must be able to measure to 0.1 milligrams[4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
	• Logbook maintained[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Drying Oven (Suspended Solids)		Acceptable?		
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☐ Yes	☐ No	NR
	• Logbook maintained[2]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1,2]. Correction factor posted on thermometer / equipment[1]	☐ Yes	☐ No	
• Other	• Thermometer temperature in 0.5° C increments[5]	☐ Yes	☐ No	
	• Acceptable temperature range is 103° – 105° C [4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH 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]	☒ Yes	☐ No	**A**
	• Logbook maintained[2]	☒ Yes	☐ No	
• Minimum of 2-point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result[7]	☒ Yes	☐ No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet[2]	☒ Yes	☐ No	
• Buffer Expiration Date	• Buffers must not be expired	☒ Yes	☐ No	
• Other	• Instrument manual available	☒ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[8]	☒ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Dissolved Oxygen Meter				
• Calibration Method	• Air or known DO calibration method[10]	☐ Yes	☐ No	**NR**
	• Calibration per manufacturer specification[10]	☐ Yes	☐ No	
• Calibration Frequency / Documentation	• Logbook maintained[2]	☐ Yes	☐ No	
	• Calibration verification required at least once each day the meter is used.[3]	☐ Yes	☐ No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)[11]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

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)	☐ Yes	☐ No	NR
	• Temperature checked / recorded daily[2] (CBOD)			
	• Acceptable temperature range (CBOD) is 20° C ±1.0 °[12]	☐ Yes	☐ No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5 °[22]	☐ Yes	☐ No	
	• Logbook maintained [2]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
	• Temperature correction information posted on incubator[1]	☐ Yes	☐ 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]	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Temperature Log (thermometer reads to 0.5 Celsius).[1]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Refrigerator		Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.5 Celsius).[5]	☐ Yes	☐ No	NR
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
• Other	• Thermometer held in water bath. [1]	☐ Yes	☐ No	
	• Refrigerator temperature ≤6° Celsius.[13]	☐ Yes	☐ No	
	• Do not store volatile solvents, food, or beverages.[14]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Chlorine Meter		Acceptable?		
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV[15]	☐ Yes	☐ No	**NR**
	• 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]	☐ Yes	☐ No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification[16]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Logbook being maintained.[2]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Ammonia Meter		Acceptable?		
• 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]	☐ Yes	☐ No	**NR**
	• Logbook being maintained[2]	☐ Yes	☐ No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	☐ Yes	☐ 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]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[18]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Sample Collection/Handling		Acceptable?		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed).[19]	☒ Yes	☐ No	A
• Chain of Custody	• Chain of custody (description, date, time, signature).[19]	☒ Yes	☐ No	
• Other	• Composite samples refrigerated during sample collection[14]	☒ Yes	☐ No	
	• Equipment blanks utilized[14]	☒ Yes	☐ No	
	• SOP for cleaning of sampling equipment	☐ Yes	☒ No	
	• Logbook being maintained[2]	☒ Yes	☐ No	
Comments: We recommend that you create an SOP for cleaning of sampling equipment or that you add a section for cleaning of sampling equipment to your existing SOPs.				

Criteria	Standard Methods Requirement			Rating
Desiccator		Acceptable?		
• General criteria	• Properly working seals.	☐ Yes	☐ No	NR
	• Desiccant fresh (blue color)	☐ Yes	☐ No	
• Documentation	• Logbook being maintained[2]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Bench sheets		Acceptable?		
• General criteria	• Date(s)[2]	☒ Yes	☐ No	A
	• Analyst initials[2]	☒ Yes	☐ No	
	• Blue or black ink pen[2]	☒ Yes	☐ No	
	• Calibration information[2]	☒ Yes	☐ No	
	• Equations, calculations, units for all measurements, notations, and results present[2]	☒ Yes	☐ No	
	• Corrections, single line through, initialed and dated[2]	☒ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Hot Water Bath (Fecal Coliform/E. Coli)		Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer reads 0.2° C)[21]	☐ Yes	☐ No	**NR**
	• Incubator temperature 44.5° C ± 0.2° [21/24]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
	• Logbook being maintained [2]	☐ Yes	☐ No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) [1, 5]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Autoclaves/Steam Sterilizers		Acceptable?		
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C [25]	☐ Yes	☐ No	**NR**
	• 10 to 30 minutes time based on material being sterilized[26]	☐ Yes	☐ 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]	☐ Yes	☐ 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]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Logbook being maintained [2]	☐ Yes	☐ No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available *Geobacillus stearothermophilus* in spore strips, suspensions, or capsules [1]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Final Effluent Temperature Monitoring		Acceptable?		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	**NR**
	• Thermometer scaled to 0.1° C and accurate to 0.5 ° C [5]	☐ Yes	☐ No	
	• Logbook being maintained [2]	☐ Yes	☐ No	
Comments:				

Number of Criteria Rated:	**Acceptable**	3
	Marginal	0
	Unacceptable	0
	Total Number of Areas Rated	3

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

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

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

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-Cl I, Item 2
3	Method 1020-B, Item 10	16	Method 4500-Cl 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.

Approved Standard Methods	
CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 D
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G
Total Suspended Solids, Dried at 103-105 °C	Std Methods 2540-D
Dissolved Oxygen, Membrane Electrode Method	Std Method 4500-O G
pH, Electrometric Method	Std Methods 4500-H+ B
Orthophosphate	Std Methods 4500-P E or F and USEPA 365.1 Rev 2.0.
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

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 ≤6° C	6h	48h
TSS	P, G	200	G, C	Refrigerate ≤6° C	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH3-N	P, G	500	G, C	Analyze as soon as possible or add H_2SO_4 to pH <2, Refrigerate ≤6° C	7 d	28 d
Ortho-phosphate	P,G	50	G	Filter using 0.45 micron filter. Refrigerate ≤4°	48 h	48 h
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 ≤6° C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° 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_2SO_4 to pH <2, Refrigerate ≤6° C	28 d	28 d

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

December 29, 2020

Transmitted Electronically

Mr. Robert Yost
Vermilion Wastewater Treatment Plant
5511 Liberty Avenue
Vermilion, Ohio 44089

Re: Vermilion WWTP
Notice of Violation (NOV)
NOV
NPDES
Erie County
2PD00032

Subject: Notice of Violation/Resolution of Violation

Dear Mr. Yost:

Thank you for the City of Vermilion's December 21, 2020, response, through Mr. Eugene Baker, to Ohio EPA's December 4, 2020, desktop compliance review regarding the City of Vermilion's Schedule of Compliance in your National Pollutant Discharge Elimination System (NPDES) permit. The documentation Mr. Baker submitted included the missing update response as required by the City's Schedule of Compliance.

I have reviewed the documentation that you provided and have determined that the City of Vermilion has now resolved the missing report update violation discovered during the December 4, 2020, desktop compliance review. To ensure that all the violations have been addressed, I have included the City of Vermilion's response for each violation and its status.

Resolution of Violation:

1. **ORC 6111.07(A):** No person shall violate or fail to perform any duty imposed by sections 6111.01 to 6111.08 of the Revised Code or violate any order, rule, or term or condition of a permit issued or adopted by the director of environmental protection pursuant to those sections. Each day of violation is a separate offense.
   NPDES Part 1. C: Schedule of Compliance
   NPDES Part III 12.: Notification for failure to meet Schedule of Compliance
   If the permittee is unable to meet any date for achieving an event, as specified in a schedule of compliance in their permit, the permittee shall submit a written report to the appropriate Ohio EPA district office within fourteen (14) days of becoming aware of such a situation.

   a. **Violation Description:** You have failed to comply with the following milestones: No Feasible Alternatives Analysis and Schedule 5.e.ii.

b. **Additional Information:** The City's response to Item 5.e.ii was due December 1, 2019. The City's response was received on December 21, 2020.
c. **Requested Action:** Within 30 days of the date of this letter, submit an NPDES permit modification request to modify the current schedule of compliance for the No Feasible Alternatives Analysis and Schedule. The modification request will need to contain a timeframe for submittal of the final No Feasible Alternatives Analysis report.

On December 21, 2020, Ohio EPA received the City of Vermilion's response that provided the missing report update. Therefore, this violation has been resolved. Although this specific violation is considered resolved, the City of Vermilion still needs to complete the above requested action within 30 days of the date of this letter.

Please note that this does not preclude the Director from seeking administrative or civil penalties pursuant to Ohio Revised Code (ORC) Section 6111 for the violation(s) noted in the December 4, 2020, desktop review. The decision on whether to pursue or decline to pursue such penalties regarding these violations is dependent on several factors, one of which is the company's future compliance with Ohio EPA regulatory requirements.

Should you have any questions, please contact me at 419-373-3022 or by e-mail at Justin.Williams@epa.ohio.gov .

Sincerely,

Justin A. Williams

Justin A. Williams
Environmental Specialist II
Compliance and Enforcement
Ohio EPA Division of Surface Water

/jlm
ec: Robert Yost, WWTP Superintendent
Eugene Baker, WTP Superintendent
Scott Sheerin, DSW, CO
Thomas Poffenbarger, P.E., DSW-NWDO
Tracking

December 17, 2020

Justin A. Williams

Environmental Specialist II

Ohio EPA - Division of Surface Water

Northwest District Office

347 N. Dunbridge Road

Bowling Green, OH 43402

RE: City of Vermilion Feasible Alternatives Analysis Update

We are currently working on creating inventories for our lift stations. These inventories will contain all pertinent information about each lift station regarding: Structure, plumbing, pumps, controls, pump around, backup power, spare parts, etc.

We have installed flow monitors in manholes to try to locate the most problematic areas of I & I. Flow meters that were installed at Edgewater at the Woodside intersection, Ferndale at the Liberty intersection, Woodside at the Liberty intersection, Hazelwood at the Liberty intersection, Niagara Road at the manhole south of Edgewater Drive in the intersection, Elberta Drive at the Edgewater Drive intersection, Erie Road at the Edgewater Drive intersection, and Morton Road at the Edgewater Drive intersection.

The City hired Great Lakes Pipeline Services to perform a Sanitary Sewer Mainline and Lateral CCTV Inspection for the following streets: Rowland Road, Aldrich Road, Cummings Road, and Overlook Road. Based on their evaluation of the camera work, there are concerns with the laterals as a lot of them have separations and root balls.

Cost estimates, for the following streets are based on record information and available county aerials. Costs assume a 10 percent construction contingency.

Rowland Road – 40' right of way – 10 laterals Estimated Costs: Work inside ROW - $48,700; Work outside ROW - $30,300

Aldrich Road – 40' right of way – 33 laterals Estimated Costs: Work inside ROW - $98,000; Work outside ROW - $103,000

Cummings Road – 40' right of way – 36 laterals Estimated Costs: Work inside ROW - $115,000; Work outside ROW - $78,000

Overlook Road – 50' right of way – 26 laterals Estimated Costs: Work inside ROW - $106,500; Work outside ROW - $64,000

Council is considering which streets to repair, how far to go with the repair (to the right of way or to the home), and how to pay for the work.

Some manholes should be replaced or made watertight. Some have holes in the lids.

We are in the middle of conducting a thorough and complete analysis of our wastewater treatment plant. Avetin Engineering is evaluating the cost to rehabilitate our existing plant compared to building a new plant or a mixture of the two. The evaluation and getting a cost analysis of the various options is tentatively expected to take until the end of 2021.

We are almost finished with the installation of a new SCADA program and computer at the Vermilion Water Plant. We are now getting proposals to purchase a new SCADA system for the Wastewater Plant and an upgrade of the alarms at the lift stations. We hope that the systems can serve either plant and create redundancy.

We are looking into the possibility of using the old generator from the Romps lift station for use at the Park Dr. lift station.

After discussing the possibility of river infiltration, we are going to investigate the areas where that could possibly happen here. We have some river crossings and other piping that is below river level. We will check these for signs of infiltration.

Respectfully,

Robert Yost and Eugene Baker

THE CITY OF VERMILION

James Forthofer, Mayor

January 28, 2021

Mr. Justin A. Williams
Environmental Specialist II
Compliance and Enforcement
Northwest District Office
347 North Dunbridge Rd.
Bowling Green, OH 43402

Dear Mr. Williams:

Subject: Response to Notice of Violation/Resolution of Violation

We received your Notice of Violation letter, dated December 29, 2020. Per the Requested Action of the Resolution of Violation, I am sending you this letter to request an NPDES permit modification to modify the current schedule of compliance for the No Feasible Alternatives Analysis and Schedule. The modification request will need to contain a timeframe for submittal of the final No Feasible Alternatives Analysis report.

The City of Vermilion requests that Vermilion Wastewater Treatment Plant submit a report containing the comprehensive analysis required in Item 5.a of the current NPDES permit. (2PD00032, Event Code 15099) no later than May 1, 2022.

Should you have any questions, please contact me at 440-204-2455 or by e-mail at robertyost@vermilion.net.

Sincerely,

Robert Yost

Rob Yost

Superintendent
Vermilion WWTP

ec: Tony Valerius, Director of Public Service
Eugene Baker, WTP Superintendent

Copy

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

February 9, 2021

Transmitted Electronically

Re: Vermilion WWTP
Notice of Violation
NPDES
Erie County
2PD00032

Mr. Robert Yost, WWTP Superintendent
City of Vermilion
5511 Liberty Avenue
Vermilion, Ohio 44089

Dear Mr. Yost:

This letter is in regards to the City of Vermilion's Notice of Violation letter response submitted to our office via email on January 28, 2021. In that response letter, the City requests an NPDES permit modification to change the submittal date for the City's No Feasible Alternatives (NFA) analysis to May 1, 2022. At this time Ohio EPA accepts the City's request to modify the NFA analysis submittal date to May 1, 2022. The City will need to submit a complete NPDES permit modification request **within 30 days** of the date of this letter. The NPDES permit modification request will need to request that the date for the NFA analysis submittal be changed to May 1, 2022, and will also need to include a new date for the completion of all necessary work identified in the NFA analysis. The final completion date should not extend past four years from the date of the NFA analysis submittal.

If you have any questions regarding this letter, please contact me at (419) 373-3022 or at justin.williams@epa.ohio.gov.

Sincerely,

Justin A. Williams

Justin A. Williams
Environmental Specialist II
Division of Surface Water

/bnb

ec: Robert Yost, WWTP Superintendent
Eugene Baker, WTP/Collection System Superintendent
Scott Sheerin, DSW-CO
Thomas Poffenbarger, P.E., DSW-NWDO
eDoc

NPDES Permit Holder or Sewer Authority Name:	Vermilion WPCF
Initial Plan: 2020☐ Annual Report: 2021 Date Initial Plan Submitted: 03/ 01/ 2021	
Report Date: 03/ 01/ 2021 Period Covered by this Report: 01/ 01/ 2020 – 12/31/2020	

Mercury PMP Report Attachments

- ☐ I. Mercury PMP Summary of Resources
- ☐ II. Mercury PMP Summary of Treatment Plant Analytical Mercury Data
- ☐ III. Medical Facility Inventory and Compliance Evaluation
- ☐ IV. Dental Facility Inventory and Compliance Evaluation
- ☐ V. School and Educational Facility Inventory and Compliance Evaluation
- ☐ VI. Industry Inventory and Compliance Evaluation
- ☐ VII. POTWs Summary of PMP Effectiveness

Name of Treatment Plant	NPDES Permit Number	Mercury Effluent Limit (ng/l)
City of Vermilion Water Pollution Control	2PD00032*MD	12ng/l

Person to contact concerning information contained in this report

Name: Robert T. Yost

Title: Superintendent

Mailing Address: 5511 Liberty Ave.

City: Vermilion State: Ohio Zip Code: 44089

Telephone: (419) 204-2455 Fax: ( )

E-mail: robertyost@vermilion.net

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of the individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

Date: 03/ 01/ 2021 Title of Official: Superintendent

Name of Official: Robert T. Yost

Signature of Official: Robert T. Yost

Person(s) implementing PMP	Title
Robert T. Yost	Superintendent WPC

Are there any anticipated changes in treatment plant resources that would significantly change program hours or costs during the subsequent year, such as involving or hiring more personnel, purchasing equipment to implement the pollutant minimization program, or conducting compliance monitoring? ☐ Yes (explain below) X☐ No

No

Ohio EPA encourages collaboration on mercury reduction activities. Did any other municipal departments, county agencies, non-profit organizations or other municipalities help implement part of your mercury reduction program?
☐ Yes (explain below) X☐ No

No

Ohio EPA requires a program for collecting mercury from the permitee's sewer system. List all available options for recycling mercury including household hazardous waste centers, clean sweep events and collection events hosted by the POTW.

Recycling Option	Partner	Frequency of Availability
Curbside Recycling	City of Vermilion	Weekly
Hazardous Waste Materials	Lorain Co. Solids Waste Dist.	Weekly

Influent		Effluent		Biosolids	
Date	Concentration (ng/L)	Date	Concentration (ng/L)	Date	Concentration mg/kg
01/06/2020	36.7	01/06/2020	< 0.5		
02/03/2020	413	02/03/2020	0.564		
03/09/2020	161	03/09/2020	0.618		
04/03/2020	20.4	04/03/2020	1.13		
05/06/2020	29.5	05/06/2020	0.588		
06/02/2020	9.16	06/02/2020	0.566		
07/07/2020	44.6	07/07/2020	1.35		
08/07/2020	27.1	08/07/2020	< 0.5		
09/02/2020	27.4	09/02/2020	< 0.5		
10/07/2020	23.8	10/07/2020	0.725		
11/05/2020	74.1	11/05/2020	2.71		
12/10/2020	57.7	12/10/2020	< 0.5		
Average	77.03	Average	0.85	Average	
Test Method	EPA 1631 E	Test Method	EPA 1631 E	Test Method	
Average from 1 year ago	163.25	Average from 1 year ago	0.88	Average from 1 year ago	0.00
Average from 2 years ago	45.28	Average from 2 years ago	0.91	Average from 2 years ago	0.00
Average from 3 years ago	120.27	Average from 3 years ago	1.16	Average from 3 years ago	0.00

Laboratory doing the wastewater analysis:	JONES & HENRY NORTHWOOD, OHIO
Laboratory doing the biosolids analysis:	Landfill disposal / percent solids recorded by wpc lab.

Is there a numerical or narrative mercury limit in your sewer use ordinance? ☐ Yes X☐ No

If yes, what is it? The City of Vermilion does not have an industrial Pre-Treatment Program.

Copy

City of Vermilion
Water Pollution Control
799 W. River Road
Vermilion, Ohio

12/02/20

Ohio EPA NW District
Division of Surface Water
Attention: Mr. Jason Williams

Re: City of Vermilion NPDES Permit 2PD00032*MD

Ammonia-Nitrogen Reduction Evaluation

Dear Mr. Williams,

I have gathered the Ammonia-Nitrogen numbers for the years 2018, 2019, and 2020. These results reflect the months from May to October. In July 2020, we had a monthly average of 5.945, exceeding our discharge limit of 5.8. Recently, we have discovered an air leak from the main header that supplies air to our aeration tanks, grit channel and to our air lifts, which provide for Return Activated Sludge and Waste Activated Sludge. The air leak is evident where the main header enters the ground and I surmise that the leak would be the main cause of our recent higher than normal NH3 numbers. We are planning on locating this leak very soon.

The City of Vermilion has hired Dr. Gibson Chen, owner/president of Avetin Engineering, for a price not to exceed $45,000 for a feasibility study. This study will focus on the rehabilitation of our existing plant and/or the possibility of constructing a new plant. The study is officially under way and the needs of improvement are going to be addressed. Thank You.

Robert T. Yost

Superintendent

City of Vermilion WPCF

Robert Yost

City of Vermilion

Water Pollution Control

799 W. River Road

Vermilion, Ohio

Ammonia-Nitrogen Reduction Evaluation

2018		2019		2020	
May	0.775	May	2.690	May	1.33
June	0.403	June	1.500	June	1.500
July	0.355	July	2.680	July	5.945
August	2.030	August	1.750	August	2.448
September	0.694	September	1.038	September	2.032
October	1.120	October	0.790	October	3.200

Sanitary Sewer Overflow Annual Report

Division of Surface Water

Date:	3/23/17
Facility name:	Vermilion WPCF
Ohio NPDES permit no.:	2PD00032*MD
Period covered by report:	2016

2016

Contact person

Name:	Randal Ohly
Title:	Supt
Mailing address:	799 W. River Rd. Vermilion O. 44089
Telephone:	(440)204 - 2455
Email:	RandalOhly@Vermilion.net

Certification:

I certify under penalty of law that I have personally examined and am familiar with the information in this report and all attachments. Based on my inquiry of those persons immediately for obtaining the information contained in the report, I believe that the information is true, accurate, and complete.

Name (typed): Randal Ohly **Title:** Superintendent

Signature: _____ **Date:** _____

SSO Annual Report Table 1: SSO Identification		Ohio NPDES Permit No.: 3	
Identification No.[A]	Location Description	Receiving Water[B]	Eliminated[C]
301	Romps	river	06/15/ 2016
302	Elberta	lake	
305	Vol (Vermilion on The Lake)l	lake	
307	Vol	manhole	
308	Vol	manhole	

A. Assign each SSO location a unique identification by numbering them consecutively, beginning with 301.
B. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)." If an SSO does not reach a receiving water, enter (None".
C. If an SSO has been eliminated, enter the date of elimination (MM/DD/YY).

Use additional pages as needed.

SSO Annual Report Table 2: SSO Event Information		Ohio NPDES Permit No.: 2PD00032*MD	
Date[A]	Identification No.[B]	Receiving Water[C]	Volume[D]
03/11/16	301	river	AD various
03/14/16	302	lake	AD variousv
03/14/16	305	lake	AD various
03/14/16	307	manhole	AD various
03/14/16	308	manhole	AD various
04/07/16	302	lake	AD various
03/01/16	301	river	AD various
03/01/16	302	lake	AD various
04/01/16	302	lake	AD various
05/01/16	302	lake	AD various

A. Enter date as "MM/DD/YY". Enter "Various" to summarize overflows of less than 1000 gallons from an SSO location
B. Enter the unique identification assigned in Table 1.
C. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)." If an SSO does not reach a receiving water, enter "None".
D. Enter estimate of volume in MG (million gallons). Enter estimate of total volume if summarizing data.

Use additional pages as needed.

SSO Annual Report Table 3: Water in Basement Occurrences	Ohio NPDES Permit No.: 2PD00032*MD

Sewershed[A]	WIB Occurrences[B]	Causes[C]
Total Occurrences		

A. A sewershed is a specific geographic area, such as a city block or a subdivision, that drains to a common outlet.
B. Enter the total number of water in basement occurrences report for the sewershed.
C. Enter all causes that apply: W = extreme weather; E = equipment failure; P = power failure; D = debris in line; R = roots; G = grease; B = other blockages; L = Line deterioration; V = vandalism; O = other, prove details.

Use additional pages as needed.

SSO Annual Report: Water in Basement Narratives	Ohio NPDES Permit No.: 2PD00032

Enter narrative analysis of WIB patterns by location, frequency and cause.

The City of Vermilion newly constructed lift station(June 2016 completed) by the east bank of the Vermilion River appears to have solved the east side of towns by-pass issues. There is no by-pass opportunites unless a mechinical malfunctions floods the wet well.with flows only escape the manhole covers on the roof. Three large submersibles have the ability to pump rain event flows to the wastewater treatment plant on the west side of river effectively.

Elberta lift station underground EQ basin appears to be eliminating the majority of rain event by-pass flows although still possible under heavy storm conditions.

JANUARY 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	647536	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-01-01 To: 2017-01-31
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	j majer/various
		NO DISCHARGE INDICATOR:	**AL**

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-01-01							
2017-01-02							
2017-01-03							
2017-01-04							
2017-01-05							
2017-01-06							
2017-01-07							
2017-01-08							
2017-01-09							
2017-01-10							
2017-01-11							
2017-01-12							
2017-01-13							
2017-01-14							
2017-01-15							
2017-01-16							
2017-01-17							
2017-01-18							
2017-01-19							
2017-01-20							
2017-01-21							
2017-01-22							
2017-01-23							
2017-01-24							
2017-01-25							
2017-01-26							
2017-01-27							
2017-01-28							
2017-01-29							
2017-01-30							
2017-01-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-02-21 15:02

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	647536	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-01-01 To: 2017-01-31
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	j majer/various
		NO DISCHARGE INDICATOR:	**AL**

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-01-01							
2017-01-02							
2017-01-03							
2017-01-04							
2017-01-05							
2017-01-06							
2017-01-07							
2017-01-08							
2017-01-09							
2017-01-10							
2017-01-11							
2017-01-12							
2017-01-13							
2017-01-14							
2017-01-15							
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2017-01-22							
2017-01-23							
2017-01-24							
2017-01-25							
2017-01-26							
2017-01-27							
2017-01-28							
2017-01-29							
2017-01-30							
2017-01-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-02-21 15:02

FEBRUARY 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	653017	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-02-01 To: 2017-02-28
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J Majer J&H Alloway
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence
PARAMETER CODE	74062
UNITS	No./Month
FREQUENCY	1/Month
SAMPLING TYPE	Total
2017-02-01	
2017-02-02	
2017-02-03	
2017-02-04	
2017-02-05	
2017-02-06	
2017-02-07	
2017-02-08	
2017-02-09	
2017-02-10	
2017-02-11	
2017-02-12	
2017-02-13	
2017-02-14	1
2017-02-15	
2017-02-16	
2017-02-17	
2017-02-18	
2017-02-19	
2017-02-20	
2017-02-21	
2017-02-22	
2017-02-23	
2017-02-24	
2017-02-25	
2017-02-26	
2017-02-27	
2017-02-28	
Minimum	1.0
Maximum	1.0
Average	1
Count	1

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-03-15 11:03

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	653017	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	***2PD00032*MD***
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-02-01 **To:** 2017-02-28
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J Majer J&H Alloway
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-02-01							
2017-02-02							
2017-02-03							
2017-02-04							
2017-02-05							
2017-02-06							
2017-02-07							
2017-02-08							
2017-02-09							
2017-02-10							
2017-02-11							
2017-02-12							
2017-02-13							
2017-02-14	1						
2017-02-15							
2017-02-16							
2017-02-17							
2017-02-18							
2017-02-19							
2017-02-20							
2017-02-21							
2017-02-22							
2017-02-23							
2017-02-24							
2017-02-25							
2017-02-26							
2017-02-27							
2017-02-28							
Minimum	1.0						
Maximum	1.0						
Average	1						
Count	1						

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		**Certification Version Date** 2017-03-15 11:03

FEBRUARY 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	653017	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	***2PD00032*MD***
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	**2017-02-01 To: 2017-02-28**
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J Majer J&H Alloway
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-02-01							
2017-02-02							
2017-02-03							
2017-02-04							
2017-02-05							
2017-02-06							
2017-02-07							
2017-02-08							
2017-02-09							
2017-02-10							
2017-02-11							
2017-02-12							
2017-02-13							
2017-02-14	1						
2017-02-15							
2017-02-16							
2017-02-17							
2017-02-18							
2017-02-19							
2017-02-20							
2017-02-21							
2017-02-22							
2017-02-23							
2017-02-24							
2017-02-25							
2017-02-26							
2017-02-27							
2017-02-28							
Minimum	1.0						
Maximum	1.0						
Average	1						
Count	1						

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		**Certification Version Date** **2017-03-15 11:03**

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

FACILITY: Vermilion WPCF
LOCATION: 799 West River Rd
Vermilion, OH 44089

PERMIT NUMBER: *2PD00032*MD*
MONITORING PERIOD : 2017-02-01 **To:** 2017-02-28

PARAMETER COMMENTS:

Station Code	Parameter Name	Parameter Code	Date	Unit	Comment
300	Overflow Occurrence	74062	2017-02-14	No./Month	River Rd Lift station (Romps) Mechanical Failure: float switch & secondary pump service 7:00AM - 8:45 PM. by- pass flow escaped over top wet well hatch and to the river. Amount of by pass flow minimal however lift station electrical panel board and misc equipment damaged
302	Overflow Occurrence	74062	2017-02-14	No./Month	by pass flow due to station mech failure is less than 1 million gal. My estimate would be a total of less than 10000 gallons. There is not a bypass to the newly built station unfortunately so the wet well filled and trickled out rooftop cover. Equipment on the dry well side was dried out and returned to duty however some was underwater and damaged. The station was returned to service in a short period of time.

MARCH 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	659437	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-03-01 To: 2017-03-31
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J. Majer / Alloway / J&H
		NO DISCHARGE INDICATOR:	**AL**

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-03-01							
2017-03-02							
2017-03-03							
2017-03-04							
2017-03-05							
2017-03-06							
2017-03-07							
2017-03-08							
2017-03-09							
2017-03-10							
2017-03-11							
2017-03-12							
2017-03-13							
2017-03-14							
2017-03-15							
2017-03-16							
2017-03-17							
2017-03-18							
2017-03-19							
2017-03-20							
2017-03-21							
2017-03-22							
2017-03-23							
2017-03-24							
2017-03-25							
2017-03-26							
2017-03-27							
2017-03-28							
2017-03-29							
2017-03-30							
2017-03-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-04-12 12:04

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	659437	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-03-01 To: 2017-03-31
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J.Majer
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-03-01							
2017-03-02							
2017-03-03							
2017-03-04							
2017-03-05							
2017-03-06							
2017-03-07							
2017-03-08							
2017-03-09							
2017-03-10							
2017-03-11							
2017-03-12							
2017-03-13							
2017-03-14							
2017-03-15							
2017-03-16							
2017-03-17							
2017-03-18							
2017-03-19							
2017-03-20							
2017-03-21							
2017-03-22							
2017-03-23							
2017-03-24							
2017-03-25							
2017-03-26							
2017-03-27							
2017-03-28							
2017-03-29							
2017-03-30							
2017-03-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-04-12 12:04

APRIL 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	666680	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-04-01 To: 2017-04-30
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
		ANALYST:	no overflow occurance
DISTRICT:	NWDO	**NO DISCHARGE INDICATOR:**	AL

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-04-01							
2017-04-02							
2017-04-03							
2017-04-04							
2017-04-05							
2017-04-06							
2017-04-07							
2017-04-08							
2017-04-09							
2017-04-10							
2017-04-11							
2017-04-12							
2017-04-13							
2017-04-14							
2017-04-15							
2017-04-16							
2017-04-17							
2017-04-18							
2017-04-19							
2017-04-20							
2017-04-21							
2017-04-22							
2017-04-23							
2017-04-24							
2017-04-25							
2017-04-26							
2017-04-27							
2017-04-28							
2017-04-29							
2017-04-30							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate	Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly			Certification Version Date 2017-05-

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	666680	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-04-01 To: 2017-04-30
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J. Majer / Alloway / J&H
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-04-01							
2017-04-02							
2017-04-03							
2017-04-04							
2017-04-05	2						
2017-04-06							
2017-04-07							
2017-04-08							
2017-04-09							
2017-04-10							
2017-04-11							
2017-04-12							
2017-04-13							
2017-04-14							
2017-04-15							
2017-04-16							
2017-04-17							
2017-04-18							
2017-04-19							
2017-04-20							
2017-04-21							
2017-04-22							
2017-04-23							
2017-04-24							
2017-04-25							
2017-04-26							
2017-04-27							
2017-04-28							
2017-04-29							
2017-04-30							
Minimum	2.0						
Maximum	2.0						
Average	2						
Count	1						

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-05- 12 14:05

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

FACILITY: Vermilion WPCF
LOCATION: 799 West River Rd
Vermilion, OH 44089

PERMIT NUMBER: *2PD00032*MD*
MONITORING PERIOD : 2017-04-01 To: 2017-04-30

PARAMETER COMMENTS:

Station Code	Parameter Name	Parameter Code	Date	Unit	Comment
001	Flow Rate	50050	2017-04-17	MGD	contact chamber down for routine service 4/17 4/18
001	Flow Rate	50050	2017-04-18	MGD	routine contact chamber maintenance, no by pass
302	Overflow Occurrence	74062	2017-04-05	No./Month	Elberta Lift Station (ID302) VOL Lift Station (ID305) no installation of totalizer

MAY 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	674653	STATUS:	Original
FACILITY:	Vermilion WPCF	PERMIT NUMBER:	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	STATION CODE:	300
		MONITORING PERIOD :	2017-05-01 To: 2017-05-31
COUNTY:	Erie	REPORTING LAB:	Vermilion WPCF
DISTRICT:	NWDO	ANALYST:	J Majer / J&H ? Alloway
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence
PARAMETER CODE	74062
UNITS	No./Month
FREQUENCY	1/Month
SAMPLING TYPE	Total
2017-05-01	
2017-05-02	
2017-05-03	
2017-05-04	
2017-05-05	2
2017-05-06	
2017-05-07	
2017-05-08	
2017-05-09	
2017-05-10	
2017-05-11	
2017-05-12	
2017-05-13	
2017-05-14	
2017-05-15	
2017-05-16	
2017-05-17	
2017-05-18	
2017-05-19	
2017-05-20	
2017-05-21	
2017-05-22	
2017-05-23	
2017-05-24	
2017-05-25	
2017-05-26	
2017-05-27	
2017-05-28	
2017-05-29	
2017-05-30	
2017-05-31	
Minimum	2.0
Maximum	2.0
Average	2
Count	1

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-06-15 12:06

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	674653	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-05-01 To: 2017-05-31
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J Majer /J&H / Alloway
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-05-01							
2017-05-02							
2017-05-03							
2017-05-04							
2017-05-05	2						
2017-05-06							
2017-05-07							
2017-05-08							
2017-05-09							
2017-05-10							
2017-05-11							
2017-05-12							
2017-05-13							
2017-05-14							
2017-05-15							
2017-05-16							
2017-05-17							
2017-05-18							
2017-05-19							
2017-05-20							
2017-05-21							
2017-05-22							
2017-05-23							
2017-05-24							
2017-05-25							
2017-05-26							
2017-05-27							
2017-05-28							
2017-05-29							
2017-05-30							
2017-05-31							
Minimum	2.0						
Maximum	2.0						
Average	2						
Count	1						

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-06-15 12:06

JUNE 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	681454	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-06-01 To: 2017-06-30
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J majer / Alloway / J&H
		NO DISCHARGE INDICATOR:	**AL**

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-06-01							
2017-06-02							
2017-06-03							
2017-06-04							
2017-06-05							
2017-06-06							
2017-06-07							
2017-06-08							
2017-06-09							
2017-06-10							
2017-06-11							
2017-06-12							
2017-06-13							
2017-06-14							
2017-06-15							
2017-06-16							
2017-06-17							
2017-06-18							
2017-06-19							
2017-06-20							
2017-06-21							
2017-06-22							
2017-06-23							
2017-06-24							
2017-06-25							
2017-06-26							
2017-06-27							
2017-06-28							
2017-06-29							
2017-06-30							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-07-13 11:07

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	681454	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-06-01 To: 2017-06-30
COUNTY:	Erie	**REPORTING LAB:**	
DISTRICT:	NWDO	**ANALYST:**	
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-06-01							
2017-06-02							
2017-06-03							
2017-06-04							
2017-06-05							
2017-06-06							
2017-06-07							
2017-06-08							
2017-06-09							
2017-06-10							
2017-06-11							
2017-06-12							
2017-06-13							
2017-06-14							
2017-06-15							
2017-06-16							
2017-06-17							
2017-06-18							
2017-06-19							
2017-06-20							
2017-06-21							
2017-06-22							
2017-06-23							
2017-06-24							
2017-06-25							
2017-06-26							
2017-06-27							
2017-06-28							
2017-06-29							
2017-06-30							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-07-13 11:07

July 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	688836	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	***2PD00032*MD***
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	**2017-07-01 To: 2017-07-31**
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J Majer / Alloway / J&H
		NO DISCHARGE INDICATOR:	**AL**

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-07-01							
2017-07-02							
2017-07-03							
2017-07-04							
2017-07-05							
2017-07-06							
2017-07-07							
2017-07-08							
2017-07-09							
2017-07-10							
2017-07-11							
2017-07-12							
2017-07-13							
2017-07-14							
2017-07-15							
2017-07-16							
2017-07-17							
2017-07-18							
2017-07-19							
2017-07-20							
2017-07-21							
2017-07-22							
2017-07-23							
2017-07-24							
2017-07-25							
2017-07-26							
2017-07-27							
2017-07-28							
2017-07-29							
2017-07-30							
2017-07-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.	Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly			Certification Version Date 2017-08-11 09:08

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	688836	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-07-01 To: 2017-07-31
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J Majer / Alloway /J&H
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-07-01							
2017-07-02							
2017-07-03							
2017-07-04							
2017-07-05							
2017-07-06							
2017-07-07							
2017-07-08							
2017-07-09							
2017-07-10							
2017-07-11							
2017-07-12							
2017-07-13							
2017-07-14							
2017-07-15							
2017-07-16							
2017-07-17							
2017-07-18							
2017-07-19							
2017-07-20							
2017-07-21							
2017-07-22							
2017-07-23							
2017-07-24							
2017-07-25							
2017-07-26							
2017-07-27							
2017-07-28							
2017-07-29							
2017-07-30							
2017-07-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-08-11 09:08

AUGUST 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	696980	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-08-01 To: 2017-08-31
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J. Majer / Alloway / J&H
		NO DISCHARGE INDICATOR:	**AL**

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-08-01							
2017-08-02							
2017-08-03							
2017-08-04							
2017-08-05							
2017-08-06							
2017-08-07							
2017-08-08							
2017-08-09							
2017-08-10							
2017-08-11							
2017-08-12							
2017-08-13							
2017-08-14							
2017-08-15							
2017-08-16							
2017-08-17							
2017-08-18							
2017-08-19							
2017-08-20							
2017-08-21							
2017-08-22							
2017-08-23							
2017-08-24							
2017-08-25							
2017-08-26							
2017-08-27							
2017-08-28							
2017-08-29							
2017-08-30							
2017-08-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-09-14 14:09

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	696980	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-08-01 To: 2017-08-31
COUNTY:	Erie	**REPORTING LAB:**	
DISTRICT:	NWDO	**ANALYST:**	
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-08-01							
2017-08-02							
2017-08-03							
2017-08-04							
2017-08-05							
2017-08-06							
2017-08-07							
2017-08-08							
2017-08-09							
2017-08-10							
2017-08-11							
2017-08-12							
2017-08-13							
2017-08-14							
2017-08-15							
2017-08-16							
2017-08-17							
2017-08-18							
2017-08-19							
2017-08-20							
2017-08-21							
2017-08-22							
2017-08-23							
2017-08-24							
2017-08-25							
2017-08-26							
2017-08-27							
2017-08-28							
2017-08-29							
2017-08-30							
2017-08-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-09-14 14:09

Page 7

SEPTEMBER 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	704119	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-09-01 To: 2017-09-30
COUNTY:	Erie	**REPORTING LAB:**	
DISTRICT:	NWDO	**ANALYST:**	
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-09-01							
2017-09-02							
2017-09-03							
2017-09-04							
2017-09-05							
2017-09-06							
2017-09-07							
2017-09-08							
2017-09-09							
2017-09-10							
2017-09-11							
2017-09-12							
2017-09-13							
2017-09-14							
2017-09-15							
2017-09-16							
2017-09-17							
2017-09-18							
2017-09-19							
2017-09-20							
2017-09-21							
2017-09-22							
2017-09-23							
2017-09-24							
2017-09-25							
2017-09-26							
2017-09-27							
2017-09-28							
2017-09-29							
2017-09-30							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-10-11 10:10

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	704119	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-09-01 **To:** 2017-09-30
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	
		NO DISCHARGE INDICATOR:	**AL**

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-09-01							
2017-09-02							
2017-09-03							
2017-09-04							
2017-09-05							
2017-09-06							
2017-09-07							
2017-09-08							
2017-09-09							
2017-09-10							
2017-09-11							
2017-09-12							
2017-09-13							
2017-09-14							
2017-09-15							
2017-09-16							
2017-09-17							
2017-09-18							
2017-09-19							
2017-09-20							
2017-09-21							
2017-09-22							
2017-09-23							
2017-09-24							
2017-09-25							
2017-09-26							
2017-09-27							
2017-09-28							
2017-09-29							
2017-09-30							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.	Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly			Certification Version Date 2017-10-11 10:10

OCTOBER 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	712695	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-10-01 To: 2017-10-31
COUNTY:	Erie	**REPORTING LAB:**	
DISTRICT:	NWDO	**ANALYST:**	
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-10-01							
2017-10-02							
2017-10-03							
2017-10-04							
2017-10-05							
2017-10-06							
2017-10-07							
2017-10-08							
2017-10-09							
2017-10-10							
2017-10-11							
2017-10-12							
2017-10-13							
2017-10-14							
2017-10-15							
2017-10-16							
2017-10-17							
2017-10-18							
2017-10-19							
2017-10-20							
2017-10-21							
2017-10-22							
2017-10-23							
2017-10-24							
2017-10-25							
2017-10-26							
2017-10-27							
2017-10-28							
2017-10-29							
2017-10-30							
2017-10-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.	Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly			Certification Version Date 2017-11-15 15:11

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 712695
FACILITY: Vermilion WPCF
LOCATION: 799 West River Rd
Vermilion, OH 44089
COUNTY: Erie
DISTRICT: NWDO

STATUS: Original
PERMIT NUMBER: *2PD00032*MD*
STATION CODE: 302
MONITORING PERIOD : 2017-10-01 To: 2017-10-31
REPORTING LAB:
ANALYST:
NO DISCHARGE INDICATOR: AL

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-10-01							
2017-10-02							
2017-10-03							
2017-10-04							
2017-10-05							
2017-10-06							
2017-10-07							
2017-10-08							
2017-10-09							
2017-10-10							
2017-10-11							
2017-10-12							
2017-10-13							
2017-10-14							
2017-10-15							
2017-10-16							
2017-10-17							
2017-10-18							
2017-10-19							
2017-10-20							
2017-10-21							
2017-10-22							
2017-10-23							
2017-10-24							
2017-10-25							
2017-10-26							
2017-10-27							
2017-10-28							
2017-10-29							
2017-10-30							
2017-10-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.	Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly			Certification Version Date 2017-11-15 15:11

NOVEMBER 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	719825	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-11-01 To: 2017-11-30
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J. Majer / Alloway / J&H
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-11-01							
2017-11-02							
2017-11-03							
2017-11-04							
2017-11-05	3						
2017-11-06							
2017-11-07							
2017-11-08							
2017-11-09							
2017-11-10							
2017-11-11							
2017-11-12							
2017-11-13							
2017-11-14							
2017-11-15							
2017-11-16							
2017-11-17							
2017-11-18	2						
2017-11-19							
2017-11-20							
2017-11-21							
2017-11-22							
2017-11-23							
2017-11-24							
2017-11-25							
2017-11-26							
2017-11-27							
2017-11-28							
2017-11-29							
2017-11-30							
Minimum	2.0						
Maximum	3.0						
Average	2.5						
Count	2						

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2017-12-13 14:12

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	719825	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-11-01 To: 2017-11-30
COUNTY:	Erie	**REPORTING LAB:**	Vermilion WPCF
DISTRICT:	NWDO	**ANALYST:**	J Majer/ Alloway / J&H
		NO DISCHARGE INDICATOR:	

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-11-01							
2017-11-02							
2017-11-03							
2017-11-04							
2017-11-05	2	AD					
2017-11-06							
2017-11-07							
2017-11-08							
2017-11-09							
2017-11-10							
2017-11-11							
2017-11-12							
2017-11-13							
2017-11-14							
2017-11-15							
2017-11-16							
2017-11-17							
2017-11-18	3	AD					
2017-11-19							
2017-11-20							
2017-11-21							
2017-11-22							
2017-11-23							
2017-11-24							
2017-11-25							
2017-11-26							
2017-11-27							
2017-11-28							
2017-11-29							
2017-11-30							
Minimum	2.0						
Maximum	3.0						
Average	2.5						
Count	2						

Name of Responsible Official or Authorized Representative	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.	Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly			Certification Version Date 2017-12-13 14:12

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

FACILITY: Vermilion WPCF
LOCATION: 799 West River Rd
Vermilion, OH 44089

PERMIT NUMBER: *2PD00032*MD*
MONITORING PERIOD : 2017-11-01 To: 2017-11-30

PARAMETER COMMENTS:

Station Code	Parameter Name	Parameter Code	Date	Unit	Comment
001	Orthophosphate, Dissolved (as P)	00671	2017-11-27	mg/l	received beyond recommended holding time, analyzed and reported as an estimate
302	Overflow Occurrence	74062	2017-11-05	No./Month	AD: no sampler or totalizer available Elberta Lift Station: by-pass 6PM to 8PM VOL lift station: by-pass 11PM to 7AM
302	Overflow Occurrence	74062	2017-11-18	No./Month	AD NO auto sampler or totalizer available Elberta Lift Station: by-pass 11AM to 4 PM VOL Lift Station: by-pass 1PM to 4 PM River Lift Station by-pass 11AM to 2PM

DECEMBER 2017

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	728870	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	300
		MONITORING PERIOD :	2017-12-01 To: 2017-12-31
COUNTY:	Erie	**REPORTING LAB:**	
DISTRICT:	NWDO	**ANALYST:**	
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence						
PARAMETER CODE	74062						
UNITS	No./Month						
FREQUENCY	1/Month						
SAMPLING TYPE	Total						
2017-12-01							
2017-12-02							
2017-12-03							
2017-12-04							
2017-12-05							
2017-12-06							
2017-12-07							
2017-12-08							
2017-12-09							
2017-12-10							
2017-12-11							
2017-12-12							
2017-12-13							
2017-12-14							
2017-12-15							
2017-12-16							
2017-12-17							
2017-12-18							
2017-12-19							
2017-12-20							
2017-12-21							
2017-12-22							
2017-12-23							
2017-12-24							
2017-12-25							
2017-12-26							
2017-12-27							
2017-12-28							
2017-12-29							
2017-12-30							
2017-12-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2018-01-19 09:01

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID:	728870	**STATUS:**	Original
FACILITY:	Vermilion WPCF	**PERMIT NUMBER:**	*2PD00032*MD*
LOCATION:	799 West River Rd Vermilion, OH 44089	**STATION CODE:**	302
		MONITORING PERIOD :	2017-12-01 To: 2017-12-31
COUNTY:	Erie	**REPORTING LAB:**	
DISTRICT:	NWDO	**ANALYST:**	
		NO DISCHARGE INDICATOR:	AL

PARAMETER	Overflow Occurrence	Overflow Volume					
PARAMETER CODE	74062	74063					
UNITS	No./Month	Million Gallons					
FREQUENCY	1/Month	When Disch.					
SAMPLING TYPE	Total	Total					
2017-12-01							
2017-12-02							
2017-12-03							
2017-12-04							
2017-12-05							
2017-12-06							
2017-12-07							
2017-12-08							
2017-12-09							
2017-12-10							
2017-12-11							
2017-12-12							
2017-12-13							
2017-12-14							
2017-12-15							
2017-12-16							
2017-12-17							
2017-12-18							
2017-12-19							
2017-12-20							
2017-12-21							
2017-12-22							
2017-12-23							
2017-12-24							
2017-12-25							
2017-12-26							
2017-12-27							
2017-12-28							
2017-12-29							
2017-12-30							
2017-12-31							
Minimum							
Maximum							
Average							
Count							

Name of Responsible Official or Authorized Representative		Signature of Responsible Official or Authorized Representative	Submission Date/Time
Randal Ohly	I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.		Certification Version Date 2018-01-19 09:01

Sanitary Sewer Overflow Annual Report

Division of Surface Water

Date:	03/14/19
Facility name:	City of Vermilion WPCP
Ohio NPDES permit no.:	2PD00032*MD
Period covered by report:	2018

2018

Contact person

Name:	Robert T. Yost
Title:	Superintendent
Mailing address:	5511 Liberty Ave Vermilion, OH 44089
Telephone:	(419)602 - 3344
Email:	robertyost@vermilion.net

Certification:

I certify under penalty of law that I have personally examined and am familiar with the information in this report and all attachments. Based on my inquiry of those persons immediately for obtaining the information contained in the report, I believe that the information is true, accurate, and complete.

Name (typed): Robert T. Yost **Title:** Superintendent

Signature: Robert Yost **Date:** 3-20-19

SSO Annual Report Table 1: SSO Identification		Ohio NPDES Permit No.: 2PD00032*LD	
Identification No.[A]	Location Description	Receiving Water[B]	Eliminated[C]
301	Romps Lift Station	Vermilion River	06/15/16
302	Elberta Lift Station	Lake Erie	
303	V.O.L. Lift station	S.S	
304	M.H. @ Overlook & Edgewater Strs.	S.S.	
305	M.H. @Hartcort & Edgewater Strs.	S.S	
306	M.H. @ Sterling & Edgewater Strs.	S.S	
307	M.H. @ Woodbridge & Edgewater Strs.	S.S	

A. Assign each SSO location a unique identification by numbering them consecutively, beginning with 301.
B. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)." If an SSO does not reach a receiving water, enter (None".
C. If an SSO has been eliminated, enter the date of elimination (MM/DD/YY).

Use additional pages as needed.

SSO Annual Report Table 2: SSO Event Information

Ohio NPDES Permit No.: 2PD00032*MD

Date[A]	Identification No.[B]	Receiving Water[C]	Volume[D]
03/01/18	302	Lake	Unknown
03/01/18	305	Lake	Unknown
07/05/18	302	Lake	Unknown
07/05/18	305	Lake	Unknown
11/01/18	302	Lake	unknown

A. Enter date as "MM/DD/YY". Enter "Various" to summarize overflows of less than 1000 gallons from an SSO location
B. Enter the unique identification assigned in Table 1.
C. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)." If an SSO does not reach a receiving water, enter "None".
D. Enter estimate of volume in MG (million gallons). Enter estimate of total volume if summarizing data.

Use additional pages as needed.

SSO Annual Report Table 3: Water in Basement Occurrences	Ohio NPDES Permit No.: 2PD00032*MD	
Sewershed[A]	WIB Occurrences[B]	Causes[C]
N.A.	NA	NA
Total Occurrences		

A. A sewershed is a specific geographic area, such as a city block or a subdivision, that drains to a common outlet.
B. Enter the total number of water in basement occurrences report for the sewershed.
C. Enter all causes that apply: W = extreme weather; E = equipment failure; P = power failure; D = debris in line; R = roots; G = grease; B = other blockages; L = Line deterioration; V = vandalism; O = other, prove details.

Use additional pages as needed.

SSO Annual Report: Water in Basement Narratives	Ohio NPDES Permit No.: 2PD00032
Enter narrative analysis of WIB patterns by location, frequency and cause.	

SANITARY SEWER OVERFLOW ANNUAL REPORT

DATE: 03/27/20

FACILITY NAME: City of Vermilion WPCP

OHIO NPDES PERMIT NO: 2PD00032*MD

2019

PERIOD COVERED BY REPORT: 2019

CONTACT PERSON

NAME: Robert Yost

TITLE: Superintendent

MAILING ADDRESS:
5511 Liberty Ave. Vermilion, OH 44089

TELEPHONE: 440-204-2455 or cell 419-602-3344

EMAIL: robertyost@vermilion.net

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION IN THIS REPORT AND ALL ATTACHMENTS. BASED ON MY INQUIRY OF THOSE PERSONS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION CONTAINED IN THE REPORT, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Robert Yost
Signature of Official

03/27/2020
Date

Superintendent
Title

EPA 4238 (Rev. 06/06)

Click to clear all entered information (on all 5 pages of this form) CLEAR

SSO Annual Report: Water In Basement Narrative Ohio NPDES Permit No.: 2PD00032*MD

Enter narrative analysis of WIB patterns by location, frequency and cause.	None

EPA 4238 (06/06)

SSO Annual Report Table 3: Water In Basement Occurrences   Ohio NPDES Permit No.: 2PD00032*MD

Sewershed[A]	WIB Occurrences[B]	Causes[C]
N.A.	NONE	
Total Occurrences	0	

A. A sewershed is a specific geographic area, such as a city block or a subdivision, that drains to a common outlet.

B. Enter the total number of water in basement occurences reported for the sewershed.

C. Enter all causes that apply: W = extreme weather; E = equipment failure; P = power failure; D = debris in line; R = roots; G = grease; B = other blockages; L = line deterioration; V = vandalism; O = other, provide details.

Use additional pages as needed.

EPA 4238 (06/06)

SSO Annual Report Table 2: SSO Event Information Ohio NPDES Permit No.: 2PD00032*MD

Date[A]	Identification No.[B]	Receiving Water[C]	Volume[D]
02/07/19	302	Constructed Overflow to Lake Erie	Unknown
05/02/19	302	Constructed Overflow to Lake Erie	Unknown
06/22/19	302	Constructed Overflow to Lake Erie	Unknown
07/24/19	308	S.S. to Vermilion River	Unknown

A. Enter date as "MM/DD/YY". Enter "Various" to summarize overflows of less than 1000 gallons from an SSO location.

B. Enter the unique identification assigned in Table 1.

C. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)". If an SSO does not reach a receiving water, enter "None".

D. Enter estimate of volume in MG (millions of gallons). Enter estimate of total volume if summarizing data.

Use additional pages as needed.

EPA 4238 (06/06)

SSO Annual Report Table 1: SSO Identification Ohio NPDES Permit No.: 2PD00032*MD

Identification No.[A]	Location Description	Receiving Water[B]	Eliminated[C]
301	Romps Lift Station	Vermilion River	06/15/16
302	Elberta Lift Station	Constructed overflow to Lake Erie	
303	V.O.L. Lift Station	S.S. to Lake Erie	
304	M.H. @ Overlook & Edgewater Strs.	S.S. to Lake Erie	
305	M.H. @ Harcort & Edgewater Strs.	S.S. to Lake Erie	
306	M.H. @ Sterling & Edgewater Strs.	S.S. to Lake Erie	
307	M.H. @ Woodbridge & Edgewater Strs.	S.S. to Lake Erie	
308	Main WWTP	S.S. to Vermilion River	

A. Assign each SSO location a unique identification by numbering them consecutively, beginning with 301.

B. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)". If an SSO does not reach a receiving water, enter "None".

C. If an SSO has been eliminated, enter the date of elimination (MM/DD/YY).

Use additional pages as needed.

EPA 4238 (06/06)

Sanitary Sewer Overflow Annual Report

Division of Surface Water

2020

Date:	03/23/21
Facility name:	City of Vermilion WPCF
Ohio NPDES permit no.:	2PD00032*MD
Period covered by report:	01/01/20 to 12/31/20
Contact person	
Name:	Robert T. Yost
Title:	Superintendent
Mailing address:	5511 Liberty Ave.
Telephone:	(440)204 - 2455
Email:	robertyost@vermilion.net

Certification:

I certify under penalty of law that I have personally examined and am familiar with the information in this report and all attachments. Based on my inquiry of those persons immediately for obtaining the information contained in the report, I believe that the information is true, accurate, and complete.

Name (typed): Robert T. Yost **Title:** Superintendent

Signature: Robert T. Yost **Date:** 03-23-21

SSO Annual Report Table 1: SSO Identification		Ohio NPDES Permit No.: 2PD00032*MD	
Identification No.[A]	Location Description	Receiving Water[B]	Eliminated[C]
301	Romps Lift Station	Vermilion River	06/15/16
302	Elberta Lift Station	Constructed Overflow to Lake Erie	
303	V.O.L. Lift Station	SS to Lake Erie	
304	Crystal Shore Lift Station	SS to Lake Erie	
305	V.O.L. Manhole	SS to Lake Erie	
306	V.O.L. Manhole	SS to Lake Erie	
307	V.O.L. Manhole	SS to Lake Erie	
308	Vermilion WPCF	SS to Vermilion River	
309	Sunnyside RD and Liberty Ave.	SS to Lake Erie	
310	Park Drive Lift Station	SS to Lake Erie	

A. Assign each SSO location a unique identification by numbering them consecutively, beginning with 301.
B. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)." If an SSO does not reach a receiving water, enter (None".
C. If an SSO has been eliminated, enter the date of elimination (MM/DD/YY).

Use additional pages as needed.

SSO Annual Report Table 2: SSO Event Information		Ohio NPDES Permit No.: 2PD00032*MD	
Date[A]	Identification No.[B]	Receiving Water[C]	Volume[D]
03/20/20 - 03/23/20	304	SS to Lake Erie	Unknown
05/15/20	301	Vermilion River	Unknown
05/15/20 - 05/16/20	302	Constructed Overflow to Lake Erie	Unknown
05/15/20 - 05/16/20	305	SS to Lake Erie	Unknown
05/15/20 -05/16/20	306	SS to Lake Erie	Unknown
05/15/20 -05 16/20	307	SS to Lake Erie	Unknown
06/11/20	308	SS to Vermilion River	Unknown
08/28/20	303	SS to Lake Erie	Unknown
08/31/20 - 09/02/20	309	SS to Lake Erie	Unknown
09/07/20	307	SS to Lake Erie	Unknown
10/21/20 - 10/22/20	307	SS to Lake Erie	Unknown
11/24/20	303	SS to Lake Erie	Unknown
12/05/20	301	Vermilion River	Unknown
12/07/20	310	SS to Lake Erie	Unknown

A. Enter date as "MM/DD/YY". Enter "Various" to summarize overflows of less than 1000 gallons from an SSO location
B. Enter the unique identification assigned in Table 1.
C. Enter name of receiving water. If an SSO enters a storm sewer, enter "SS to (name of receiving water)." If an SSO does not reach a receiving water, enter "None".
D. Enter estimate of volume in MG (million gallons). Enter estimate of total volume if summarizing data.

Use additional pages as needed.

SSO Annual Report Table 3: Water in Basement Occurrences		Ohio NPDES Permit No.: 2PD00032*MD
Sewershed[A]	WIB Occurrences[B]	Causes[C]
N/A	N/A	N/A
Total Occurrences		

A. A sewershed is a specific geographic area, such as a city block or a subdivision, that drains to a common outlet.

B. Enter the total number of water in basement occurrences report for the sewershed.

C. Enter all causes that apply: W = extreme weather; E = equipment failure; P = power failure; D = debris in line; R = roots; G = grease; B = other blockages; L = Line deterioration; V = vandalism; O = other, prove details.

Use additional pages as needed.

SSO Annual Report: Water in Basement Narratives	Ohio NPDES Permit No.: 2PD00032*MD

Enter narrative analysis of WIB patterns by location, frequency and cause.

N/A

Sanitary Sewer Overflow
5-Day Follow Up Report

Division of Surface Water

Report Submitted By	
Date:	03/05/21
Facility name:	City of Vermilion WPCF
Ohio NPDES permit no.:	2PD00032*MD
Period covered by report:	03/01/21
Contact person	
Name:	Robert Yost
Title:	Superintendent
Mailing address:	5511 Liberty Ave. Vermilion,OH
County:	Erie
Telephone:	(440)204 - 2455
Email:	robertyost@vermilion.net
Signature required at end of form	
Overflow Information	
Event start date and time – if multiple locations, include information for each	START DATE: 03/01/21 START TIME: 0900
Event end date and time	END DATE: 03/01/21 END TIME: 1600
Location(s) the SSO – include unique ID number of one exists	3375 Edgewater Drive
Destination(s) of overflow	☐ Basement or building ☒ Ground ☒ Storm sewer to receiving water ☐ Directly to receiving water
Estimated volume (million gallons) - if multiple locations, include volume for each	unknown
Sewer system component(s) from which release occurred	☐ Manhole ☐ Constructed overflow ☒ Pipe crack ☐ Pump station ☐ Other (explain)
Cause(s) of overflow	☐ Extreme weather ☐ Equipment failure ☐ Power failure ☐ Debris in line ☐ Roots ☐ Grease ☐ Other blockages ☒ Line deterioration ☐ Vandalism ☐ Other (explain)

Steps taken or planned to eliminate and/or reduce the overflow – include schedule of major milestones	8 inch pipe was repaired with a repair band.
Steps taken or planned to prevent reoccurrence of the overflow(s) – include schedule of major milestones	
Steps taken or planned to mitigate the impact(s) of the overflow(s) – include schedule of major milestones	
Additional information (attach additional pages, maps, etc. as needed)	While maintenance workers were doing a routine check of the VOL Lift Station, they observed water coming out of a 4 inch drain pipe, flowing directly into a storm sewer which drains into Lake Erie. An outside contractor was called in to do the digging, while City Workers performed the repair. This force main break was along a fence line in a City owned park area, where several sections of fencing had to be removed to enable the repair.

Certification:

I certify that I have personolly examined and am fomiliar with the information in this report and all attochments. I believe that the information is true, accurate, and complete.

Name (typed): Robert T. Yost **Title:** Superintendent

Signature: Robert T. Yost **Date:** 3-5-21

Ohio EPA

State of Ohio Environmental Protection Agency

Ohio EPA Form 4237
Issued 08/04

Sanitary Sewer Overflow 5-Day Follow Up Report

Report Submitted by:	
Date	05/11/21
Facility Name	City of Vermilion WPCF
Ohio NPDES Permit No.	2PD00032*MD
Period Covered by Report	05/09/21
Contact Person Name	Robert Yost
Contact PersonTitle	Superintendent
Mailing Address	5511 Liberty Ave.
City, State, Zip	Vermilion, Ohio 44089
County	Erie
Telephone No.	419-602-3344
E-mail Address	robertyost@vermilion.net

Signature required at end of form

Overflow Information	
Event start date and time – if multiple locations, include information for each	Start Date: 05/09/21 Start Time: 1500
Event end date and time	End Date: 05/09/21 End Time: 2000
Location(s) the SSO – include unique ID number if one exists	V.O.L. Lift Station Storm Sewer
Destination(s) of overflow	☐ Basement or building ☐ Ground ☒ Storm sewer to receiving water ☐ Directly to receiving water
Specific receiving water(s) (if applicable)	Lake Erie
Estimated volume (million gallons) – if multiple locations, include volume for each	Unknown (no metering device)
Sewer system component(s) from which release occurred	☒ Manhole ☐ Constructed overflow ☐ Pipe crack ☐ Pump station ☐ Other (explain)
Cause(s) of overflow	☒ Extreme weather ☐ Equipment failure ☐ Power failure ☐ Debris in line ☐ Roots ☐ Grease ☐ Other blockages ☐ Line deterioration ☐ Vandalism ☐ Other (explain)

Steps taken or planned to eliminate and/or reduce the overflow – include schedule of major milestones	
Steps taken or planned to prevent reoccurrence of the overflow(s) – include schedule of major milestones	
Steps taken or planned to mitigate the impact(s) of the overflow(s) – include schedule of major milestones	
Additional information (attach additional pages, maps, etc. as needed)	Maintenance worker reported that overflow into storm sewer was slow but consistant for 5 hours. Both pumps were running at 100% capacity.

I CERTIFY THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION IN THIS REPORT AND ALL ATTACHMENTS. I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Robert Yost
Signature

05/11/21
Date

Superintendent
Title

EPA 4237 (08/04)

State of Ohio Environmental Protection Agency

Sanitary Sewer Overflow 5-Day Follow Up Report

Ohio EPA Form 4237
Issued 08/04

Report Submitted by:	
Date	06/10/21
Facility Name	City of Vermilion WPCF
Ohio NPDES Permit No.	2PD00032*MD
Period Covered by Report	06/08/21 - 06/09/21
Contact Person Name	Robert Yost
Contact PersonTitle	Superintendent
Mailing Address	5511 Liberty Ave
City, State, Zip	Vermilion, Ohio, 44089
County	Erie
Telephone No.	419-602-3344
E-mail Address	robertyost@vermilion.net

Signature required at end of form

Overflow Information	
Event start date and time – if multiple locations, include information for each	Start Date: 06/08/21 Start Time: 1515 River Lift Station Start Date: 06/08/21 Start Time: 1430 Elberta Lift Station Start Date: 06/08/21 Start Time: 1430 V.O.L Lift Station
Event end date and time	End Date: 06/08/21 End Time: 1730 River Lift Station End Date: 06/09/21 End Time: 0800 Elberta Lift Station End Date: 06/09/21 End Tme: 0800 V.O.L. Lift Station
Location(s) the SSO – include unique ID number if one exists	5045 Liberty Ave. (River Lift Station) Station 301 4263 Edgewater Dr. (Elberta Lift Station) Station 302 3375 Edgewater Dr. (V.O.L. Lift Station) Stations 305, 307, 308 (MANHOLES)
Destination(s) of overflow	☐ Basement or building ☒ Ground ☒ Storm sewer to receiving water ☐ Directly to receiving water
Specific receiving water(s) (if applicable)	Vermilion River, Lake Erie
Estimated volume (million gallons) – if multiple locations, include volume for each	Unknown - No Meter
Sewer system component(s) from which release occurred	☒ Manhole ☒ Constructed overflow ☐ Pipe crack ☒ Pump station ☐ Other (explain)
Cause(s) of overflow	☒ Extreme weather ☐ Equipment failure ☐ Power failure ☐ Debris in line ☐ Roots ☐ Grease ☐ Other blockages ☐ Line deterioration ☐ Vandalism ☐ Other (explain)

Click to clear all entered information (on both pages of this form) CLEAR

Steps taken or planned to eliminate and/or reduce the overflow – include schedule of major milestones	
Steps taken or planned to prevent reoccurrence of the overflow(s) – include schedule of major milestones	
Steps taken or planned to mitigate the impact(s) of the overflow(s) – include schedule of major milestones	Continue to camera sewer lines for problem areas for I & I.
Additional information (attach additional pages, maps, etc. as needed)	1" of rain in 15 minutes reported. 3.1" of rain total. In addition to the overflows of the lift stations listed above, there was an overflow here at the wastewater plant's screw lift influent. The overflow enters a storm sewer 175 feet east of screw lift and spills onto ground, and into the Vermilion River. The overflow start time was at 1600 on 06/08/21 and ended at 1700 on 06/08/21 (1 hour). The SSO at River Lift Station was out of a sanitary sewer upstream, and at the lift station wet well. Discharge was onto ground and into the Vermilion River for a duration of 2.25 hours. The SSO at V.O.L. Lift Station was out of 3 separate storm sewers: M.H. @ Harcourt & Edgewater, M.H. @ Woodridge & Edgewater, and M.H. @ Lansing & Edgewater. This location had a SSO on both June 8 and June 9. The SSO at Elberta Lift Station was through a constructed overflow to Lake Erie. This location had a SSO on both June 8 and June 9.

I CERTIFY THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION IN THIS REPORT AND ALL ATTACHMENTS. I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Robert Yost
Signature

6-10-21
Date

Superintendent
Title

Sanitary Sewer Overflow
5-Day Follow Up Report

Division of Surface Water

Report Submitted By	
Date:	03/05/21
Facility name:	City of Vermilion WPCF
Ohio NPDES permit no.:	2PD00032*MD
Period covered by report:	03/01/21
Contact person	
Name:	Robert Yost
Title:	Superintendent
Mailing address:	5511 Liberty Ave. Vermilion,OH
County:	Erie
Telephone:	(440)204 - 2455
Email:	robertyost@vermilion.net
Signature required at end of form	
Overflow Information	
Event start date and time – if multiple locations, include information for each	START DATE: 03/01/21 START TIME: 0900
Event end date and time	END DATE: 03/01/21 END TIME: 1600
Location(s) the SSO – include unique ID number of one exists	3375 Edgewater Drive
Destination(s) of overflow	☐ Basement or building ☒ Ground ☒ Storm sewer to receiving water ☐ Directly to receiving water
Estimated volume (million gallons) - if multiple locations, include volume for each	unknown
Sewer system component(s) from which release occurred	☐ Manhole ☐ Constructed overflow ☒ Pipe crack ☐ Pump station ☐ Other (explain)
Cause(s) of overflow	☐ Extreme weather ☐ Equipment failure ☐ Power failure ☐ Debris in line ☐ Roots ☐ Grease ☐ Other blockages ☒ Line deterioration ☐ Vandalism ☐ Other (explain)

Steps taken or planned to eliminate and/or reduce the overflow – include schedule of major milestones	8 inch pipe was repaired with a repair band.
Steps taken or planned to prevent reoccurrence of the overflow(s) – include schedule of major milestones	
Steps taken or planned to mitigate the impact(s) of the overflow(s) – include schedule of major milestones	
Additional information (attach additional pages, maps, etc. as needed)	While maintenance workers were doing a routine check of the VOL Lift Station, they observed water coming out of a 4 inch drain pipe, flowing directly into a storm sewer which drains into Lake Erie. An outside contractor was called in to do the digging, while City Workers performed the repair. This force main break was along a fence line in a City owned park area, where several sections of fencing had to be removed to enable the repair.

Certification:

I certify that I have personally examined and am familiar with the information in this report and all attachments. I believe that the information is true, accurate, and complete.

Name (typed): Robert T. Yost **Title:** Superintendent

Signature: Robert T. Yost **Date:** 3-5-21

OhioEPA

State of Ohio Environmental Protection Agency

Ohio EPA Form 4237
Issued 08/04

Sanitary Sewer Overflow 5-Day Follow Up Report

Report Submitted by:	
Date	05/11/21
Facility Name	City of Vermilion WPCF
Ohio NPDES Permit No.	2PD00032*MD
Period Covered by Report	05/09/21
Contact Person Name	Robert Yost
Contact PersonTitle	Superintendent
Mailing Address	5511 Liberty Ave.
City, State, Zip	Vermilion, Ohio 44089
County	Erie
Telephone No.	419-602-3344
E-mail Address	robertyost@vermilion.net

Signature required at end of form

Overflow Information	
Event start date and time – if multiple locations, include information for each	Start Date: 05/09/21 Start Time: 1500
Event end date and time	End Date: 05/09/21 End Time: 2000
Location(s) the SSO – include unique ID number if one exists	V.O.L. Lift Station Storm Sewer
Destination(s) of overflow	☐ Basement or building ☐ Ground ☒ Storm sewer to receiving water ☐ Directly to receiving water
Specific receiving water(s) (if applicable)	Lake Erie
Estimated volume (million gallons) – if multiple locations, include volume for each	Unknown (no metering device)
Sewer system component(s) from which release occurred	☒ Manhole ☐ Constructed overflow ☐ Pipe crack ☐ Pump station ☐ Other (explain)
Cause(s) of overflow	☒ Extreme weather ☐ Equipment failure ☐ Power failure ☐ Debris in line ☐ Roots ☐ Grease ☐ Other blockages ☐ Line deterioration ☐ Vandalism ☐ Other (explain)

Click to clear all entered information (on both pages of this form) CLEAR

Steps taken or planned to eliminate and/or reduce the overflow – include schedule of major milestones	
Steps taken or planned to prevent reoccurrence of the overflow(s) – include schedule of major milestones	
Steps taken or planned to mitigate the impact(s) of the overflow(s) – include schedule of major milestones	
Additional information (attach additional pages, maps, etc. as needed)	Maintenance worker reported that overflow into storm sewer was slow but consistant for 5 hours. Both pumps were running at 100% capacity.

I CERTIFY THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION IN THIS REPORT AND ALL ATTACHMENTS. I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Robert Yost
Signature

05/11/21
Date

Superintendent
Title

EPA 4237 (08/04)

State of Ohio Environmental Protection Agency

Sanitary Sewer Overflow 5-Day Follow Up Report

Ohio EPA Form 4237
Issued 08/04

Report Submitted by:	
Date	06/10/21
Facility Name	City of Vermilion WPCF
Ohio NPDES Permit No.	2PD00032*MD
Period Covered by Report	06/08/21 - 06/09/21
Contact Person Name	Robert Yost
Contact PersonTitle	Superintendent
Mailing Address	5511 Liberty Ave
City, State, Zip	Vermilion, Ohio, 44089
County	Erie
Telephone No.	419-602-3344
E-mail Address	robertyost@vermilion.net

Signature required at end of form

Overflow Information	
Event start date and time – if multiple locations, include information for each	Start Date: 06/08/21 Start Time: 1515 River Lift Station Start Date: 06/08/21 Start Time: 1430 Elberta Lift Station Start Date: 06/08/21 Start Time: 1430 V.O.L Lift Station
Event end date and time	End Date: 06/08/21 End Time: 1730 River Lift Station End Date: 06/09/21 End Time: 0800 Elberta Lift Station End Date: 06/09/21 End Tme: 0800 V.O.L. Lift Station
Location(s) the SSO – include unique ID number if one exists	5045 Liberty Ave. (River Lift Station) Station 301 4263 Edgewater Dr. (Elberta Lift Station) Station 302 3375 Edgewater Dr. (V.O.L. Lift Station) Stations 305, 307, 308 (MANHOLES)
Destination(s) of overflow	☐ Basement or building ☒ Ground ☒ Storm sewer to receiving water ☐ Directly to receiving water
Specific receiving water(s) (if applicable)	Vermilion River, Lake Erie
Estimated volume (million gallons) – if multiple locations, include volume for each	Unknown - No Meter
Sewer system component(s) from which release occurred	☒ Manhole ☒ Constructed overflow ☐ Pipe crack ☒ Pump station ☐ Other (explain)
Cause(s) of overflow	☒ Extreme weather ☐ Equipment failure ☐ Power failure ☐ Debris in line ☐ Roots ☐ Grease ☐ Other blockages ☐ Line deterioration ☐ Vandalism ☐ Other (explain)

Click to clear all entered information (on both pages of this form) CLEAR

Steps taken or planned to eliminate and/or reduce the overflow – include schedule of major milestones	
Steps taken or planned to prevent reoccurrence of the overflow(s) – include schedule of major milestones	
Steps taken or planned to mitigate the impact(s) of the overflow(s) – include schedule of major milestones	Continue to camera sewer lines for problem areas for I & I.
Additional information (attach additional pages, maps, etc. as needed)	1" of rain in 15 minutes reported. 3.1" of rain total. In addition to the overflows of the lift stations listed above, there was an overflow here at the wastewater plant's screw lift influent. The overflow enters a storm sewer 175 feet east of screw lift and spills onto ground, and into the Vermilion River. The overflow start time was at 1600 on 06/08/21 and ended at 1700 on 06/08/21 (1 hour). The SSO at River Lift Station was out of a sanitary sewer upstream, and at the lift station wet well. Discharge was onto ground and into the Vermilion River for a duration of 2.25 hours. The SSO at V.O.L. Lift Station was out of 3 separate storm sewers: M.H. @ Harcourt & Edgewater, M.H. @ Woodridge & Edgewater, and M.H. @ Lansing & Edgewater. This location had a SSO on both June 8 and June 9. The SSO at Elberta Lift Station was through a constructed overflow to Lake Erie. This location had a SSO on both June 8 and June 9.

I CERTIFY THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION IN THIS REPORT AND ALL ATTACHMENTS. I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE, AND COMPLETE.

Robert Yost
Signature

6-10-21
Date

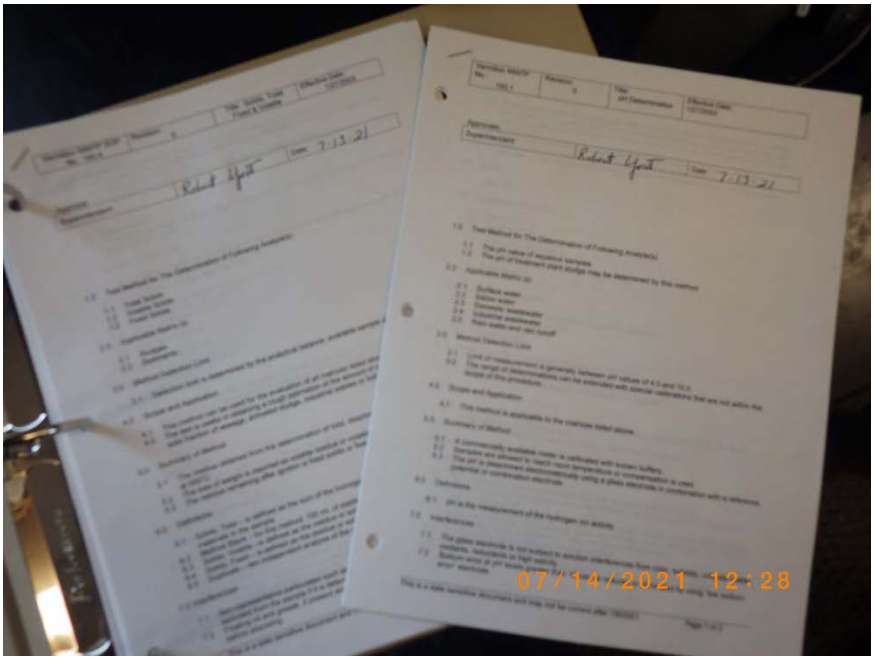
Superintendent
Title

EPA 4237 (08/04)

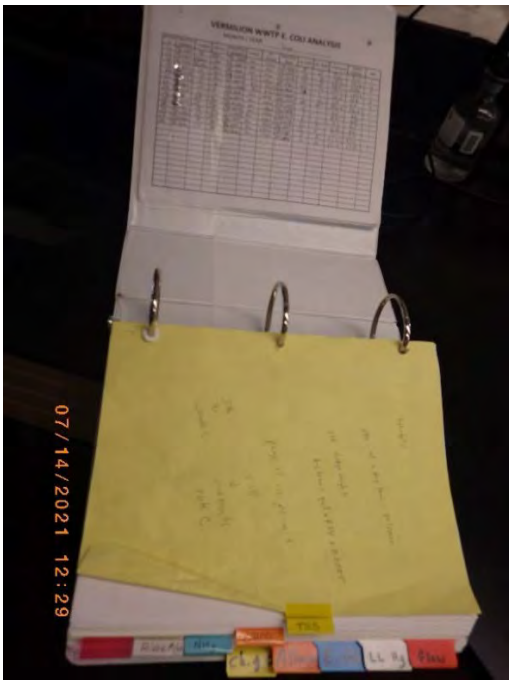
Attachment C: Photo Log

City of Vermilion WPCF
EPA Inspection July 14-15, 2021
All photos taken by Dean Maraldo, Inspector, U.S. EPA
Camera: Ricoh WG-4

1: VWPC0001
Description: Analytical scale calibration certification.
Location: Laboratory
Camera Direction: 340°
Date/Time: July 14, 2021; 12:27 p.m.



2: VWPC0002
Description: Updated laboratory SOPs.
Location: Laboratory
Camera Direction: 234°
Date/Time: July 14, 2021; 12:28 p.m.



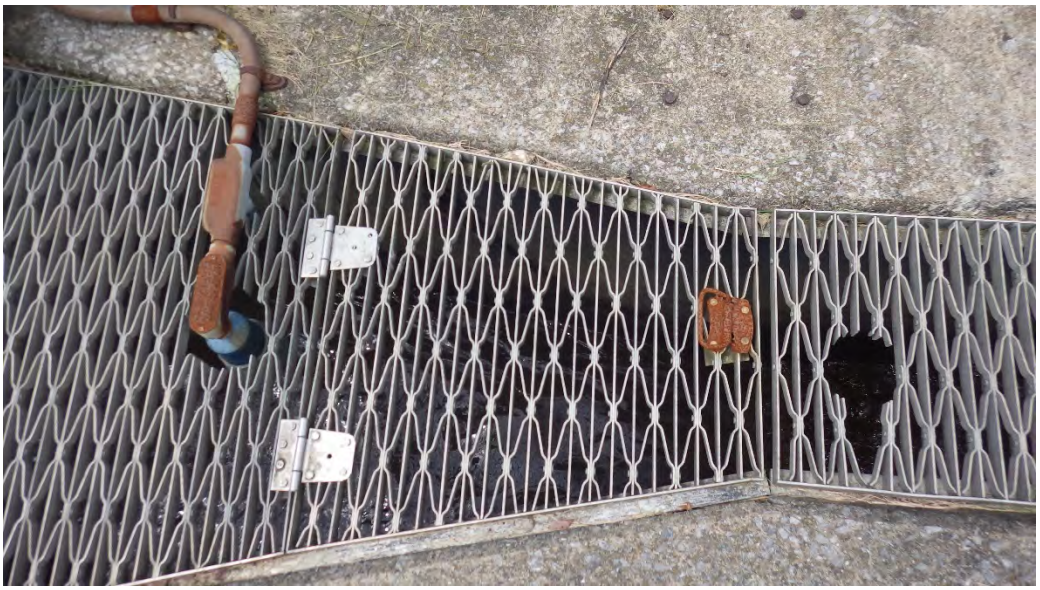
3: VWPC0003
Description: Laboratory bench sheets.
Location: Laboratory
Camera Direction: 1°
Date/Time: July 14, 2021; 12:29 p.m.

4: VWPC0004
Description: Buffer solutions documenting opening and expiration dates.
Location: Laboratory
Camera Direction: 275°
Date/Time: July 14, 2021; 12:30 p.m.

5: VWPC0005
Description: Drying oven with thermometer bulb located in open air.
Location: Laboratory
Camera Direction: 344°
Date/Time: July 14, 2021; 12:31 p.m.

6: VWPC0006
Description: Twin screws pushing incoming gravity flow.
Location: Headworks
Camera Direction: 348°
Date/Time: July 14, 2021; 12:35 p.m.

7: VWPC0007
Description: Twin screws pushing incoming gravity flow.
Location: Headworks
Camera Direction: 348°
Date/Time: July 14, 2021; 12:36 p.m.



8: VWPC0008
Description: Parshall flume designed to measure flow after the screws.
Location: Headworks
Camera Direction: 240°
Date/Time: July 14, 2021; 12:42 p.m.

9: VWPC0009
Description: Influent flow channel and the point where sewage from the force main joins the gravity flow.
Location: Headworks
Camera Direction: 288°
Date/Time: July 14, 2021; 12:44 p.m.

10: VWPC0010
Description: Operating bar screen.
Location: Headworks; bar screen building
Camera Direction: 157°
Date/Time: July 14, 2021; 12:47 p.m.

11: VWPC0011
Description: Inoperable grit removal system.
Location: Headworks; bar screen building
Camera Direction: 314°
Date/Time: July 14, 2021; 12:47 p.m.

12: VWPC0012
Description: Influent composite sampler (Century 3000). Note the inside of the influent sample tubing was coated with debris.
Location: Headworks; bar screen building
Camera Direction: 21°
Date/Time: July 14, 2021; 12:48 p.m.

13: VWPC0013
Description: Inside of the influent composite sampler.
Location: Headworks; bar screen building
Camera Direction: 50°
Date/Time: July 14, 2021; 12:48 p.m.

14: VWPC0014
Description: Primary treatment consists of three primary clarifiers. Clarifier #3 in foreground.
Location: Primary clarifier area
Camera Direction: 230°
Date/Time: July 14, 2021; 12:53 p.m.

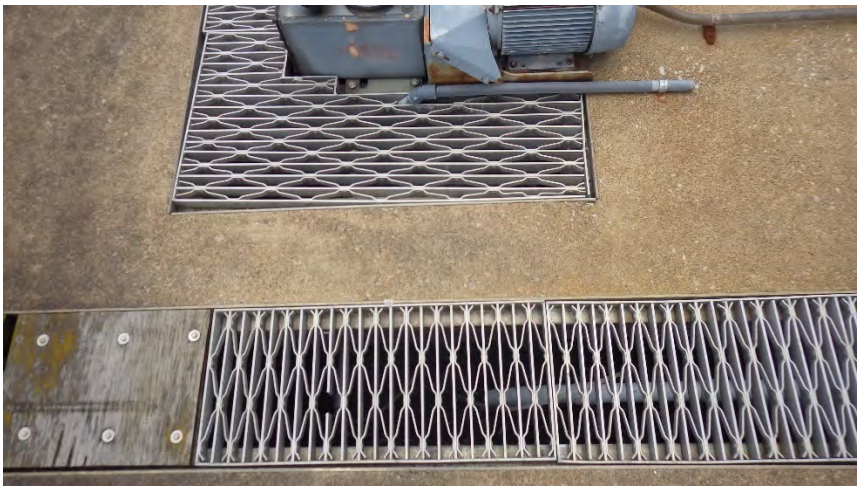
15: VWPC0015
Description: Clear river water pumped from the basement and likely due to river infiltration into basement. Piped to the primary clarifiers.
Location: Primary clarifier area
Camera Direction: 76°
Date/Time: July 14, 2021; 12:55 p.m.

16: VWPC0016
Description: Aeration tanks. Aeration Tank #1 in foreground.
Location: Secondary treatment area
Camera Direction: 201°
Date/Time: July 14, 2021; 1:00 p.m.

17: VWPC0017
Description: Final clarifiers.
Location: Secondary clarifier area
Camera Direction: 265°
Date/Time: July 14, 2021; 1:04 p.m.

18: VWPC0018
Description: Final Clarifier #6. The rails were rotted out (see the center area of photograph).
Location: Secondary clarifier area
Camera Direction: 255°
Date/Time: July 14, 2021; 1:08 p.m.

19: VWPC0019
Description: Clarifier #5. Noted significant debris and plant material (likely duckweed) in the effluent troughs and channels.
Location: Secondary clarifier area
Camera Direction: 334°
Date/Time: July 14, 2021; 1:09 p.m.



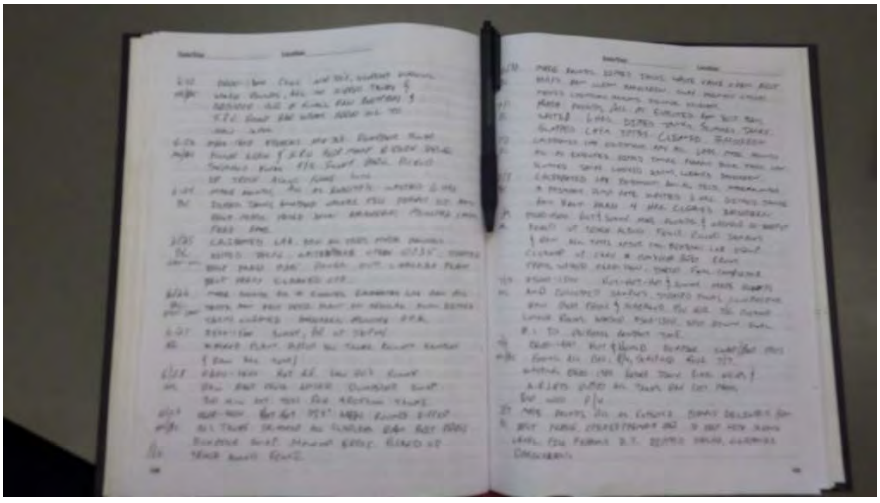
20: VWPC0020
Description: Liquid chlorine feed system. Note white feed pipe under channel grate cover.
Location: Disinfection area
Camera Direction: 46°
Date/Time: July 14, 2021; 1:11 p.m.

21: VWPC0021
Description: Floating plant material (likely duckweed) at the end of the chlorine contact tank, at the point where treated effluent exits the chlorine tank.
Location: Disinfection area
Camera Direction: 215°
Date/Time: July 14, 2021; 1:13 p.m.

22: VWPC0022
Description: Dechlorination drip tubing in effluent channel after chlorine contact tank and prior to final outfall.
Location: Disinfection area
Camera Direction: 60°
Date/Time: July 14, 2021; 1:16 p.m.

23: VWPC0023
Description: Final effluent composite sampler (Hach). Note staining in sample container.
Location: Chemical room
Camera Direction: 340°
Date/Time: July 14, 2021; 1:22 p.m.

24: VWPC0024
Description: The final outfall (#001) to the Vermilion River. The river appeared to be high and murky (see contrast between effluent discharge and river water).
Location: Final outfall to the Vermilion River
Camera Direction: 22°
Date/Time: July 14, 2021; 1:26 p.m.



25: VWPC0025
Description: Operators log book, open to recent pages for 6/22/2021-7/7/2021.
Location: Facility office
Camera Direction: 315°
Date/Time: July 14, 2021; 1:34 p.m.

26: VWPC0026
Description: Lift station wet well.
Location: River Lift Station
Camera Direction: 354°
Date/Time: July 14, 2021; 1:43 p.m.

27: VWPC0027
Description:Lift station where overflows enter the sewer inlet in the foreground of photograph and flows via a pipe to an outfall to Lake Erie.
Location: Elberta Lift Station
Camera Direction: 171°
Date/Time: July 14, 2021; 2:03 p.m.

28: VWPC0028
Description: SSOs in this area enter the stormwater catch basin (in the foreground of photograph), along Edgewater Drive. The inlet sends flow through a pipe to an outfall to Lake Erie (behind the homes in the photograph).
Location: VOL Lift Station area
Camera Direction: 43°
Date/Time: July 14, 2021; 2:17 p.m.

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Attachment D: 2017 Method Update Rule

United States Environmental Protection Agency

Definition and Procedure for the Determination of the Method Detection Limit, Revision 2

This document contains the text of Revision 2 of the method detection limit procedure from 40 CFR 136 Appendix B; but formatted as a more user friendly stand-alone document.

Please address questions or comments to:

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DEFINITION AND PROCEDURE FOR THE DETERMINATION OF THE METHOD DETECTION LIMIT
REVISION 2

Definition

The method detection limit (MDL) is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.

Scope and Application

The MDL procedure is designed to be a straightforward technique for estimation of the detection limit for a broad variety of physical and chemical methods. The procedure requires a complete, specific, and well-defined analytical method. It is essential that all sample processing steps used by the laboratory be included in the determination of the method detection limit.

The MDL procedure is *not* applicable to methods that do not produce results with a continuous distribution, such as, but not limited to, methods for whole effluent toxicity, presence/absence methods, and microbiological methods that involve counting colonies. The MDL procedure also is *not* applicable to measurements such as, but not limited to, biochemical oxygen demand, color, pH, specific conductance, many titration methods, and any method where low-level spiked samples cannot be prepared. Except as described in the addendum, for the purposes of this procedure, "spiked samples" are prepared from a clean reference matrix, such as reagent water, spiked with a known and consistent quantity of the analyte. MDL determinations using spiked samples may not be appropriate for all gravimetric methods (e.g., residue or total suspended solids), but an MDL based on method blanks can be determined in such instances.

Procedure

(1) Estimate the initial MDL using one or more of the following:

(a) The mean determined concentration plus three times the standard deviation of a set of method blanks.

(b) The concentration value that corresponds to an instrument signal-to-noise ratio in the range of 3 to 5.

(c) The concentration equivalent to three times the standard deviation of replicate instrumental measurements of spiked blanks.

(d) That region of the calibration where there is a significant change in sensitivity, i.e., a break in the slope of the calibration.

(e) Instrumental limitations.

(f) Previously determined MDL.

It is recognized that the experience of the analyst is important to this process. However, the analyst should include some or all of the above considerations in the initial estimate of the MDL.

(2) Determine the initial MDL

Note: The Initial MDL is used when the laboratory does not have adequate data to perform the Ongoing Annual Verification specified in Section (4), typically when a new method is implemented or if a method was rarely used in the last 24 months.

(a) Select a spiking level, typically 2 – 10 times the estimated MDL in Section 1. Spiking levels in excess of 10 times the estimated detection limit may be required for analytes with very poor recovery (e.g., for an analyte with 10% recovery, spiked at 100 micrograms/L, with mean recovery of 10 micrograms/L; the calculated MDL may be around 3 micrograms/L. Therefore, in this example, the spiking level would be 33 times the MDL, but spiking lower may result in no recovery at all).

(b) Process a minimum of seven spiked samples and seven method blank samples through all steps of the method. The samples used for the MDL must be prepared in at least three batches on three separate calendar dates and analyzed on three separate calendar dates. (Preparation and analysis may be on the same day.) Existing data may be used, if compliant with the requirements for at least three batches, and generated within the last twenty four months. The most recent available data for method blanks and spiked samples must be used. Statistical outlier removal procedures should not be used to remove data for the initial MDL determination, since the total number of observations is small and the purpose of the MDL procedure is to capture routine method variability. However, documented instances of gross failures (e.g., instrument malfunctions, mislabeled samples, cracked vials) may be excluded from the calculations, provided that at least seven spiked samples and seven method blanks are available. (The rationale for removal of specific outliers must be documented and maintained on file with the results of the MDL determination.)

(i) If there are multiple instruments that will be assigned the same MDL, then the sample analyses must be distributed across all of the instruments.

(ii) A minimum of two spiked samples and two method blank samples prepared and analyzed on different calendar dates is required for each instrument. Each analytical batch may contain one spiked sample and one method blank sample run together. A spiked sample and a method blank sample may be analyzed in the same batch, but are not required to be.

(iii) The same prepared extract may be analyzed on multiple instruments so long as the minimum requirement of seven preparations in at least three separate batches is maintained.

(c) Evaluate the spiking level: If any result for any individual analyte from the spiked samples does not meet the method qualitative identification criteria or does not provide a numerical result greater than zero, then repeat the spiked samples at a higher concentration. (Qualitative identification criteria are a set of rules or guidelines for establishing the identification or presence of an analyte using a measurement system. Qualitative identification does not ensure that quantitative results for the analyte can be obtained.)

(d) Make all computations as specified in the analytical method and express the final results in the method-specified reporting units.

(i) Calculate the sample standard deviation (S) of the replicate spiked sample measurements and the sample standard deviation of the replicate method blank measurements from all instruments to which the MDL will be applied.

(ii) Compute the MDL_s (the MDL based on spiked samples) as follows:

$$MDL_S = t_{(n-1,\ 1-\propto=0.99)} S_S$$

where:

MDL_s = the method detection limit based on spiked samples

$t_{(n-1,\ 1-\alpha\ =\ 0.99)}$ = the Student's *t*-value appropriate for a single-tailed 99th percentile *t* statistic and a standard deviation estimate with n-1 degrees of freedom. See Addendum Table 1.

S_s = sample standard deviation of the replicate spiked sample analyses.

(iii) Compute the MDL_b (the MDL based on method blanks) as follows:

(A) If none of the method blanks give numerical results for an individual analyte, the MDL_b does not apply. A numerical result includes both positive and negative results, including results below the current MDL, but not results of "ND" (not detected) commonly observed when a peak is not present in chromatographic analysis.

(B) If some (but not all) of the method blanks for an individual analyte give numerical results, set the MDL_b equal to the highest method blank result. If more than 100 method blanks are available, set MDL_b to the level that is no less than the 99th percentile of the method blank results. For "n" method blanks where $n \geq 100$, sort the method blanks in rank order. The (n * 0.99) ranked method blank result (round to the nearest whole number) is the MDL_b. For example, to find MDL_b from a set of 164 method blanks where the highest ranked method blank results are … 1.5, 1.7, 1.9, 5.0, and 10, then 164 x 0.99 = 162.36 which rounds to the 162nd method blank result. Therefore, MDL_b is 1.9 for n =164 (10 is the 164th result, 5.0 is the 163rd result, and 1.9 is the 162nd result). Alternatively, you may use spreadsheet algorithms to calculate the 99th percentile to interpolate between the ranks more precisely.

(C) If all of the method blanks for an individual analyte give numerical results, then calculate the MDL_b as:

$$MDL_b = \overline{X} + t_{(n-1,1-\propto=0.99)} S_b$$

where:

MDL_b = the MDL based on method blanks

$\bar{X}$ = mean of the method blank results (use zero in place of the mean if the mean is negative)

$t_{(n-1,\ 1-\alpha\ =\ 0.99)}$ = the Student's *t*-value appropriate for the single-tailed 99th percentile *t* statistic and a standard deviation estimate with n-1 degrees of freedom. See Addendum Table 1.

S_b = sample standard deviation of the replicate method blank sample analyses.

Note: If 100 or more method blanks are available, as an option, MDL_b may be set to the concentration that is greater than or equal to the 99th percentile of the method blank results, as described in Section (2)(d)(iii)(B).

(e) Select the greater of MDL_s or MDL_b as the initial MDL.

(3) Ongoing Data Collection

(a) During any quarter in which samples are being analyzed, prepare and analyze a minimum of two spiked samples on each instrument, in separate batches, using the same spiking concentration used in Section 2. If any analytes are repeatedly not detected in the quarterly spiked sample analyses, or do not meet the qualitative identification criteria of the method (see Section 2(c) of this procedure), then this is an indication that the spiking level is not high enough and should be adjusted upward. Note that it is not necessary to analyze additional method blanks together with the spiked samples, the method blank population should include all of the routine method blanks analyzed with each batch during the course of sample analysis.

(b) Ensure that at least seven spiked samples and seven method blanks are completed for the annual verification. If only one instrument is in use, a minimum of seven spikes are still required, but they may be drawn from the last two years of data collection.

(c) At least once per year, re-evaluate the spiking level.

(i) If more than 5% of the spiked samples do not return positive numerical results that meet all method qualitative identification criteria, then the spiking level must be increased and the initial MDL re-determined following the procedure in Section 2.

(d) If the method is altered in a way that can be reasonably expected to change its sensitivity, then re-determine the initial MDL according to Section 2, and the restart the ongoing data collection.

(e) If a new instrument is added to a group of instruments whose data are being pooled to create a single MDL, analyze a minimum of two spiked replicates and two method blank replicates on the new instrument. If both method blank results are below the existing MDL, then the existing MDL_b is validated. Combine the new spiked sample results to the existing spiked sample results and recalculate the MDL_s as in Section 4. If the recalculated MDL_s does not vary by more than the factor specified in Section 4(f) of this procedure, then the existing MDL_s is validated. If either of these two conditions is not met, then calculate a new MDL following the instructions in Section 2.

(4) Ongoing Annual Verification

(a) At least once every thirteen months, re-calculate MDL_s and MDL_b from the collected spiked samples and method blank results using the equations in Section 2.

(b) Include data generated within the last twenty four months, but only data with the same spiking level. Only documented instances of gross failures (e.g., instrument malfunctions, mislabeled samples, cracked vials) may be excluded from the calculations. (The rationale for removal of specific outliers must be documented and maintained on file with the results of the MDL determination.) If the laboratory believes the sensitivity of the method has changed significantly, then the most recent data available may be used, maintaining compliance with the requirement for at least seven replicates in three separate batches on three separate days (see Section 2b).

(c) Include the initial MDL spiked samples, if the data were generated within twenty four months.

(d) Only use data associated with acceptable calibrations and batch QC. Include all routine data, with the exception of batches that are rejected and the associated samples reanalyzed. If the method has been altered in a way that can be reasonably expected to change its sensitivity, then use only data collected after the change.

(e) Ideally, use all method blank results from the last 24 months for the MDL_b calculation. The laboratory has the option to use only the last six months of method blank data or the fifty most recent method blanks, whichever criteria yields the greater number of method blanks.

(f) The verified MDL is the greater of the MDL_s or MDL_b. If the verified MDL is within 0.5 to 2.0 times the existing MDL, and fewer than 3% of the method blank results (for the individual analyte) have numerical results above the existing MDL, then the existing MDL may optionally be left unchanged. Otherwise, adjust the MDL to the new verification MDL. (The range of 0.5 to 2.0 approximates the 95th percentile confidence interval for the initial MDL determination with six degrees of freedom.)

ADDENDUM: DETERMINATION OF THE MDL FOR A SPECIFIC MATRIX

The MDL may be determined in a specific sample matrix as well as in reagent water.

(1) Analyze the sample matrix to determine the native (background) concentration of the analyte(s) of interest.

(2) If the response for the native concentration is at a signal-to-noise ratio of approximately 5-20, determine the matrix-specific MDL according to Section 2 but without spiking additional analyte.

(3) Calculate MDL_b using the method blanks, not the sample matrix.

(4) If the signal-to-noise ratio is less than 5, then the analyte(s) should be spiked into the sample matrix to obtain a concentration that will give results with a signal-to-noise ratio of approximately 10-20.

(5) If the analytes(s) of interest have signal-to-noise ratio(s) greater than approximately 20, then the resulting MDL is likely to be biased high.

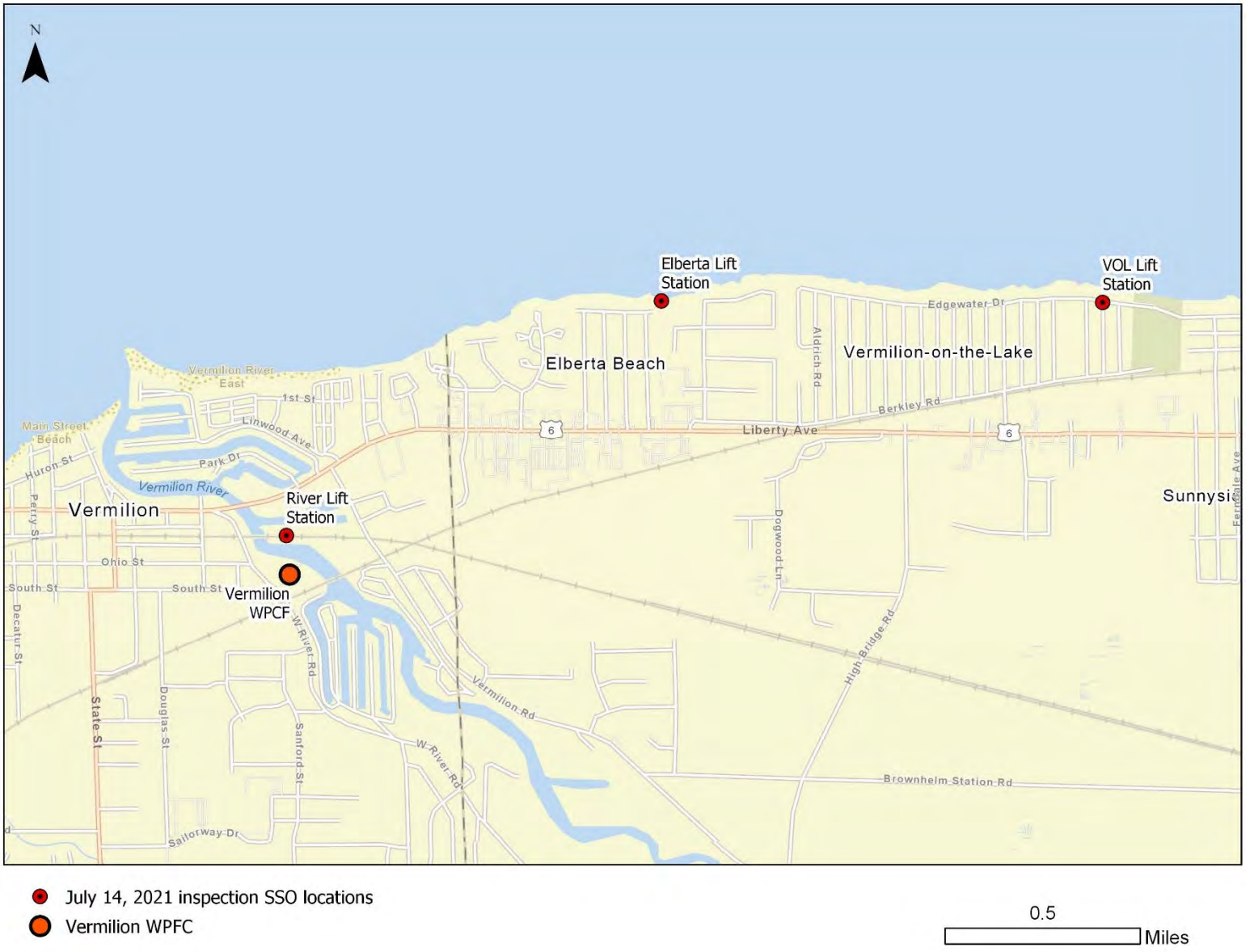
Table 1: Single-Tailed 99th Percentile *t* Statistic

Number of replicates	Degrees of freedom (n-1)	$t_{(n-1, 0.99)}$
7	6	3.143
8	7	2.998
9	8	2.896
10	9	2.821
11	10	2.764
16	15	2.602
21	20	2.528
26	25	2.485
31	30	2.457
32	31	2.453
48	47	2.408
50	49	2.405
61	60	2.390
64	63	2.387
80	79	2.374
96	95	2.366
100	99	2.365

Documentation

The analytical method used must be specifically identified by number or title and the MDL for each analyte expressed in the appropriate method reporting units. Data and calculations used to establish the MDL must be able to be reconstructed upon request. The sample matrix used to determine the MDL must also be identified with MDL value. Document the mean spiked and recovered analyte levels with the MDL. The rationale for removal of outlier results, if any, must be documented and maintained on file with the results of the MDL determination.

Attachment E: July 14, 2021 Inspection Location Map



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