INSPECTION REPORT

Inspection Entry Date/Time	02/15/2023 10:00 AM (ET)	Announced: Yes
Inspection Exit Date/Time	02/15/2023 01:20 PM (ET)	Access: Granted
Weather	Day 1 – Sunny	
Media	Water	
Statute(s)/Program(s)	Clean Water Act, NPDES	
Type of Inspection	CEI - Compliance Evaluation Inspection	
Permittee Name	Village of Shreve	
Facility or Site Name	Village of Shreve WWTP	
Facility/Site Physical Address	350 Water Street	
City, State, Zip Code	Shreve, OH 44676	
County/Borough/Parish	Wayne County	
Facility GPS Coordinates	40.684063, -82.017192	
Mailing Address (If different)	P.O. Box 604	
City, State, Zip Code	Shreve, OH 44676	
FRS ID	110006699643	
Permit Number(s) (If Applicable)	OH0045373	
SIC and/or NAICS	4952	

Regulatory Representatives Participating in Inspection:

Title	**Name**	**Organization**
Inspector	Anne Marie Vincent	EPA Region 5

Lead Inspector:

Megan Zale	*[Signature]* MEGAN ZALE Digitally signed by MEGAN ZALE Date: 2023.04.04 09:20:36 -04'00'		*[Date]*
	EPA Region 5	zale.megan@epa.gov	(440) 250-1711

Supervisor Review:

Brooke Furio	*[Signature]* BROOKE FURIO Digitally signed by BROOKE FURIO Date: 2023.04.04 10:05:43 -04'00'		*[Date]*
	EPA Region 5	furio.brooke@epa.gov	(440) 250-1705

SECTION I – INTRODUCTION

Site Entry and Inspection Objectives

EPA Region 5 Lead Inspector, Megan Zale, arrived at the Village of Shreve Wastewater Treatment Plant ("Shreve WWTP", the "Site" or "Facility"), located at 350 Water Street, Shreve, OH 44676, at 10:00 AM (ET) on 02/15/2023 for an announced inspection. EPA Region 5 inspector credentials were presented to Thomas Abraham, facility operator of record, and the Village Administrator, Ron Kiner. Lead Inspector Megan Zale informed them that this was an EPA Region 5 inspection to determine compliance as authorized by Clean Water Act (CWA) Section 308 and implementing regulations. This report is based on information supplied by Shreve WWTP representatives, direct observations made by the EPA Region 5 inspectors, records and reports maintained by the permittee and other information including: photographs taken by EPA Region 5 inspectors, physical evidence collected by the EPA Region 5 inspectors, measurements taken by EPA Region 5 inspectors, verbal or written statements made by information supplied by Shreve WWTP representatives during or subsequent to the on-site Inspection, and materials, processes, data, photographs, or documents shown, demonstrated, or submitted to the EPA Region 5 inspectors by Shreve WWTP representatives during or subsequent to the on-site Inspection. In addition, information gathered prior to or subsequent to the Inspection from a review of EPA, State, and/or public records may be included in this report.

The facility reported multiple exceedances of ammonia nitrogen between May 2020 and May 2022. Thomas Abraham, Operator, stated this was due to a malfunctioning trickling filter arm. The Village of Shreve ("Village") purchased a replacement filter arm from the manufacturer, but the manufacturer's specifications for the repair/replacement were incorrect, which resulted in delays in the repair. The Village identified a necessary correction to the installation specifications for the trickling filter arm which corrected the operational issue. There have been no exceedances since the trickling filter arm was replaced in June 2022 with the adjusted installation specifications. There was one total chlorine exceedance in September 2022 which was due to a data input error on the discharge monitoring report.

Attendees

Organization	Attendee Name	Title	Present in Opening Conf.	Present in Closing Conf.
EPA Region 5	Megan Zale	Lead Inspector	Yes	Yes
EPA Region 5	Anne Marie Vincent	Inspector	Yes	Yes
Advanced Water and Wastewater Operations, LLC	Thomas Abraham	Operator of Record	Yes	Yes
Advanced Water and Wastewater Operations, LLC	Jedediah Hendershott	Operator of Record	Yes	Yes
Village of Shreve	Ron Kiner	Village Administrator	Yes	Yes

Facility/Site Description

EPA Region 5 lead inspector confirmed the following facility information:

The Shreve Wastewater Treatment Plant (WWTP) is a Class II wastewater facility located in the Village of Shreve, Ohio. Operators of Record are Thomas Abraham and Jedediah Hendershott with Advanced Water and Wastewater Operations, LLC. According to Thomas Abraham, the original plant is over one hundred years old, and major upgrades to the plant occurred in 1989. The facility consists of a headworks, two primary clarifiers, a trickling filter, equalization basin, two digesters, three final clarifiers, chlorine gas treatment, and sulfur dioxide gas dechlorination. Eighty percent of influent comes into treatment plant via gravity, and there is also a lift

station before the headworks that brings influent from lower parts of the village. The Village is in the permit-to-install approval process with the Ohio Environmental Protection Agency to replace the chlorine gas chlorination process with Ultraviolet (UV) treatment. The facility uses a v-notch ultrasonic flow meter to measure effluent flow rates. Thomas Abraham stated that it is calibrated annually by Control Associates in Chagrin Falls, Ohio. The facility's effluent auto-sampler collects samples at a location prior to chlorine treatment. The facility uses a SCADA system which texts, calls, and e-mails notifications to the system operators and the Village Administrator. Thomas Abraham stated that the facility's average daily flow is 0.483 million gallons per day (MGD). The facility has biosolids hauled and land applied once per year. Agri-Sludge Inc. is the beneficial user which hauls the biosolids to land apply it on local farmers' fields. The company Advanced Water and Wastewater Operations, LLC completes all sampling and documentation for the biosolids, including field checks after land application. Thomas Abraham stated that the Village receives a lot of inflow and infiltration, which can cause the clarifiers to get very high, but the trickling filter can handle the extra flow.

Facility/Site Information

Location(s)

SECTION II – OBSERVATIONS

SHREVE WWTP		
Observation #: MZ2-OB-001	**Date:** 02/15/2023	**Weather:** Sunny
The wet thermometer in the influent auto-sampler refrigerator reads down to only 15 degrees Celsius instead of 0 degrees Celsius.		

SHREVE WWTP		
Observation #: MZ2-OB-002	**Date:** 02/15/2023	**Weather:** Sunny
The printed side of the Outfall 001 marker sign was facing away from the receiving stream.		

SECTION III – RECORDS REVIEW

Records may not be in sequential order.

Record: Laboratory Analysis Reports		**AOC:** No
Ref #: MZ2-RR-002	**Reviewed By:** Megan Zale	**Reviewed Date:** 03/31/2023
Ream and Haager laboratory analysis reports for the month of December 2022 were reviewed.		

Record: Other - 2021 Biosolids Agronomic Rate Calculation Worksheet		**AOC:** No
Ref #: MZ2-RR-001	**Reviewed By:** Megan Zale	**Reviewed Date:** 03/31/2023
The Biosolids Agronomic Rate Calculation Worksheet is submitted to Ohio EPA annually. For 2021, 25.958 dry tons of biosolids were beneficially used from the facility.		

SECTION IV – SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

No sampling was conducted.

SECTION V - AREA OF CONCERN

Area(s) of Concern may not be in sequential order.

The presentation of Area(s) of Concern does not constitute a formal compliance determination or violation.

AOC Reference #: MZ2-OB-001	Location: WWTP
Regulation and/or Permit Requirement According to NPDES Permit OH0045373, Part III. 3. A. "All wastewater treatment works shall be operated in a manner consistent with the following: At 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. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures…"	
AOC: The wet thermometer in the influent auto-sampler refrigerator reads down to only 15 degrees Celsius instead of 0 degrees Celsius.	

AOC Reference #: MZ2-OB-002	Location: Receiving Stream
Regulation and/or Permit Requirement According to NPDES Permit OH0045373, Part II. R. "The permittee shall maintain a permanent marker on the stream bank at each outfall that is regulated under this NPDES permit…The sign shall not be obstructed such that persons in boats or persons swimming on the river or someone fishing or walking along the shore cannot read the sign."	
AOC: The printed side of the Outfall 001 marker sign was facing away from the receiving stream.	

SECTION VI – CLOSING CONFERENCE AND FOLLOW UP

Closing Conference

The EPA Region 5 Lead Inspector held a closing conference with Facility personnel at 12:30 PM (ET) on 02/15/2023 for the inspection. During the closing conference, EPA Region 5 Lead Inspector discussed the observations and Area(s) of Concern identified during the inspection. Observations and Area(s) of Concern have not yet been evaluated for a formal compliance determination.

EPA stated that the wet thermometer for the influent auto-sampler refrigerator went down to only 15 degrees Celsius. EPA also stated that the Outfall 001 sign should be facing the receiving stream. Thomas Abraham mentioned to EPA that the chlorine exceedance in September 2022 was due to a data input error on the discharge monitoring report, and he will be revising it.

Follow Up

The following items were requested by the inspector at the time of the inspection.

Location: WWTP	Area: N/A	Sub-area: N/A
MZ2-AF-001		
EPA requested photos of a new wet thermometer in the influent auto-sampler refrigerator and the outfall 001 sign facing toward the receiving stream.		

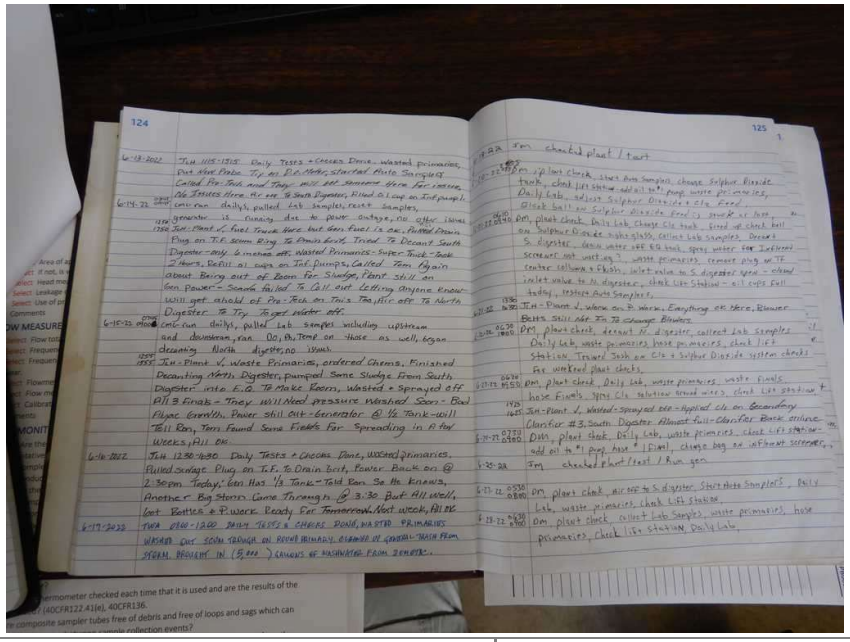
Communication Log

Jedediah Hendershott, one of the facility operators, emailed Megan Zale and Anne Marie Vincent photos on March 1st, 2023 of a new wet thermometer in the influent auto-sampler refrigerator and the outfall 001 sign facing toward the receiving stream. The new thermometer goes down to negative five degrees Celsius.

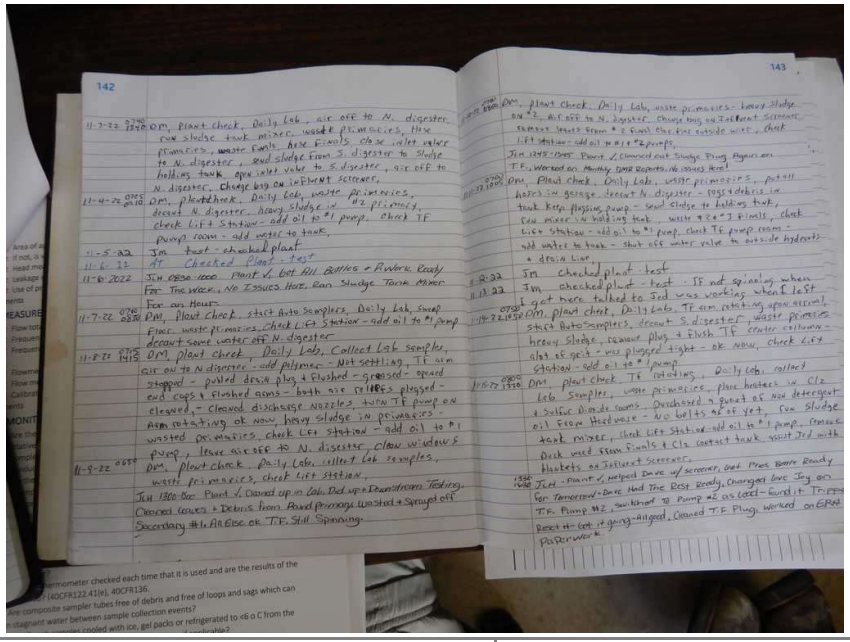
SECTION VII – LIST OF APPENDICES

1. Photo Log

APPENDIX 1: PHOTO LOG

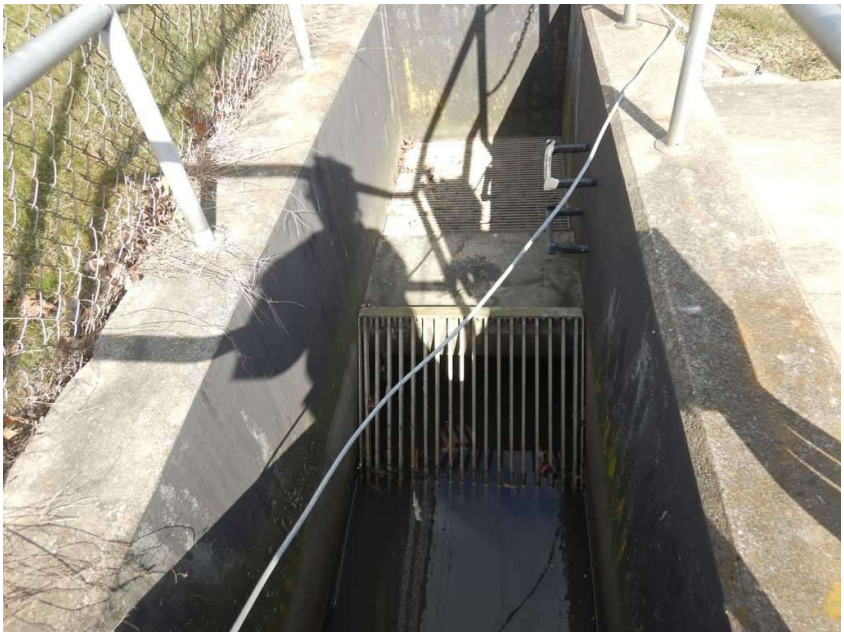


Daily log book	DSCN0392.JPG	
02/15/2023 10:31 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Daily log book		



Daily log book	DSCN0393.JPG	
02/15/2023 10:31 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Daily log book		

Headworks vault 1	DSCN0394.JPG	
02/15/2023 11:31 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Headworks vault 1		



Headworks vault 2	DSCN0395.JPG	
02/15/2023 11:31 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Only used when excess heavy flow is sent directly to EQ basin, but influent can still flow to this vault.		

Influent Automatic Sampler	DSCN0396.JPG	
02/15/2023 11:32 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Influent Automatic Sampler		

Primary Clarifier 1	DSCN0397.JPG	
02/15/2023 11:34 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Primary Clarifier 1		

Primary Clarifier 1	DSCN0398.JPG	
02/15/2023 11:35 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Primary Clarifier 1		

Primary Clarifier 2	DSCN0399.JPG	
02/15/2023 11:35 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Primary Clarifier 2		

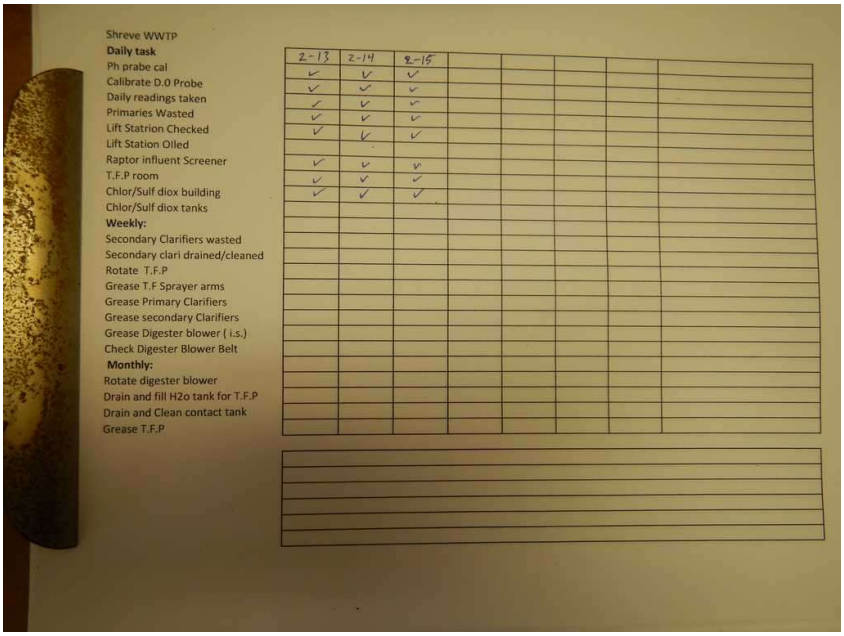
Primary Clarifier 2	DSCN0400.JPG	
02/15/2023 11:35 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Primary Clarifier 2		

Primary Clarifier 2	DSCN0401.JPG	
02/15/2023 11:36 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Primary Clarifier 2		

Adjoining Box	DSCN0402.JPG	
02/15/2023 11:37 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Wet well - the two primary clarifiers feed into it before exiting to trickling filter.		

Pumps in basement of main office building	DSCN0403.JPG	
02/15/2023 11:43 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Pumps in basement of main office building		

Daily bench sheet	DSCN0404.JPG	
02/15/2023 11:47 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Daily bench sheet		



Operations checklist for daily, weekly, and monthly on-site activities	DSCN0405.JPG	
02/15/2023 11:47 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Daily bench sheet		

Trickling filter	DSCN0406.JPG	
02/15/2023 11:49 AM	Photographer: Jedediah Hendershott	
WWTP	No CBI	No PII
Trickling filter		

Trickling filter	DSCN0407.JPG	
02/15/2023 11:49 AM	Photographer: Jedediah Hendershott	
WWTP	No CBI	No PII
Trickling filter		

EQ Basin	DSCN0408.JPG	
02/15/2023 11:51 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
EQ basin		

EQ Basin Overflow to Bypass	DSCN0409.JPG	
02/15/2023 11:52 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
EQ basin connection to bypass which is now plugged per Ohio EPA. Overflow is now directed via manual key valve to lift station and then back to headworks.		

Digester 1	DSCN0410.JPG	
02/15/2023 11:56 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Digester 1		

Digester 2	DSCN0411.JPG	
02/15/2023 11:56 AM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Digester 2		

Final Clarifier 1	DSCN0412.JPG	
02/15/2023 12:00 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Final clarifier 1 (west end) - flow comes in through middle		

Final Clarifier 1	DSCN0413.JPG	
02/15/2023 12:00 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Final clarifier 1 (west end)		

Final Clarifier 2	DSCN0414.JPG	
02/15/2023 12:01 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Final clarifier 2 (middle) - brings flow into outside channel (can waste off the outer channel)		

Final Clarifier 3	DSCN0415.JPG	
02/15/2023 12:04 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Final clarifier 3		

Final Clarifier 3	DSCN0416.JPG	
02/15/2023 12:04 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Final clarifier 3		

Location of effluent samples	DSCN0417.JPG	
02/15/2023 12:09 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Location where automatic sampler hose pulls the effluent samples.		

Effluent auto-sampler	DSCN0418.JPG	
02/15/2023 12:10 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Effluent auto-sampler		

The First 3 Chlorine tanks	DSCN0419.JPG	
02/15/2023 12:11 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
The first 3 chlorine tanks - enters in bottom tank of photo		

Next 2 chlorine tanks in sequence	DSCN0420.JPG	
02/15/2023 12:11 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Next 2 chlorine tanks in sequence - underflows from first 3 into these.		

Final chlorine tanks in sequence	DSCN0421.JPG	
02/15/2023 12:12 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Final chlorine tanks in sequence (underflows into these)		

Dechlorination (white pipe)	DSCN0422.JPG	
02/15/2023 12:14 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Dechlorination solution drips from white pipe into flow from the v-notch weir.		

Weir and Ultrasonic Meter	DSCN0423.JPG	
02/15/2023 12:14 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Weir and ultrasonic meter		

Lift Station	DSCN0424.JPG	
02/15/2023 12:17 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Lift station		

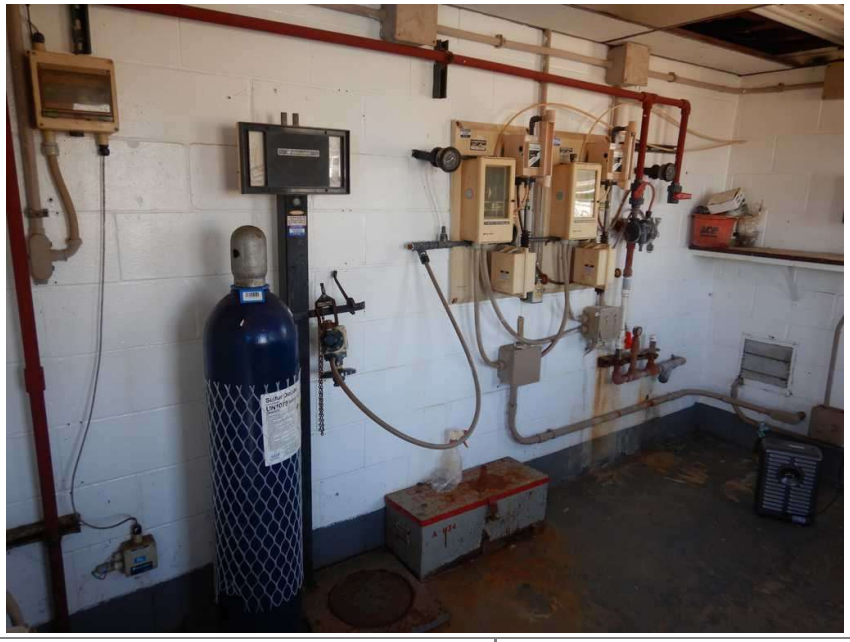
Outfall 001 Sign	DSCN0425.JPG	
02/15/2023 12:18 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Outfall 001 sign		

Outfall 001	DSCN0426.JPG	
02/15/2023 12:19 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Outfall 001		

Confluence of Outfall 001 Flow with Shreve Creek.	DSCN0427.JPG	
02/15/2023 12:19 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Confluence of Outfall 001 flow with Shreve Creek, looking downstream.		

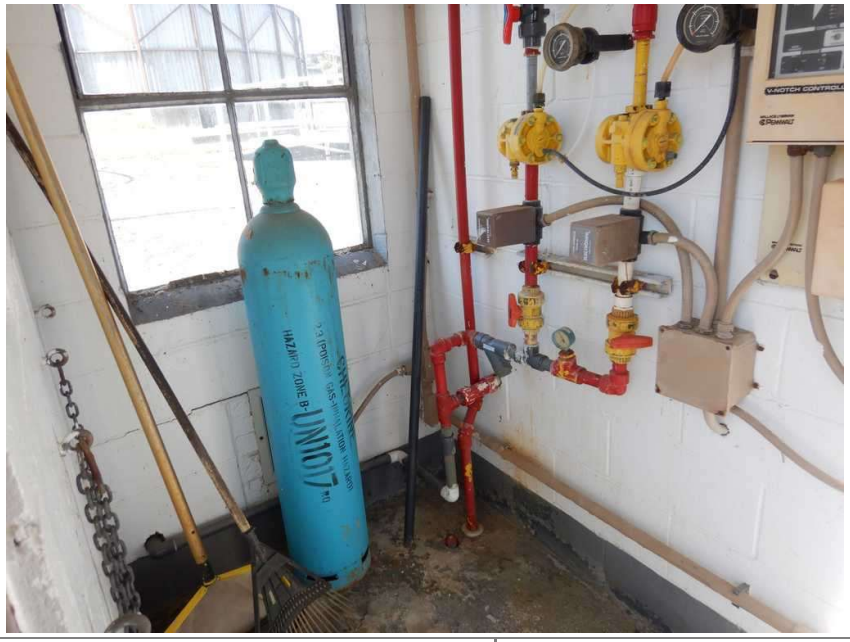
Upstream Sample Location	DSCN0428.JPG	
02/15/2023 12:23 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Approximate upstream sample location in Shreve Creek.		

Downstream Sample Location	DSCN0429.JPG	
02/15/2023 12:26 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Approximate downstream sample location in Shreve Creek.		



Sulfur Dioxide Storage	DSCN0430.JPG	
02/15/2023 12:28 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Sulfur dioxide storage		

Sulfur Dioxide Storage	DSCN0431.JPG	
02/15/2023 12:28 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Sulfur dioxide storage		



Chlorine Storage Room	DSCN0432.JPG	
02/15/2023 12:28 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Chlorine storage room		

Chlorine Storage	DSCN0434.JPG	
02/15/2023 12:28 PM	Photographer: Megan Zale	
WWTP	No CBI	No PII
Chlorine storage		