



Monthly Report of the Operations & Maintenance Activities

Claremont Polychemical Operable Unit 5
Groundwater Treatment System

Old Bethpage, New York
February 2020

NYSDEC Standby Engineering Contract
Work Assignment #D0076025-28

Prepared for
NYS Department of Environmental Conservation
625 Broadway
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**Department of
Environmental
Conservation**

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ACRONYMS AND ABBREVIATIONS

AS	air stripper
ASF	air stripper feed
BSP	Bethpage State Park (Black Golf Course)
CPC	Claremont Polychemical
CSE	confined space entry
DOSR	daily operations summary report
DTB	depth to bottom
DTW	depth to water
EFF	effluent
EON	EON Products, Inc.
ESS	Environmental Sampling Supply
Fed Ex	Federal Express
GPD	gallons per day
GPM	gallons per minute
GW	groundwater
GWTS	groundwater extraction, treatment, and reinjection system
HCl	hydrochloric acid
HDR	Henningson, Durham & Richardson Architecture and Engineering, P.C.
HHL	High-high level
INF	influent
LOTO	Lock-out, tag-out
MW	monitoring well
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
OBL	Old Bethpage Landfill
OU4	Operable Unit 4
OU5	Operable Unit 5
PET	Peter Takach
PDB	Passive Diffusion Bags
PD	plant discharge
PFOA	Perfluorooctanoic Acid and related perfluorinated alkyl substances
PFOS	Perfluorooctanesulfonic Acid
PID	photo ionization detector
PSEG	Public Service Enterprise Group, electrical power supplier
PW	process water
RAP	Remedial Action Plan
RW	Recovery well, process well
SOP	standard operating procedure
SSHP	site safety and health plan
SU	standard pH units
TA	TestAmerica Laboratory
TOB	Town of Oyster Bay
UPS	United Parcel Service
VAC	Vapor phase activated carbon
VOCs	volatile organic compounds

1 OPERATION AND MAINTENANCE ACTIVITIES

Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR) continued the daily operation and maintenance (O&M) of the Claremont Polychemical Superfund Site Groundwater Treatment System (GWTS) Operable Unit 5 (OU5) during the month of February. This report covers the operation and maintenance activities for the system during the period defined as beginning at 0730 hours, February 1, 2020 through 0730 hours, March 1, 2020. O&M conducted during this reporting period was guided by the site O&M Manual.

The GWTS – treatment plant, grounds, and well systems - were maintained for the 29 days in this reporting period during which the treatment system experienced 316 minutes of downtime due to an unbalanced flow condition.

Readings of the key plant process parameters are normally recorded each work day (if the plant is not occupied, the system is monitored remotely). These readings and the Human Machine Interface (HMI) flow trend lines are used to monitor the system's performance and condition. Selected readings are recorded in the daily database which is an electronic file maintained in the monthly operating document folder.

The treatment process control and alarm systems are functional. The pump for Recovery Well #4 (RW-4) and Pressure Filter Feed (PFF) Pump 1 are off line with mechanical issues. The recovery well pumps and the process pumps are operated in the automatic mode and are remotely controlled and monitored. The pump at RW-4 has failed, (12/31/2019) and will need to be replaced.

1.1 DAILY OPERATIONS SUMMARY REPORTS

The GWTS's daily operations and maintenance activities, project tasks, and observations during this period are briefly described in the Daily Operations Summary Report (DOSR). The DOSR is based in part on the treatment system's daily operating worksheets and logs which include:

- Daily Operating Log – flow readings (Form-01)
- Daily Process Data Sheet – point process readings (Form-30)
- Daily Safety and Site Inspection – plant condition checklist (Form-02)
- Daily Plant Activity Notes – plant manager's daily summary (Form-03)
- Employee Sign-In Sheet – employee on-site hours (Form-15)
- Log Book – plant operator's daily log book (CPC 5-7)
- Daily Database – daily process readings (02 Feb 20 Database.xlsx)

1.2 SUMMARY OF MAINTENANCE ACTIVITIES

The maintenance of the treatment system, facility, and associated equipment is performed in accordance with the site O&M Manual.

The maintenance, operation, and inspection of the plant incorporates the equipment manufacturers' recommendations, operations experience, and good engineering and maintenance practices. A detailed

accounting of the February activities is further provided in the plant operator's daily log book.

Maintenance and project activities completed during February include:

- Routine and general maintenance tasks conducted at the plant, on the grounds, and in the well fields.
- The MP-10H controller was prepped for sampling.
- Preventative maintenance tasks were performed on some of the plant utility equipment.
- An exit light was replaced in OU4 (SE door).
- A control relay was replaced in the control cabinet at RW-1.
- The ASF pumps were manually rotated on several occasions.
- Emergency lighting (5 units) were replaced at OU4.
- PFF 1 pilot light was replaced.
- Sampling equipment was stowed.
- Painting preparation work started on the discharge for ASF P1.
- A storage box was constructed for the truck.
- The street sign was re-hung.
- The equipment function tests were completed.
- The Claremont Poly Chemical (CPC) site was inspected.
- Mechanical and electrical testing was conducted on the PFF controls.
- HDR items were moved into temporary storage.
- The plant truck was inspected.
- The discharge basins were inspected.
- PM on the process pumps was performed. Fittings were greased and seals snugged down.
- The output from PFF Warrick Relay-1 was disconnected and added to the output of Warrick Relay-2.
- The chain was replaced at the extraction well gate.
- The SUNY Farmingdale wellfield and the monitoring well system were inspected.
- The lock on MW-41 was changed to a 2246 unit.
- The RW system was inspected.
- The OU5 comprehensive site and safety inspections completed.

1.3 MAINTENANCE LOGS

The following operating logbooks are currently in use and maintained at OU5:

- CL-43 Field Support Log
- CL-47 Misc. Projects Field Notebook (PET)
- CPC 5-4 Project Support Log Book (site)
- CPC 5-7 Site Supervisor's Daily Log Book (PET)

The completed log books associated with the project have been scanned, all are in storage at OU5, and are available for review.

2 TECHNICAL SUPPORT ACTIVITIES

2.1 HDR Personnel

- HDR maintained the system throughout the period.
- Various personnel at the Mahwah, NJ, New York, NY, and Newark, NJ offices remotely provided oversight, guidance and technical expertise for the project.
- 2/3, Morgan Violette & Derek Matuszewski – WA-43 sampling. Returned 2/5- 2/7, and 2/10.
- 2/6, Edward Chappell – monthly electrical testing.
- 2/19, Jennifer Rhee, to prepare for the transfer of plant operations, returned 2/20 for meeting.

2.2 NYSDEC Personnel, sub-contractors and other visitors

- 02/06: PSEG-LI was in to read the OU4 electric meter.
- 02/06: Eurofins-TestAmerica-NY picked up samples WA-43 samples and returned for more 02/7 & 02/10.
- 02/10: Mets Roll-off Services emptied the dumpster.
- 02/11: Pine Environmental was in to pick up the sampling equipment.
- 02/13: Eurofins-TestAmerica-NY picked up the process water (PW) samples.
- 02/13: Planet Waste Services (PWS) was in to sample the frac tank and roll-off – (WA-43)
- 02/19: Donald Griffing, Environmental Assessment & Remediations (EAR) in for operations transfer meeting. He returned 02/24-02/28 for orientation and training.
- 02/19: Robert Ancona, EAR in for operations transfer meeting.

2.3 Deliveries

- 02/03: Eurofins-TestAmerica-NY dropped off sample bottle order.
- 02/06: UPS delivered the 4VInk order.
- 02/14: UPS delivered Lake Side order.
- 02/25: USPS delivered mail.

3 HEALTH AND SAFETY

Work at the Claremont GWTS OU5 was conducted in accordance with the approved Site Safety and Health Plan (SSHP). Safety related activities during this period included:

- Daily site safety inspections were completed as part of the routine O&M activities.
- The OU4 comprehensive site and safety inspection was completed 2/14, with nothing new to note.
- The OU5 comprehensive site and safety inspections were completed 2/28, with nothing new to note.

There were no other safety issues of note in February.

4 PLANNED ACTIVITIES AND SCHEDULES

The evaluation of the plant operating system and equipment is ongoing by HDR. A list in the form of corrective actions or maintenance tasks has been generated as is a monthly system status report. These reports are updated as needed and reviewed at least monthly. Both are electronically filed. The corrective action list is included at the end of the text of this report as **Table 6** – Claremont Corrective Action Summary.

Upcoming tasks include:

- The quarterly Groundwater Sampling task is scheduled for the week of 3/23.
- The next GW elevation round is scheduled for 3/18
- The March Plant Discharge (PD) samples are scheduled for pick up on 3/18
- The disposition of the RW-4 pump replacement is awaiting NYSDEC approvals.
- PFF P1 was taken off line and its disposition needs to be determined
- The disposition of the OU4 facility is awaiting NYSDEC approval.
- The repair of the OU5 smoke detectors is awaiting the NYSDEC approvals.
- The disposition of the OU4 carbon beds is to be determined by NYSDEC.

5 MONITORING WELL WATER ELEVATIONS

The monitoring well system's groundwater level elevation data table was updated after December 2019 groundwater sampling. This database is available for review. The next synoptic water level round is scheduled for March 18, 2020, after which the table will be updated.

6 TREATMENT SYSTEM FLOWS

The volume of treated water discharged by the treatment plant to the selected recharge basin is generally determined daily from readings of the plant effluent flow meter output. During the February period, the HMI readings were recorded. The plant continued to operate in the auto mode. The treatment system experienced an alarm condition which shut it down. The system was restarted after 316 minutes of downtime.

The total volume of treated water discharged from 0730 hours on February 1, to 0730 hours on March 1, was approximately 19,562,000 gallons. The data in **Table 1** shows selected monthly flows discharged from the plant.

A graphic representation of the system's daily plant discharge output is provided in **Figure 1** and the daily plant totalizer readings for February are provided in **Table 4**, both following the text of this report.

Table 1 – Flow Average and Volume Discharged

Period	Average Flow (gpm)	Average Daily volume (gal)	Total Period Flow (gal)	Min off	Min on
Q4 2016	517	745,000	68,540,000	7,309	125171
Q1 2017	520	748,244	67,342,000	655	128945
Q2 2017	576	829,130	76,280,000	6,165	126315
Q3 2017	634	913,576	84,049,000	1,110	131370
Q4 2017	256	368,762	33,926,110	69,165	63315
Q1 2018	53	75,989	6,839,000	118,180	11420
Q2 2018	179	258,284	23,762,103	102,929	29551
Q3 2018	504	725,280	66,725,717	57,416	75064
Q4 2018	726	1,045,065	96,145,984	23,734	108746
Q1 2019	527	758,467	68,262,000	735	128865
Q2 2019	662	953,877	87,756,724	405	132075
Q3 2019	685	985,802	90,693,740	108	132372
October 2019	687	980,742	30,403,000	356	44284
November 2019	568	816,000	22,019,360	4,478	38722
December 2019	668	957,885	29,694,420	205	44435
January 2020	451	633,000	19,623,000	1,185	43,531
February 2020	472	674,552	19,562,000	316	41478

Under current conditions, the Programmable Logic Controller (PLC) and the control system are stable and fully functional. Flows from the individual recovery wells are remotely read, transmitted, and totaled.

During February reporting period, the treated water was discharged directly to Recharge Basin No. 1 on the landfill property.

The flow summary for the processes can be found in **Table 5** at the end of this report.

7 CHEMICAL CONSUMPTION

The hydrochloric acid feed system is currently off line and the system is empty of acid. There are four drums of virgin acid on site. No acid was consumed in February.

The sodium hydroxide storage system is currently not in use and the system is empty of caustic. There is no bulk sodium hydroxide on site and no caustic was consumed in February.

The sodium hypochlorite storage system is currently not in use and the system is empty of bleach. No bulk sodium hypochlorite is stored on site. No sodium hypochlorite was consumed in February.

8 WASTE DISPOSAL

There was no waste disposed of this period.

9 MONTHLY DISCHARGE MONITORING REPORT

The GWTS is operated under an equivalency permit from the NYSDEC. A review of the analytical results for the February plant discharge samples indicated all analyzed parameters were compliant with permit limits. These results can be seen in **Table 7** following the text of this report.

The plant's water discharge permit is in the process of being renewed by the NYSDEC.

10 PENDING ISSUES AND CONSIDERATIONS

The pump for RW-4 failed. Electrical testing indicated that it needs replacement. The project is awaiting guidance from the NYSDEC.

The level switches in the PFF vault are failing and await replacement.

The PFF pump 1 is failing. It has been taken out of service and awaits testing.

Inspections of the CPC property and discharge basins will continue.

The plans for the fire alarm and central monitoring systems at OU4 are awaiting NYSDEC approvals.

The repairs to the OU5 fire alarm open loop are to be approved by NYSDEC and scheduled.

The plant lights are kept on overnight because the plant lighting and emergency lighting are wired to the same circuit breaker (sole switch).

The OU4 plant is offline and its disposition is pending.

The plant exhaust system is controlled by the methane monitoring system.

Removal and disposal of vapor phase activated carbon at OU4 is to be scheduled.

The status of key aspects of OU4 are as follows:

- The plant heat is on
- The fire alarm panels are off-line and there is no central monitoring
- The facility is secure and physical monitoring continues
- The facility is not maintained

11 PLANT DOCUMENTS

Procedures and standard forms are written, reviewed, and revised as needed. As-built drawings are generated and updated as necessary. These form and procedures include:

- Form-33, monthly scheduled tasks, was revised to rev. B
- Form-34, OU4 power test, was generated
- F-28, OU4 inspections, was revised to rev. F
- Relevant documents were updated for the possible operations transfer to a NYSDEC on-call contractor.
- Form-35, PW field notes was revised to rev. D

12 MONITORING RESULTS

The Claremont Polychemical GWTS is monitored through the analysis of off-site laboratory analytical data and on-site field data.

12.1 Off-site Analytical Data Results

Monthly PD samples are taken for organic analysis in compliance with the NYSDEC discharge permit. Quarterly groundwater (GW) samples are taken for organic analysis, and quarterly process water (PW) samples are taken for organic, inorganic, and generic analysis. The February sampling activities were:

- The WA-43 wells were sampled for PFOAs and 1, 4-Dioxane.
- The cyanide sample containers were prepared for the PW samples.
- The PW field samples were collected and processed. The RW-4 system remains offline and was not sampled.
- The PW plant samples were collected and processed. All PW samples were shipped 2/13 to Eurofins-TestAmerica-NY.

- Passive Diffusion Bags (PDBs) were installed in the additional BP wells. Depth to water (DTW) readings were recorded.

12.2 Field Data

Plant Discharge pH and Temperature

The treatment plant effluent is monitored for pH and temperature on a weekly basis in order to obtain a monthly average in compliance with the NYSDEC discharge permit requirements. These readings are taken from the plant effluent at a controlled point with a calibrated portable meter. The plant discharge readings for February can be found below in **Table 2**.

Table 2 – Effluent pH and Temperature Readings

Date	pH (su)	Temp °F
2/4	6.8	55
2/11	7.0	55
2/17	6.5	58
2/25	6.7	56
February Average	6.75 su	56°F

The NYSDEC discharge permit requires the plant discharge to have an average monthly pH between 6.5 and 8.5 standard units (su). The results for this month meet this requirement. Data showing the plant discharge's monthly average pH trend over several months is provided in **Table 8** following the text of this report.

AS Tower Air Monitoring

Using a calibrated PID meter, weekly air monitoring readings are taken from the effluent air stream of the AS Tower through Port B when the treatment system is online. The February readings from the AS tower are provided in **Table 3**.

Table 3 – AS Tower Air Monitoring Readings

Date	Port B
2/4	0
2/11	0
2/19	0
2/26	0

There were no emissions from the Air Stripping System observed this month. No emissions have been detected since HDR began operation of the plant in October of 2016.

Other routine data collected in February were:

- The electric and water meter readings were recorded weekly.

- The plant sound levels were recorded bi-weekly.
- The electric and gas meter readings for OU4 were recorded monthly.
- The water levels in Sumps 3 and 4 were monitored.
- The recharge basins were inspected and the water levels noted.
- The differential pressure readings across the AS Tower were recorded bi-weekly.

13 PROCESS ANALYSIS and SYSTEM STATUS

The treatment system is currently operated 24/7 in automatic mode.

13.1 Extraction (RW) Processes

- The motor controls were inspected and tested. A control relay at RW-1 was replaced.
- The pump at RW-4 remained offline for the period. It needs to be replaced.
- The pump system is remotely controlled and monitored, it operates in the Auto mode. The pumps at RW-1, -2, -3, and -5 are fully functional, but 2 and 1 are off line.
- Pump flow readouts are transmitted to the plant and the totalizers for 4, and 5 are fully functional. The signal from RW-3 is starting to deteriorate.
- The A/V valve at station 16+57 remains isolated from the transmission line.
- The A/V valve at station 17+10 remains isolated from the transmission line.
- RW-1 and RW-2 are off line and periodically run for PM purposes. The flow meters are not transmitting.
- The vault heaters are on and panel heaters are active.

13.2 Air Stripping (AS) Process

- The three AS feed pumps are fully functional and are operated in the auto mode off the wet well level switches. The pumps have been coded to rotate into service. Pump 1 as the lead pump does not keep up with influent flow and therefore it does not shut off. This requires occasional manual sequencing of the pump.
- The shaft seals were snugged up. And motors and seals were greased.
- The AS tower main drain valve is not functional (fail open).
- The tower media appears clean as the pressure differential between the top and bottom ports remains relatively constant. The lower section of media has been visually inspected. Analysis of the sampling data indicates that iron is being removed from the system.
- The discharge valve for ASF P1 appears to be frozen in the open position.

13.3 Plant Discharge (PD) Process

- Pump 1 has been taken out of service due to excessive noise and vibration.
- The level float switches are starting to fail causing the pumps to short cycle.
- The shaft seals were tightened and greased. The motors were greased.
- The plant discharge continues to be directed to Recharge Basin No. 1. Currently no

discharge is going to Recharge Basin No. 33.

- The discharge valve for PFF P2 appears to be failing in the open position. The valve for Pump 3 has failed open.
- Pump 2 continues to occasionally trip.

13.4 Other

- The Auto-dialer is fully functional.
- The plant's first light bank is wired to the e-light recharging system, therefore the circuit must be kept on. The light activity is intermittent.
- A leak has developed in the water supply line running through the plant. A temporary patch was installed. The water service was restored.

14 GROUNDS

14.1 Plant Perimeter

- General outdoor clean-up tasks are on-going.
- The back lot was cleaned up. The waste from the drilling task was disposed of
- The Frac tank and roll-off were sampled.
- The last power outage disabled the clock mechanism on the outdoor light timer. Five of the outdoor building lights are currently out. These conditions should not impact safety or security.
- The Town of Oyster Bay (TOB) continues to maintain the grounds along the plant perimeter.

14.2 Well Field

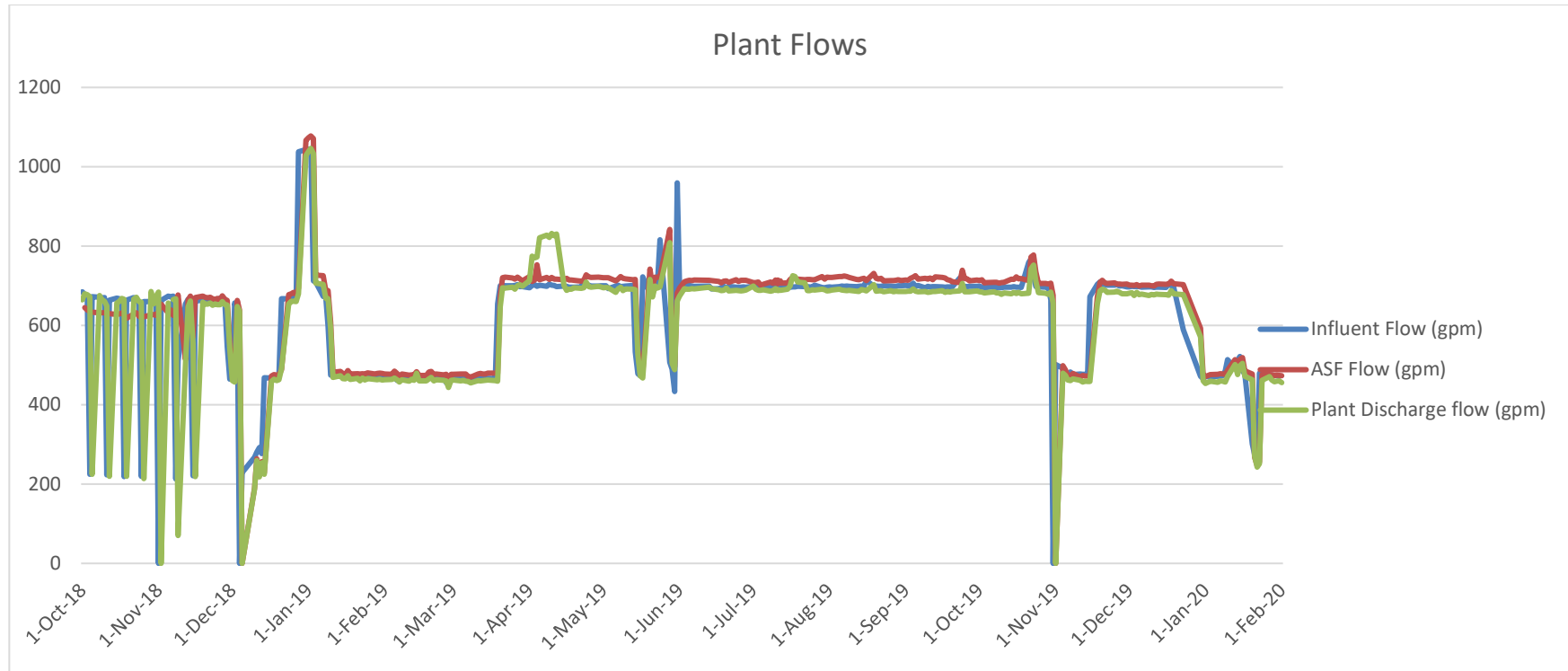
- The chains were cut at the gates to the OU4 drive and to the extraction wells. Vehicular damage was done on the golf course and the SUNY wellfield.
- Well, well field, and basin inspections continue.
- Two new wells have been installed south of the plant.
- The well access paths are relatively clear, downed trees and overgrowth are removed as necessary.
- The lock on MW-41 was changed.

14.3 Other

- The grounds continue to be inspected but not maintained at OU4.
- The Claremont site is relatively secured. There is currently no tenant on the property.

FIGURES

Figure 1 – Plant Discharge Daily Flow



TABLES

Table 4 – Plant Daily Totalizer Readings

February 2020 Flows				
Plant Influent			Plant Discharge	
Date	Volume	Avg. Flow	Volume	Avg. Flow
1-Feb-20	1368000	475	1322000	459
3-Feb-20	701000	487	680000	472
4-Feb-20	667000	463	648000	450
5-Feb-20	655000	455	644000	447
6-Feb-20	747000	519	711000	494
7-Feb-20	2198000	509	2126000	492
10-Feb-20	688000	478	670000	465
11-Feb-20	691000	480	668000	464
12-Feb-20	679000	472	659000	458
13-Feb-20	685000	476	665000	462
14-Feb-20	2262000	524	2174000	503
17-Feb-20	571000	397	565000	392
18-Feb-20	715000	497	689000	478
19-Feb-20	728000	506	700000	486
20-Feb-20	743000	516	717000	498
21-Feb-20	2044000	473	1988000	460
24-Feb-20	676000	469	658000	457
25-Feb-20	679000	472	658000	457
26-Feb-20	683000	474	663000	460
27-Feb-20	676000	469	650000	451
28-Feb-20	1346000	467	1307000	454
Feb. Total Plant Influent (Gal)			20,202,000	
Feb. Total Plant Effluent (Gal)			19,562,000	

Readings from HMI digital outputs

Table 5 – Pump System Flow Readings

February	On-Time Minutes (actual)	Avg. Flow (gpm)	Avg. Flow (gpd) (over 31 days)	Total Flow (gal)
RW-1	10	235	-	2350
RW-2	10	260	-	2600
RW-3	41478	266	379,918	11,017,610
RW-4	0	0	0	0
RW-5	41478	210	300,414,	8,712,000
Plant Influent	41478	487	696,621	20,202,000
Plant Effluent	41478	472	674,552	19,562,000

The treatment process was online 29 days in February. Flows are taken from the HMI meter readings. There was 316 minutes of downtime.

Table 6 – Claremont Corrective Actions Summary

Conditions of note and corrective actions planned 2/28/2020

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
Plant heaters UH-1 and UH-2 are not working	<p>UH-2 - needs a timer relay and wiring repairs at the unit. UH-1 – needs a transformer.</p> <p>It should be noted that the heating system AH-2 is adequate to heat the process area.</p> <p><i>No further action is planned at this time</i></p>	Electrical and/or plant personnel	Not needed at this time. Repairs can be made with treatment system on line.	Task may require working off ladders or elevated surface.
The Air vent valve in the vault north of the 6 th fairway (BSP-B) has a leak	<p>The nipple connecting the A/V valve to the RW manifold is leaking. The isolation valve has been closed and the device is out of service. The piping needs replacement and the system checked.</p> <p><i>No further action has been taken</i></p>	Plant staff and contractors	None, isolation valve is functioning	Confined Space Entry
the Air vent valve in the vault east of the 6 th green has a leak	<p>The A/V valve has been isolated by the shut off valve. The device itself is leaking. The unit needs replacement or rebuilding and the system needs inspection.</p> <p><i>No further action is planned at this time</i></p>	Plant staff and contractors	System shut down until the remedy was made	Confined space entry

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
NaOH Vault sump pump not actuating	<p>System needs to be inspected.</p> <p>A portable submersible well pump was set up in the vault sump for manual operation.</p> <p><i>No further action is planned at this time</i></p>	Plant staff Electrical support	None at this time	Oversight needed
Potential issue with the RW Discharge Manifold integrity	<p>The condition of the various devices in the RW manifold vaults are suspect.</p> <p>A full set of function tests should be scheduled.</p>	Plant staff and outside contractors	Possible shutdown	May require a CSE
Plant discharge Pump 2 frequently trips	<p>Pump continues to trip. It requires manual resetting. The control panel does not indicate the status.</p> <p>EE indicated that the motor starter contact block appears to be getting stuck.</p> <p>When possible the unit will be cleaned.</p>	Operator and Electrical Engineer (EE)	Loss of redundancy. Requires P3 to be activated	None at this time
AS Tower main drain valve does not close	<p>Tests on the valve indicate that it does not close. This is not a problem until the tower media needs to be acid washed.</p> <p>This valve should be replaced.</p>	operator	Plant will need to be shut down to change out the valve	None at this time

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
The piping configuration for the RW pump pressure switches, pressure gages and sample ports are corroding and unwieldy and subject to catastrophic failure	<p>The systems at RW-5 and RW-3 have failed. While piping components have been replaced, the design has not been changed. The top-heavy configuration needs a re-design and re-build or eliminated.</p> <p>Unsure of the pressure switches are required for the safety of the pumps. Unsure if they can they be eliminated or require a re-design.</p>	Plant operator and spotter	Each well system will be shut down during the upgrade	Confined space entries will be required. These will generally not be permit required.
RW-2 flow sensor output is no longer displaying	<p>The flow element mechanical output is spinning and therefore is functional. The HS sending unit needs to be checked as well as the 12 volt power supply and wiring.</p> <p>This work needs to be scheduled as needed.</p>	Electrical techs	None anticipated. The system is isolated and off line	Confined space entries may be necessary
New Nassau County Fire Code indicates that the sprinkler system at OU4 be centrally monitored	<p>The fire alarm panels are off line.</p> <p>As, the building will no longer be demolished, the NYSDEC has directed that all fire violations will need to be addressed.</p> <p>The emergency lights have been replaced and all exit lights are functional. The roof penetration requires attention. The fire alarm system needs to be replaced. A central station monitoring system needs to be installed.</p>	Plant operator, EE and possible outside vender	None at this time	None at this time

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
The pump isolation valve at RW-5 does not fully function	The valve does not fully close and it should be removed and cleaned or replaced. No further action is planned at this time.	Plant operator and spotter	Replacement of valve will require shutting down the manifold	Confined space work
NYS Fire Marshall safety inspection at OU5	The inspection revealed several action items that needed to be addressed. There is a defective smoke detector which is to be replaced once NYDEC approves the plan.	Plant operator, TOB personnel	Disposition of TOB materials	Moving materials from mezzanine level
The power to the plant lights and the emergency light charging system are on the same electrical switch	Normally when the plant lights are shut off at night, it inadvertently shuts down the emergency lights and battery charging system. This action may have damaged the charging system. The plant lights are left on overnight.	Plant operator. EE, outside contactors	In code violation	Possible emergency evacuation impact
The activation of the HVAC room and plant exhaust fans are connected to the methane monitoring system and not independently operated	It has not been determined how to manually start the exhaust fans without putting the facility into a methane alarm. When available, EE will look into this.	Plant operator, EE	None	Possible problem with excessive heat of fume conditions
The first bank of plant lights are functioning intermittently (CB-1)	The plant lighting stopped functioning after the 3 rd e-light was installed. The e-light charging system and the plant lights are on the same circuit. When available, EE will look into this.	Plant operator, EE	None, the second bank of plant lights is functional	None at this time

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
A leak has developed at the Victaulic fitting on the PFF vent line	The Victaulic nipple to PVC connector is corroded and starting to leak. Flow is minimal. Fitting should be replaced. The condition will be monitored. The replacement part has been received	Plant operator	Shut down will be required	Ladder work
The loss of power 11/1/19 appears to have affected the outdoor lighting timer	Unit receives power but appears to not function. It is a 270 volt unit. <i>The unit should be replaced.</i>	Plant operator	none	Electrical work
Several leaks were observed in the plant overhead water supply line.	Adjacent to the north door, a leak was observed. The covering and insulation was removed and a clam-shell type clamp was applied. The second observed leak needs to be addressed. In addition, there appears to be a problem with the supply shut off valve. <i>No further action is being taken at this time</i>	Plant operator Outside plumbing contractor?	None at this time	Sanitary water may be shut off during repairs
The pump for RW-4 has failed	Electrical testing has indicated that the motor needs to be replaced. The NYSDEC call-out contractor has been contacted	Outside contractors	None at this time	Crane work, Vault work
the PFF pumps started short cycling	The control relays started chattering and the system was not properly controlling the pumping operation. It was determined that the float switches need to be replaced	Plant operator and HDR resources	Plant shut down is required	Confined space entry work

Condition to be Corrected	Status and Actions	Resources	Plant Ops Impact	Health & Safety Impacts
PFF P1 has started making a lot of noise	The pump when activated immediately makes a lot of noise, and the pump drop tube shakes. Smoke/ fumes emanated at the Motor-shaft connection. The noise if from above the vault The pump was removed from service. It is recommended that the motor be disconnected, lifted, and checked.	Outside contractors	Not at this time	To be determined
ASF P1 has started to operate with a louder level of noise	The pump was taken out of service as a precautionary measure as its operating hum grew louder. <i>The system will need to be checked</i>	Plant operator and outside resources	Not at this time	To be determined

Other Plant Conditions of Note (no action required at this time)

- The methane detection system is offline. **To function, it will need a technical inspection and technical maintenance.**
- Air stripper air flow meter is not functional. **It will need to be powered up to determine if it is functional.**
- The RW-1 flow sensor is not functional. **The unit is not in service and no further action is planned at this time.**
- The AH-1 HVAC system is not functioning. **No further action is planned at this time.**
- The RW-2 flow sensor is not functional. **No further action is planned at this time.**
- It has been determined that intrinsically safe components are no longer required in the plant.

Table 7 – Recent Plant Discharge Analytical Results

The plant discharge was last sampled 2-11-2020. The results are shown below.

Parameters	Discharge Limitations (SPDES)	Units	Results Feb '20
pH (August Average)	6.5 – 8.5	SU	6.75
1,1,1-Trichloroethane	5	ug/l	U
1,1-Dichloroethane	5	ug/l	U
1,1-Dichloroethylene	5	ug/l	U
1,2- Dichloroethane	0.6	ug/l	U
Benzene	0.7	ug/l	U
Chlorobenzene	5	ug/l	U
Chloroform	7	ug/l	U
CIS 1,2-Dichloroethylene	5	ug/l	U
Ethylbenzene	5	ug/l	U
Methylene Chloride	5	ug/l	U
Tert-butyl alcohol (TBA)	Not indicated	ug/l	U
Tert-Butyl-Methyl ether (MTBA)	5	ug/l	U
Tetrachloroethylene(PCE)	5	ug/l	U
Toluene	5	ug/l	U
Trans 1,2-Dichloroethylene	5	ug/l	U
Trichloroethylene(TCE)	5	ug/l	U
Bis(2-ethylhexyl)phthalate	5	ug/l	U
Di-n-butyl phthalate	50	ug/l	U
Nitro Benzene	0.4	ug/l	U
Antimony, Total recoverable	3	ug/l	U
Arsenic, Total recoverable	50	ug/l	U
Barium, Total recoverable	2000	ug/l	17.1
Chromium, Hexavalent	100	ug/l	U
Lead, Total recoverable	50	ug/l	U
Iron, Total recoverable	600	ug/l	211
Manganese, Total recoverable	600	ug/l	402
Mercury	Not indicated	ug/l	U
Zinc	Not indicated	mg/l	U
Nitrogen, Total (as N)	10	mg/l	4.1
Selenium, Total recoverable	40	ug/l	U
Solids, Total Dissolved	1000	mg/l	297
Chloride Ion	NL	mg/l	124
Cyanide	Not indicated	ug/l	U
Fluoride Ion	NL	mg/l	0.024
Sulfate Ion	NL	mg/l	21.6

NS – Not sampled **J** – Estimated value **U** – Analyzed but not detected **NL** – Monitor only

Discharge limitations updates as per the water discharge permit.
Not monitored but of interest: 1, 4-Dioxane – not detected.

Table 8 – Plant Discharge Monthly Average pH

Month	pH(su)
Mar'18	7.35
Apr '18	7.1
May '18	7.05
June '18	6.5
July '18	6.95
August '18	6.85
Sept '18	6.74
Oct '18	7.2
Nov '18	7.3
Dec '18	6.82
Jan '19	7.1
Feb '19	7.05
Mar '19	6.68
April '19	6.54
May '19	6.61
June '19	6.5
July '19	6.6
Aug '19	6.56
Sept '19	7.45
October '19	6.86
November '19	6.88
December '19	6.84
January '20	6.63
Feb '20	6.75

