

PUMP STATION 196

Sep-22		PS 196	
		METER READING	24 HOUR FLOW
THU	1	42423760	0.137500
FRI	2	42561260	0.157840
SAT	3	42719100	0.173430
SUN	4	42892530	0.175000
MON	5	43067530	0.166330
TUE	6	43233860	0.282000
WED	7	43515860	0.279860
THU	8	43795720	0.268240
FRI	9	44063960	0.357320
SAT	10	44421280	0.387760
SUN	11	44809040	0.395060
MON	12	45204100	0.380270
TUE	13	45584370	0.415020
WED	14	45999390	0.376540
THU	15	46375930	0.396420
FRI	16	46772350	0.379450
SAT	17	47151800	0.381110
SUN	18	47532910	0.382800
MON	19	47915710	0.387110
TUE	20	48302820	0.387260
WED	21	48690080	0.358940
THU	22	49049020	0.318370
FRI	23	49367390	0.365350
SAT	24	49732740	0.338930
SUN	25	50071670	0.384930
MON	26	50456600	0.382520
TUE	27	50839120	0.428090
WED	28	51267210	0.468520
THU	29	51735730	0.392120
FRI	30	52127850	0.296270
		52424120	
TOTAL			10.000360
COUNT			30
AVERAGE			0.333345
MINIMUM			0.137500
MAXIMUM			0.468520

Submission Receipt

Copy of Record: 80248 Confirmation ID: r202292880248

Site: Howard Seymour Water Reclamation
Plant

Site ID: DE0021512

Submission: Discharge Monitoring Report for DE0021512 Howard Seymour
Water Reclamation Plant Outfall: 001, August, 2022

File Name: 20228-4538-60749445

File Type: .pdf

Report: DMR

Status: Signed

Hash of Data Document:

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Data Entry Completed: 9/28/2022
5:37 PM

By: Richard Plack (richardplack)

E-Mail of Submitter: Richard.Plack@Inframark.com

From: 172.31.25.193

Signed: 9/28/2022 5:38 PM

By: Richard Plack (richardplack)

E-Mail of Signator: Richard.Plack@Inframark.com

From: 172.31.25.193

Token Used When Signed: uk0CfSiRH2G4jn2j6oLH6T4atDBJOTnhQulombkrFvE=



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (include Facility Name/Location if different):

NAME: Howard Seymour Water Reclamation Plant
 ADDRESS: 116 American Legion Road, Lewes, DE 19958 US
 FACILITY: Howard Seymour Water Reclamation Plant
 LOCATION: 116 American Legion Road, Lewes, DE 19958 US

PERMIT NUMBER: DE0021512
 DISCHARGE NUMBER: 001
 REPORT DESIGNATOR: A

DATA ENTRY COMPLETE
 REPORT SUBMITTED BY: richardplack
 STATUS OF SUBMISSION: Submitted for Signature

MONITORING PERIOD: FROM 2022 08 01 TO 2022 08 31

#	PARAMETER	NDI	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
			AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
1/1	Flow		0.775	0.865	Mil Gal/Day				0	99/99	RCOTOT
1/2	Gross Effluent (50050)	-	No Limit Monitoring Req'd	No Limit Monitoring Req'd	Mil Gal/Day	No Monitoring Required	No Monitoring Required	No Monitoring Required	--	99/99	RCOTOT
1/2	Dissolved oxygen (DO)				--	4.21	5.42	mg/l	0	99/99	Imersion
1/3	Gross Effluent (00300)	-	No Monitoring Required	No Monitoring Required	--	No Limit Monitoring Req'd	No Limit Monitoring Req'd	mg/l	--	99/99	Imersion
1/3	pH				--	7.2	7.5	Std pH Units	0	01/01	Grab
1/4	Gross Effluent (00400)	-	No Monitoring Required	No Monitoring Required	--	6	9	Std pH Units	--	01/01	Grab
1/4	Enterococcus				--		<1	CFU/100 ML	0	01/07	Grab
1/5	Gross Effluent (31639)	-	No Monitoring Required	No Monitoring Required	--	No Monitoring Required	104	CFU/100 ML	--	01/07	Grab
1/5	BOD5		<14	<15	lbs/Day		<2.4	mg/l	0	01/07	Composite 24
1/5	Gross Effluent (00310)	-	188	288	lbs/Day	No Monitoring Required	23	mg/l	--	01/07	Composite 24
1/6	BOD5				--		189	mg/l	0	01/30	Composite 24
1/6	Raw Sewage (00310)	-	No Monitoring Required	No Monitoring Required	--	No Monitoring Required	No Limit Monitoring Req'd	mg/l	--	01/30	Composite 24
1/7	TSS		<4	<8	lbs/Day		<0.7	mg/l	0	01/07	Composite 24
1/7	Gross Effluent (00530)	-	188	288	lbs/Day	No Monitoring Required	23	mg/l	--	01/07	Composite 24

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: _____ TELEPHONE: _____ DATE: _____

(ATTACH DIGITAL SIGNATURE RECEIPT FROM CROMERR)

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: _____ YEAR: _____ MO: _____ DAY: _____



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (include Facility Name/Location if different):

NAME: Howard Seymour Water Reclamation Plant
 ADDRESS: 116 American Legion Road, Lewes, DE 19958 US
 FACILITY: Howard Seymour Water Reclamation Plant
 LOCATION: 116 American Legion Road, Lewes, DE 19958 US

PERMIT NUMBER: DE0021512
 DISCHARGE NUMBER: 001
 MONITORING PERIOD: FROM 2022 08 01 TO 2022 08 31

REPORT DESIGNATOR: A
 DATA ENTRY COMPLETE: 9/28/2022
 REPORT SUBMITTED BY: richardplack
 STATUS OF SUBMISSION: Submitted for Signature

#	PARAMETER	NDI	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE		
			AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM				UNITS	
2/1	TSS												
		SAMPLE MEASUREMENT			--			75		mg/l	0	01/30	Composite 24
	Raw Sewage (00530)	PERMIT REQUIREMENT	No Monitoring Required		--	No Monitoring Required		No Limit Monitoring Req'd		mg/l	--	01/30	Composite 24
2/2	Total Nitrogen	SAMPLE MEASUREMENT	26.4		lbs/Day	26.4		4.24		mg/l	0	01/30	Composite 24
	Gross Effluent (00600)	PERMIT REQUIREMENT	100		lbs/Day	No Limit Monitoring Req'd		8		mg/l	--	01/30	Composite 24
2/3	Phosphorus, Total	SAMPLE MEASUREMENT	3.4		lbs/Day	3.4		0.54		mg/l	0	01/30	Composite 24
	Gross Effluent (00665)	PERMIT REQUIREMENT	25		lbs/Day	No Limit Monitoring Req'd		2		mg/l	--	01/30	Composite 24

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH THE NPDES PERMIT CONDITIONS AND THAT I HAVE PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION. I AM AWARE THAT THIS INFORMATION IS BEING USED TO ENFORCE FEDERAL AND STATE LAWS AND COMPLETELY AM AWARE THAT I AM SUBJECT TO PENALTIES FOR PROVIDING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

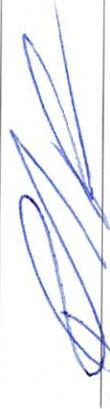
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER: _____ TELEPHONE: _____ DATE: _____

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT: _____ YEAR: _____ MO: _____ DAY: _____

LEWES WWTF NUTRIENT OFFSET REPORT 2022

Month	Days	Average Monthly Flow	Monthly Average TN	Total Monthly TN Discharged	TN Based 16.9 lbs Manure Offset Required	Monthly Average TP	Total Monthly TP Discharged	TP Based 285 lbs Manure Offset Required	Max Manure Equivalent	Poultry Manure Relocated	Poultry Manure Offset Balance
		MGD	mg/L	lbs	Tons	mg/L	lbs	Tons	Tons	Tons	Tons
Carry Over											449.94
August	31	0.7753	4.24	849.89	6.88	0.54	108.24	14.78	14.78	-	435.16
September	30	0.8664	3.79	821.57	-	0.12	26.01	-	-	-	435.16
October	31	-	-	-	-	-	-	-	-	-	-
November	30	-	-	-	-	-	-	-	-	-	-
December	31	-	-	-	-	-	-	-	-	-	-
January	31	-	-	-	-	-	-	-	-	-	-
February	28	-	-	-	-	-	-	-	-	-	-
March	31	-	-	-	-	-	-	-	-	-	-
April	30	-	-	-	-	-	-	-	-	-	-
May	31	-	-	-	-	-	-	-	-	-	-
June	30	-	-	-	-	-	-	-	-	-	-
July	31	-	-	-	-	-	-	-	-	-	-
Year Balance											449.94

Comments:


Authorized Signatory


Date

Lewes BPW WWTP Biweekly InSight Report

Date: 9/21/2022

From: Erin Horocholyn - Suez Water Technologies & Solutions
 To: Austin Calaman BPW, Inframark
 cc: Matt Stapleford - Suez Water Technologies & Solutions

System Equipment

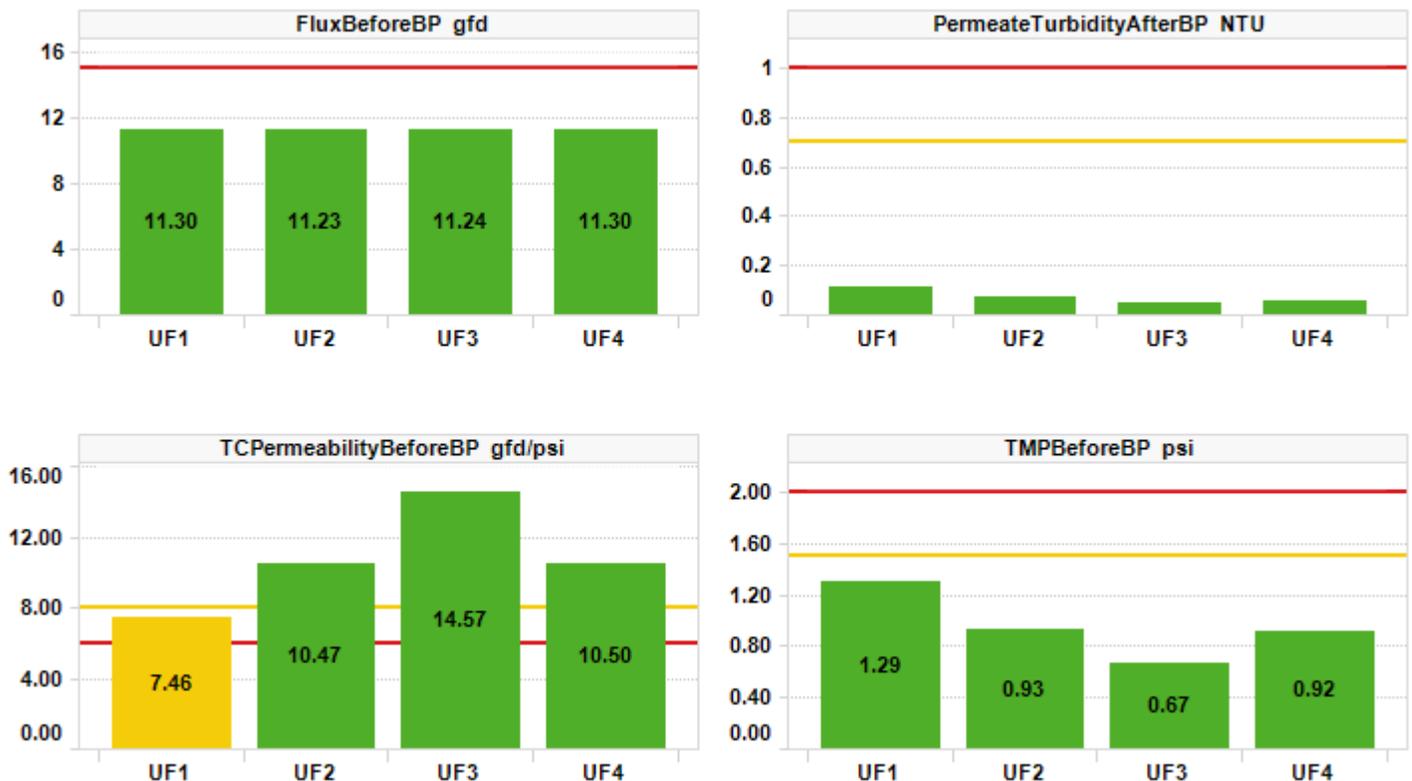
4 × ZW trains, each train consists of 4 - 500D cassettes, 120 modules x 370 sq. ft. per train (surface area 44,400 sq. ft. per train)
 Replacement membranes installed Q1 2020 on trains UF3 and UF4

Cleaning Strategy

Recovery cleaning - 2 NaOCl @ 2000 ppm dose/1000 ppm soak per year, 1 Citric acid @ 2000 ppm per year
 Maintenance cleaning - 1 NaOCl per week @ 200 ppm, 1 Citric acid per week @ 2000 ppm

KPI Dashboard – Avg values through reporting period

■ Action Required
■ Caution
■ No Limits
■ Normal



Plant Summary

Trains are operating well with steady performance.

- Daily permeate production averaged 0.91 MGD. Permeate temperature averaged 81°F (-2°F). All trains are in Backpulse with constant LEAP Hi aeration. Flux averaged 11 gfd
- Permeate turbidity ABP averages ranged from 0.05 – 0.11 NTU with stable trends
- TMP BBP was excellent and <1.0 psi on UF2,3,4. UF1’s TMP averaged 1.3 psi
- TC permeability BBP was excellent and ≥ 8 gfd/psi on UF2,3,4, and was highest on UF3. UF1’s TCP averaged 7.5 gfd/psi

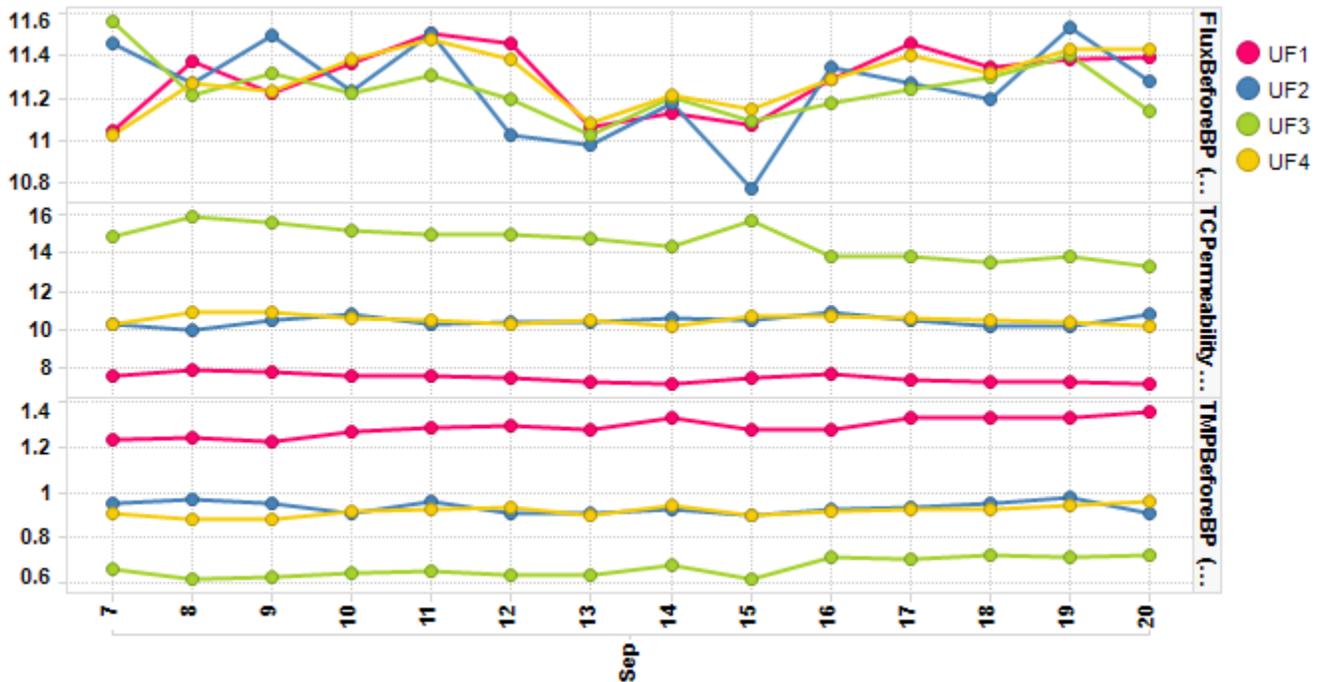


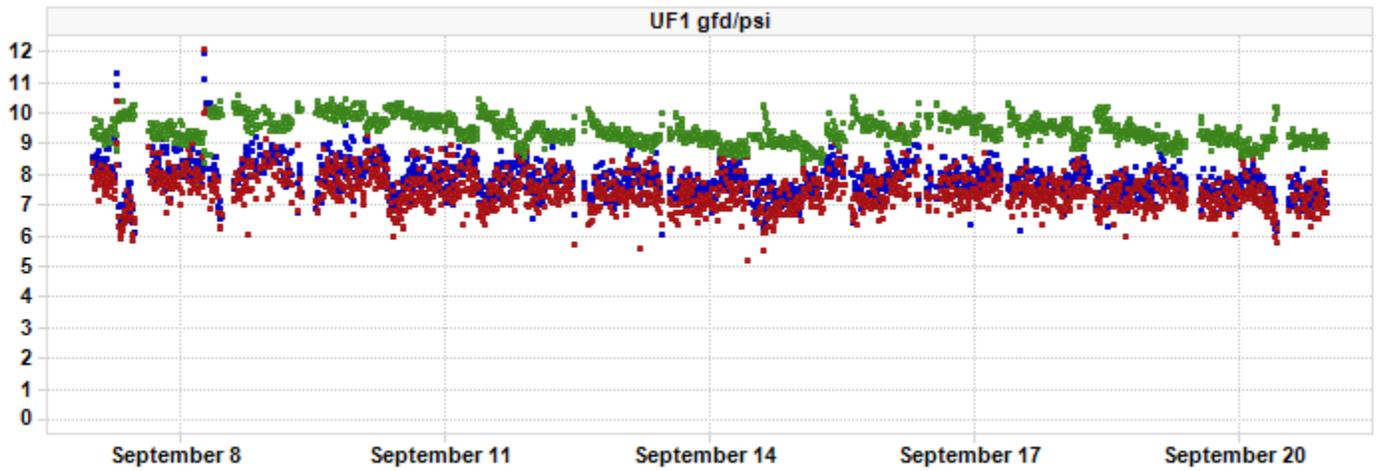
Table 1. Record of maintenance cleans (MCs) run.

Train	UF1	UF2	UF3	UF4
# of Hypochlorite MCs	2	2	1	2
# of Citric Acid MCs	2	2	1	2

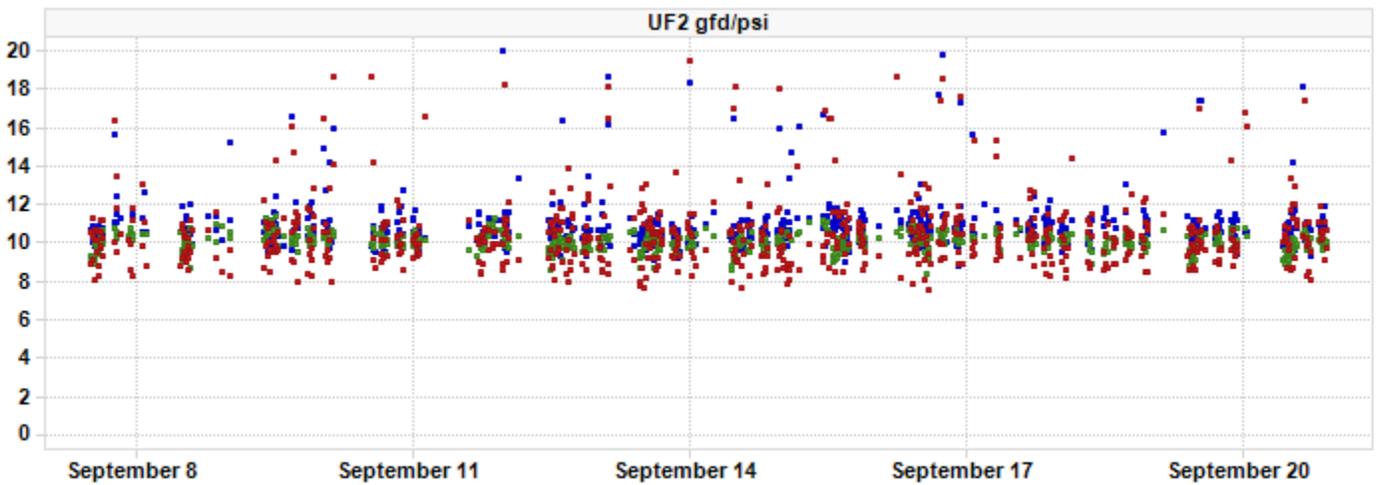


TC Permeability Trends By Train

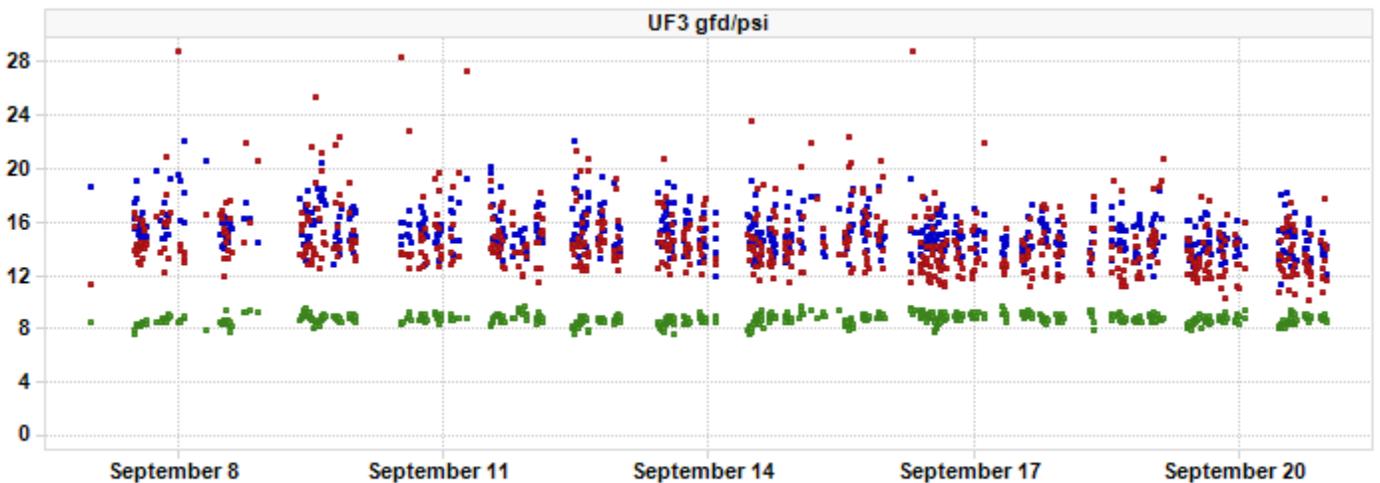
- TCPermeabilityAfterBP
- TCPermeabilityBeforeBP
- TCPermeabilityDuringBP



- TCPermeabilityAfterBP
- TCPermeabilityBeforeBP
- TCPermeabilityDuringBP

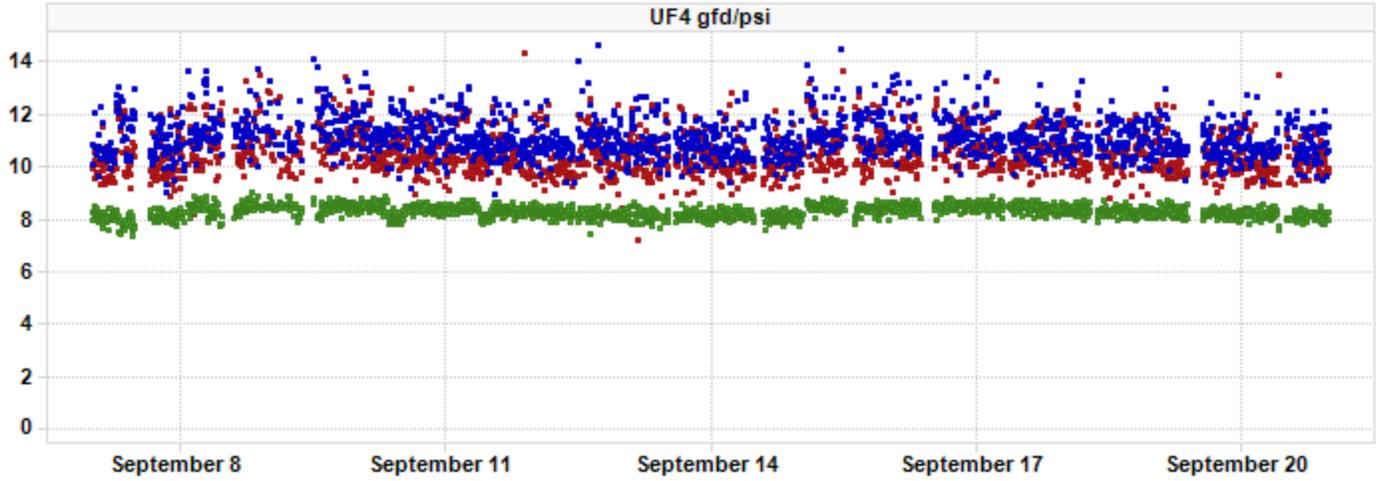


- TCPermeabilityAfterBP
- TCPermeabilityBeforeBP
- TCPermeabilityDuringBP

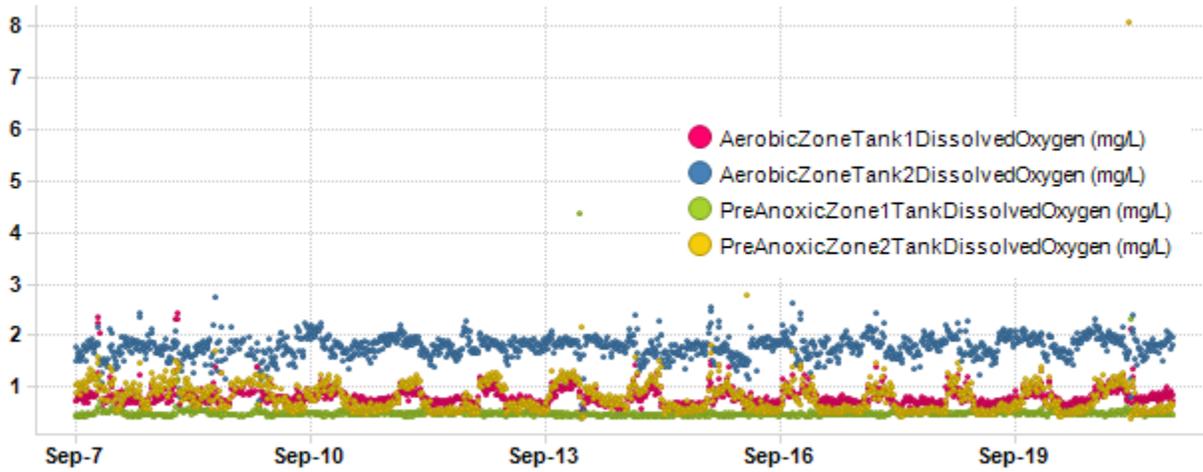




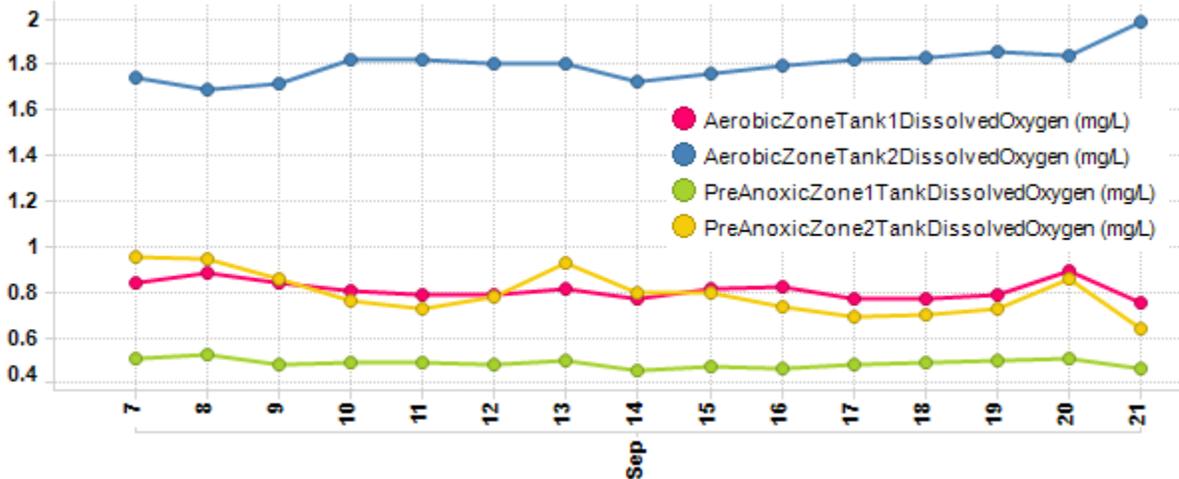
- TCPermeabilityAfterBP
- TCPermeabilityBeforeBP
- TCPermeabilityDuringBP



Bioreactor Dissolved Oxygen

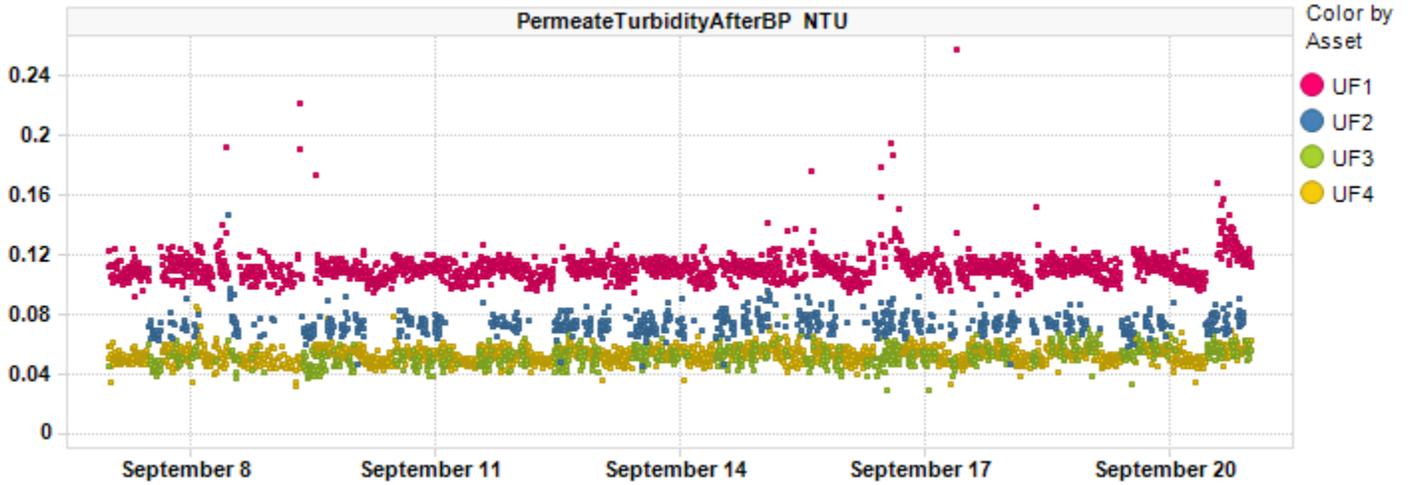


Daily median average values below

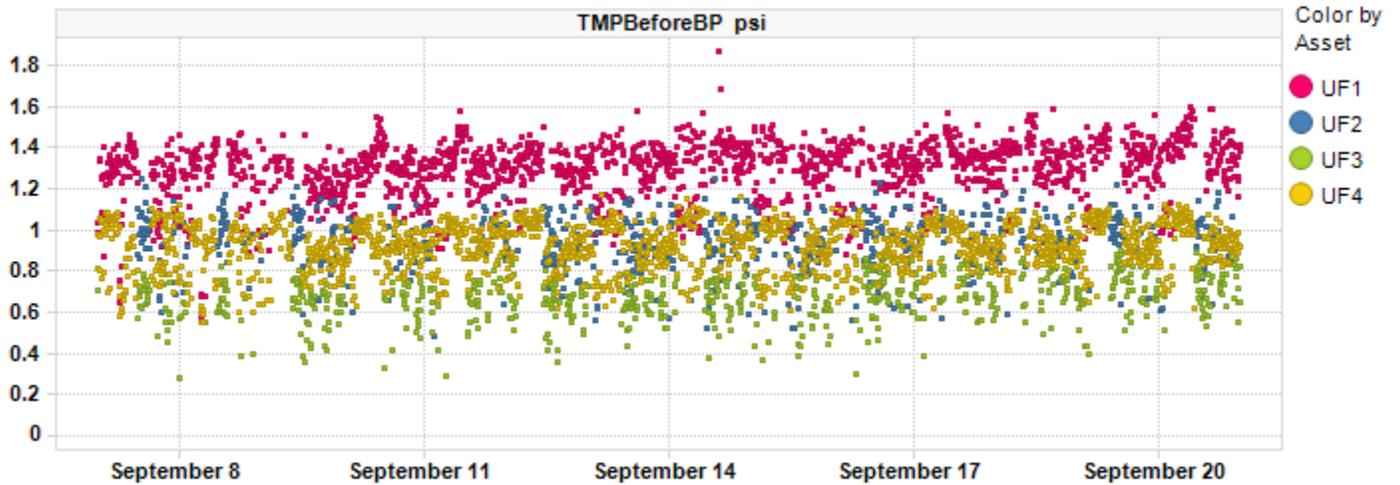




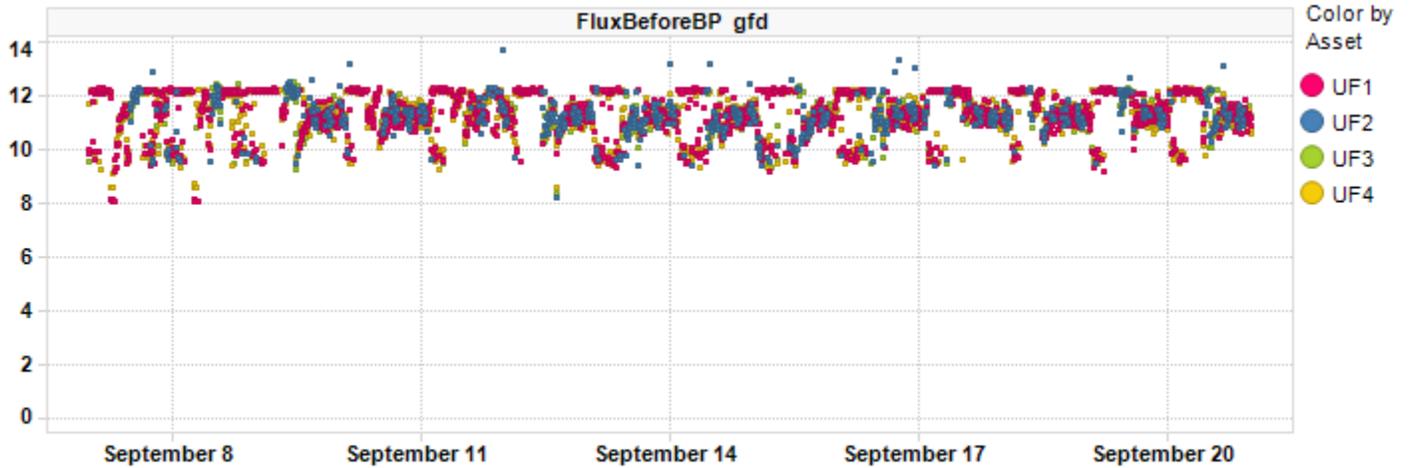
Permeate Turbidity Trend



Before BPTMP Trend

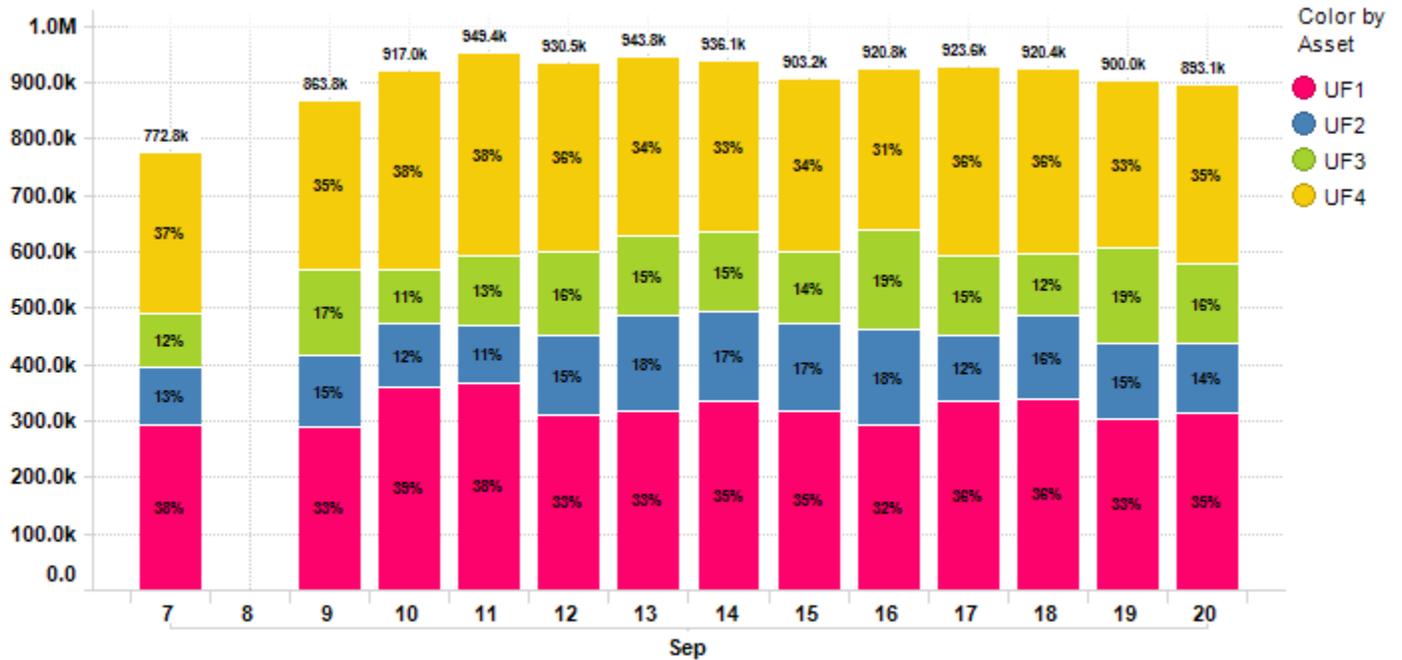


Before BP Flux Trend





Daily Permeate Flow



Average Daily permeate flow from 9/7/2022 to 9/20/2022 is 905.7k gal with a maximum daily flow of 949.4k gal.

Asset Summary

KPI Parameters	Value/Ch...	UF1	UF2	UF3	UF4
FluxBeforeBP gfd	Value	11.30	11.23	11.24	11.30
	Change	0.86%	1.47%	1.90%	0.18%
FluxDuringBP gfd	Value	18.75	18.25	18.43	18.75
	Change	0.04%	-0.38%	0.77%	-0.02%
PermeateTurbidityAfterBP NTU	Value	0.11	0.07	0.05	0.05
	Change	1.56%	4.05%	3.11%	6.99%
TCPPermeabilityBeforeBP gfd/psi	Value	7.46	10.47	14.57	10.50
	Change	-1.36%	-1.18%	-12.2...	-3.48%
TMPBeforeBP psi	Value	1.29	0.93	0.67	0.92
	Change	4.16%	4.79%	13.35%	5.94%
TotalPermeateFlowDaily gal	Value	318.1...	135.0...	135.4...	317.0...
	Change		12.15%	36.62%	37.88%

Plant Summary

KPI Parameters	Value/Change	UF Plant
PermeateTemperature °F	Value	80.54
	Change	-3.11%
TotalPermeateFlowDaily gal	Value	997.91k
	Change	21.76%



Contract Expiry Date : 08/11/2022

For InSight technical assistance please email insight.src@suez.com or please call technical support at 1 866 271 5425 or 905 469 7723 and follow the prompts, if you require after hours assistance please contact the 24/7 Emergency number provided in your plant documentation. This email is a summary of issues identified during a manual review of InSight data from the time period above. This review is an analysis of data that is logged by InSight and identifies key plant performance issues determined from this data. This data review was not focused on minor data issues but on identifying possible existing and/or upcoming critical operational issues.

This review was prepared by SUEZ Water Technologies & Solutions solely to assist water treatment plant owners and/or operators in analyzing and optimizing plant performance and is not intended to be used or relied upon for regulatory compliance or any other purpose. The content of this review is based in whole or in part on operation data obtained from the plant using InSight software. SUEZ Water Technologies & Solutions makes no representations or warranties as to the accuracy of the plant data utilized in the preparation of this review. SUEZ Water Technologies & Solutions accepts no liability for consequences or actions taken in whole or in part by any person on the basis of this review or its contents



Lewes BPW WWTP Biweekly InSight Report

Date: 10/5/2022

From: Erin Horocholyn - Suez Water Technologies & Solutions
To: Austin Calaman BPW, Inframark
cc: Matt Stapleford - Suez Water Technologies & Solutions

System Equipment

4 × ZW trains, each train consists of 4 - 500D cassettes, 120 modules x 370 sq. ft. per train (surface area 44,400 sq. ft. per train)

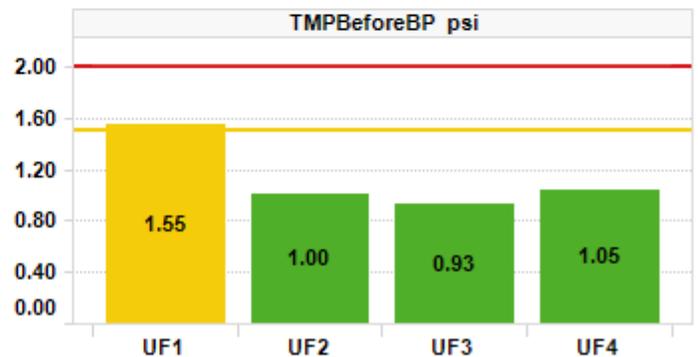
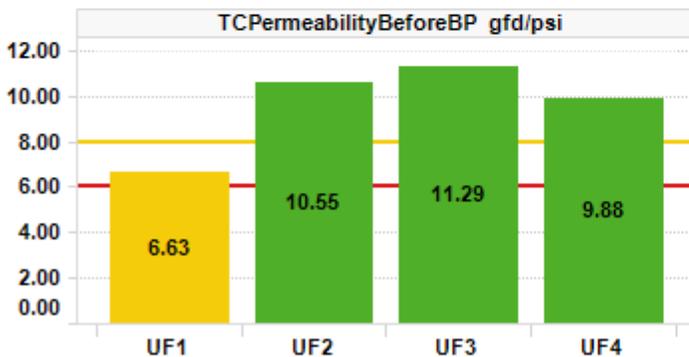
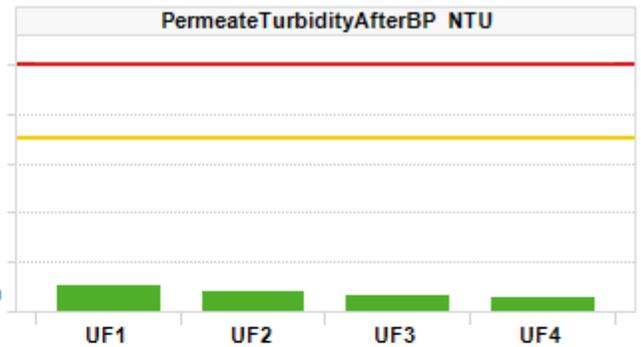
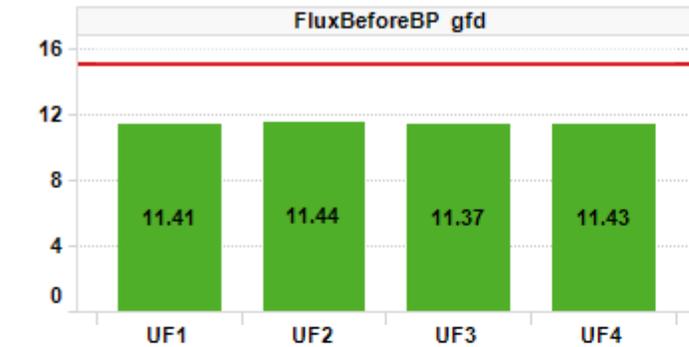
Replacement membranes installed Q1 2020 on trains UF3 and UF4

Cleaning Strategy

Recovery cleaning - 2 NaOCl @ 2000 ppm dose/1000 ppm soak per year, 1 Citric acid @ 2000 ppm per year
Maintenance cleaning - 1 NaOCl per week @ 200 ppm, 1 Citric acid per week @ 2000 ppm

KPI Dashboard – Avg values through reporting period

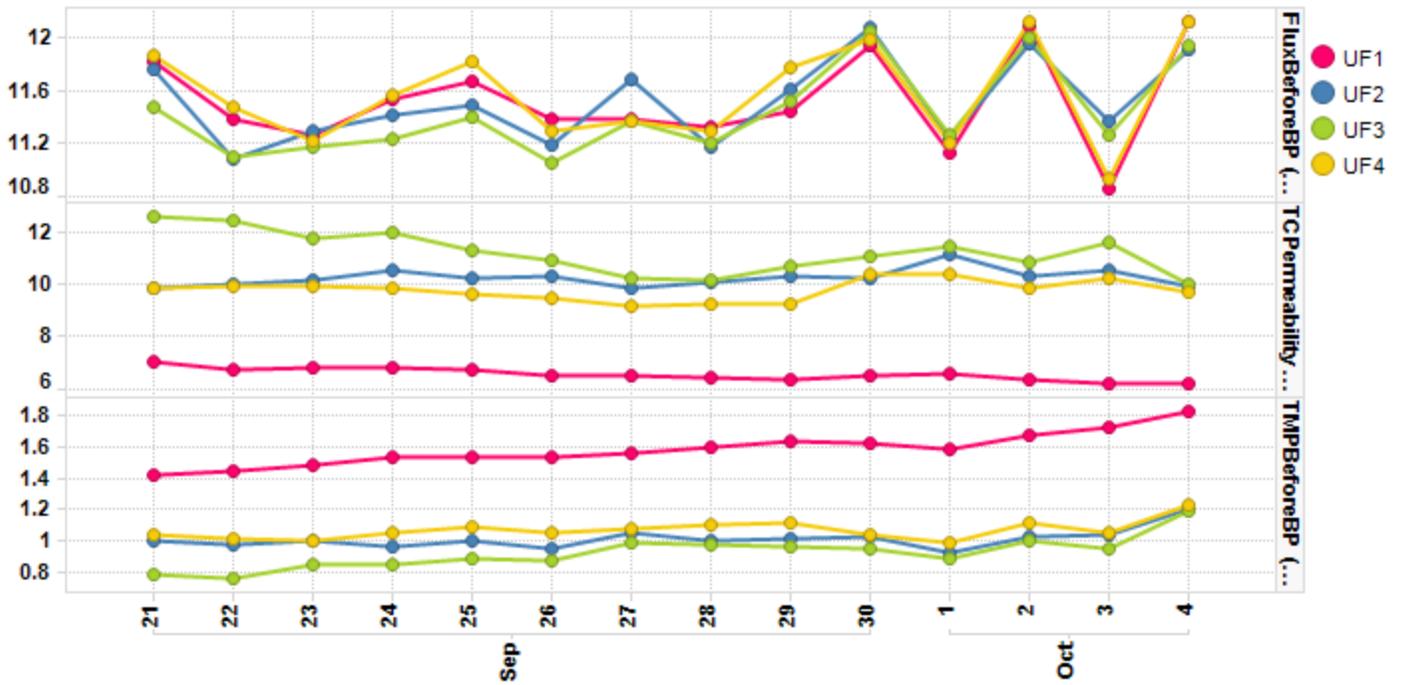
■ Action Required
■ Caution
■ No Limits
■ Normal



Plant Summary

Trains are operating well, though UF1's permeability decreased and TMP rose over this report period. The last recovery clean run on UF1 as indicated by the data was in March 2021. Additionally, the last RCs in the data were in May 2021 for UF2 and in October 2021 for UF4. No RCs are indicated in UF3's data. If these are the accurate last dates of recovery cleans, all trains are due for RCs, starting with UF1. The soaks should be at least 12 hours per chemical per train, though can last as long as 24 hours depending on production downtime available and plant demand. Running RCs will also help prepare the membranes for winter operations as temperatures have begun to fall, and support a long membrane lifespan.

- TMP BBP was excellent and <1.0 psi on UF3. TMP averaged 1.6, 1.0, and 1.1 psi on UF1,2,4
- TC permeability BBP was excellent and ≥ 8 gfd/psi on UF2,3,4, and was highest on UF3 at 11 gfd/psi. UF1's TCP averaged 6.6 gfd/psi (-0.9 gfd/psi from the last report)
- Permeate turbidity ABP averages ranged from 0.05 – 0.10 NTU



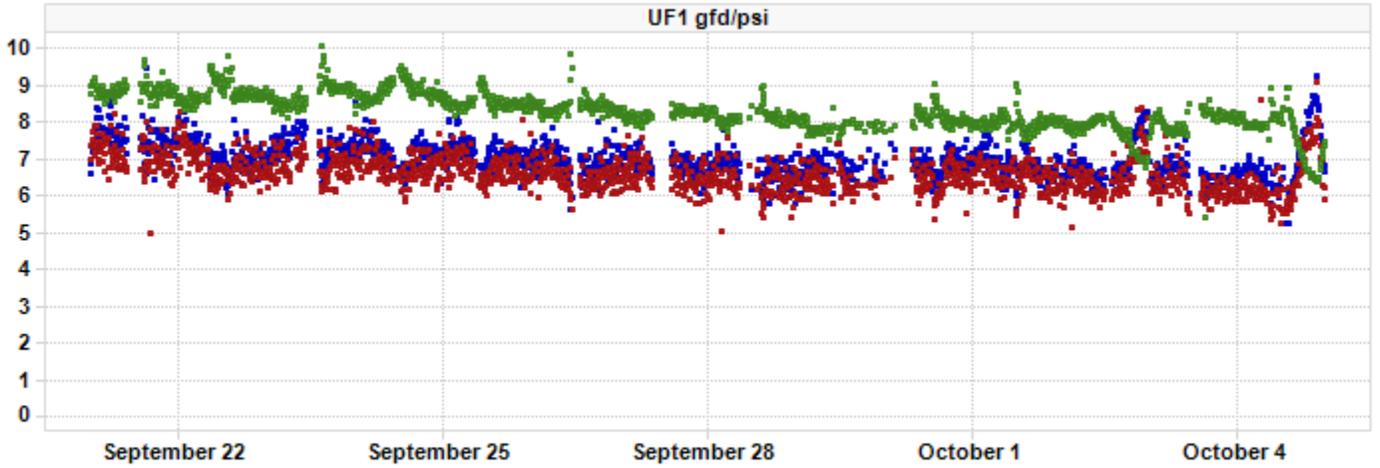
- Daily permeate production averaged 0.94 MGD. Permeate temperature averaged 76°F (-5°F). All trains are in Backpulse with LEAP Hi aeration. Flux averaged 11.4 gfd

Table 1. Record of maintenance cleans (MCs) run.

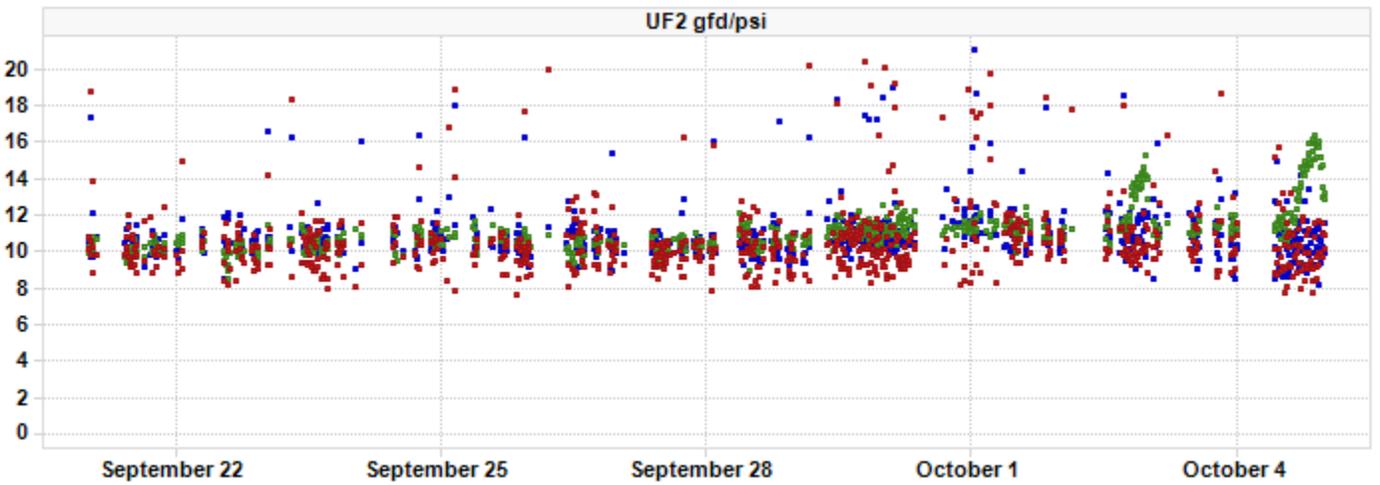
Train	UF1	UF2	UF3	UF4
# of Hypochlorite MCs	2	1	1	2
# of Citric Acid MCs	1	2	1	2

TC Permeability Trends By Train

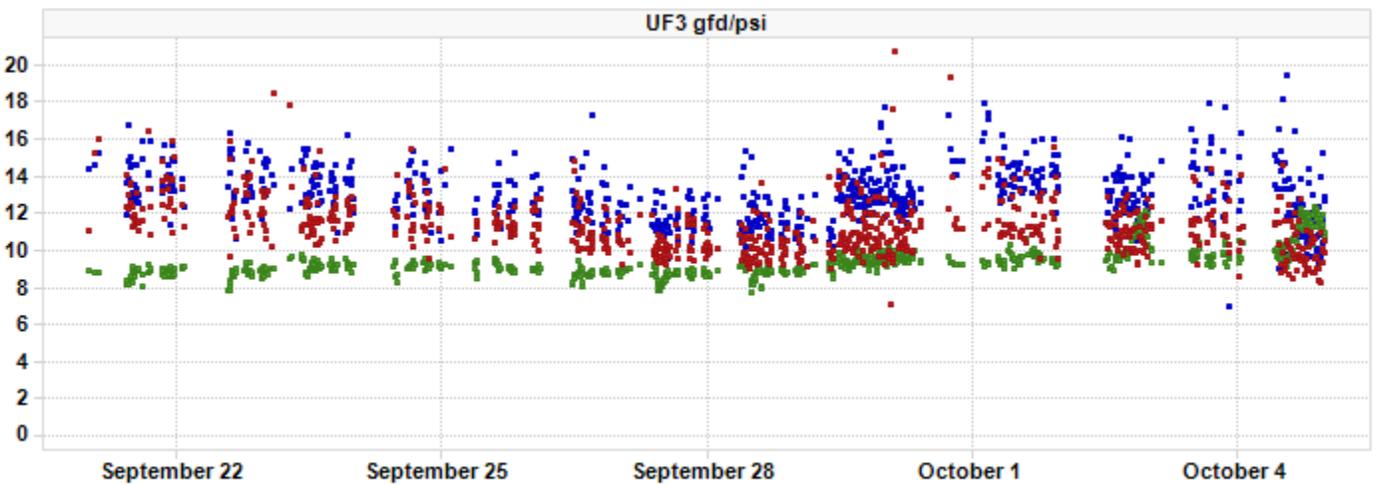
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■ TCPermeabilityDuringBP



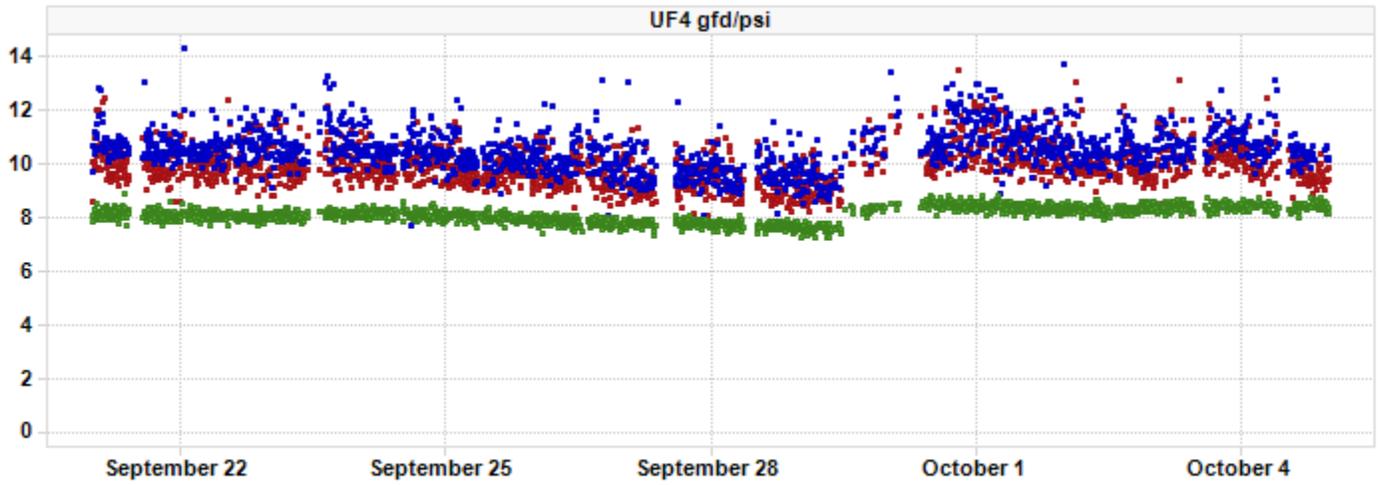
■ TCPermeabilityAfterBP
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■ TCPermeabilityDuringBP



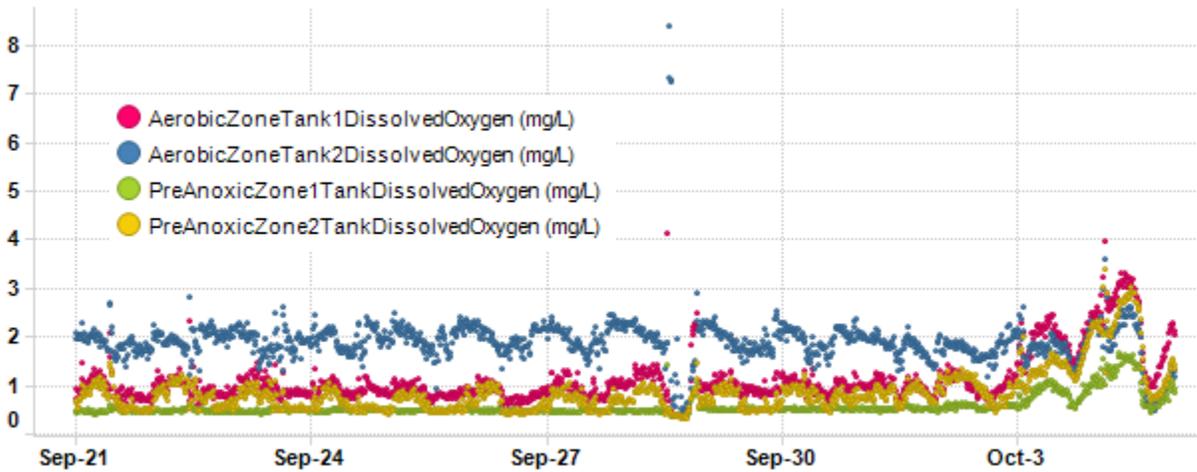
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■ TCPermeabilityDuringBP



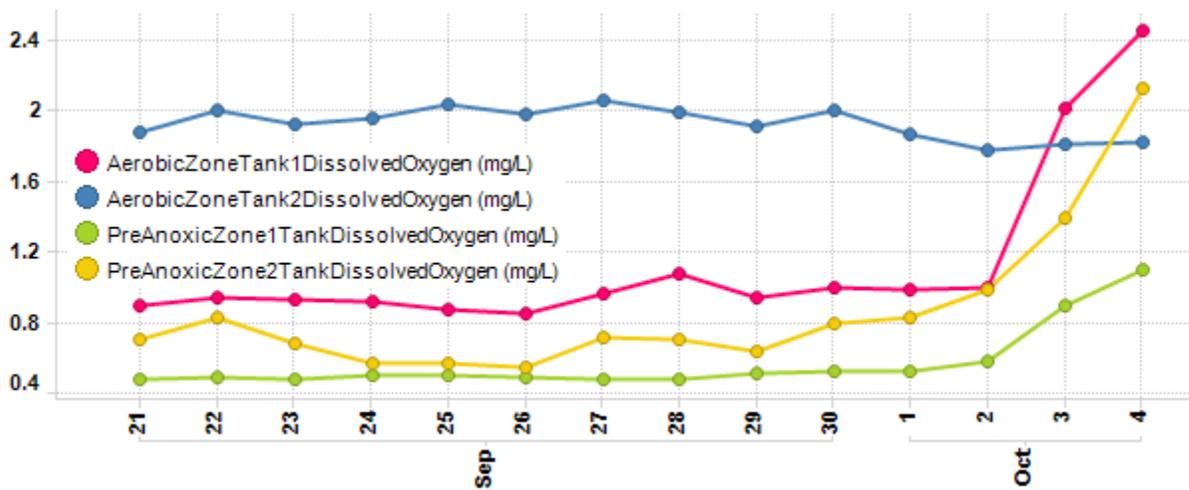
- TCPermeabilityAfterBP
- TCPermeabilityBeforeBP
- TCPermeabilityDuringBP



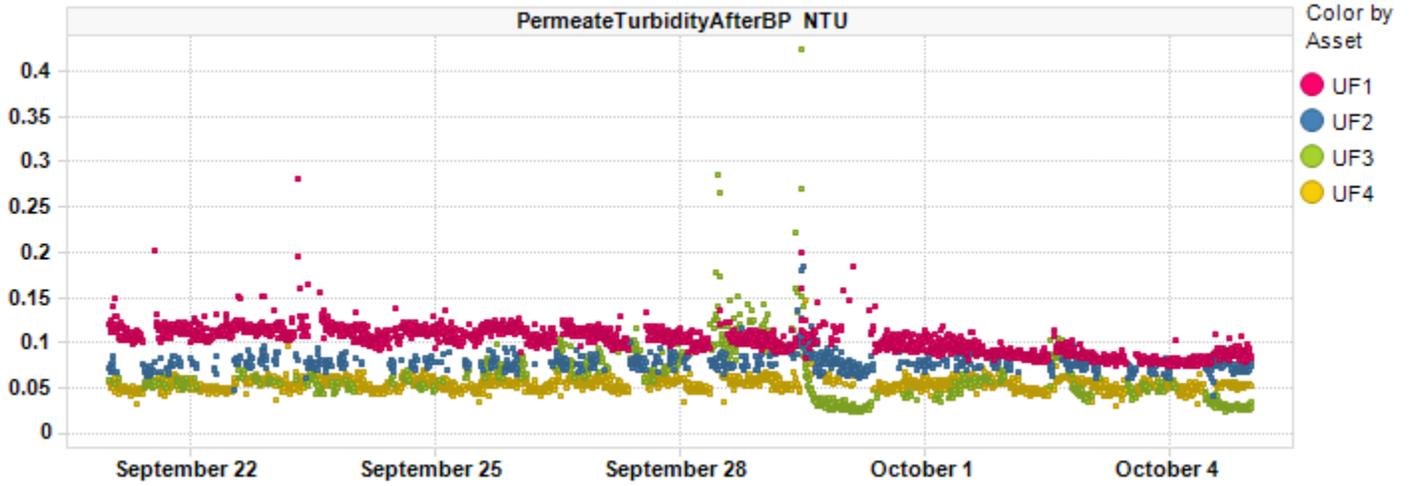
Bioreactor Dissolved Oxygen



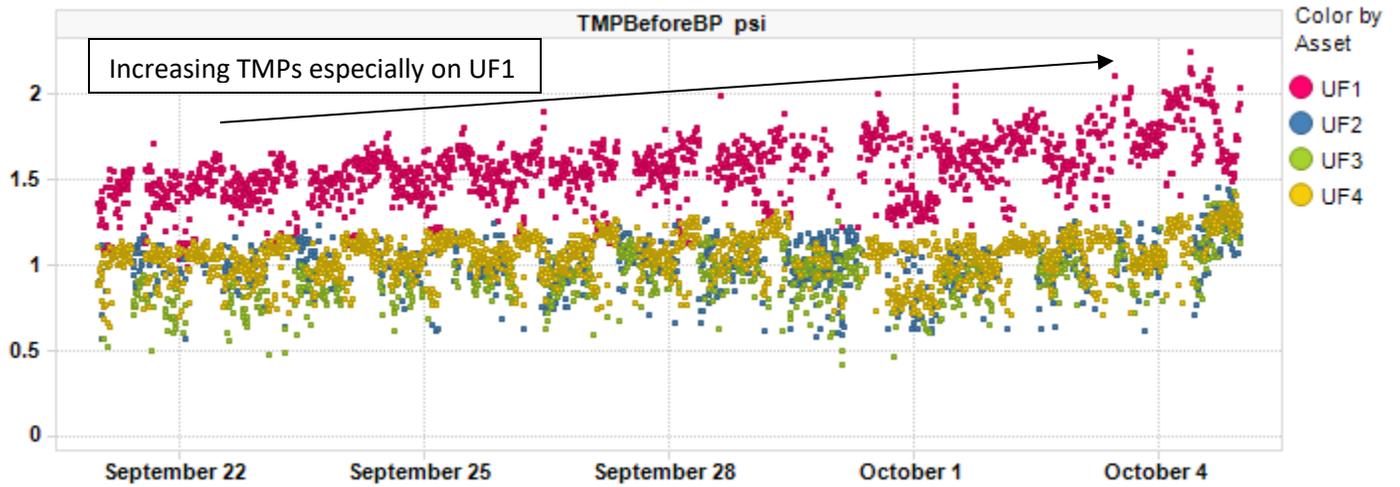
Daily median average values below



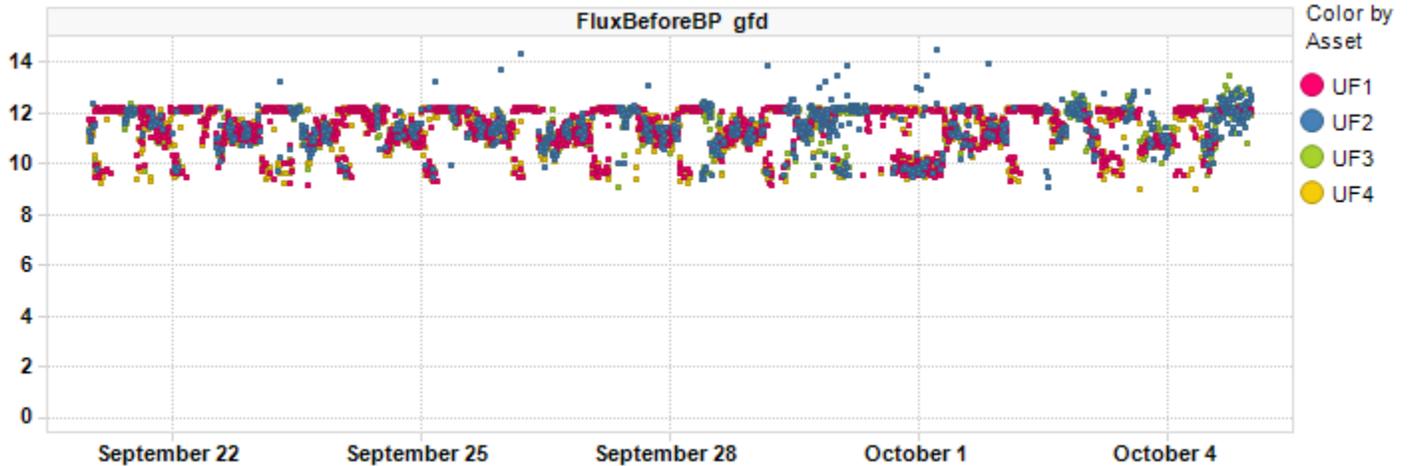
Permeate Turbidity Trend



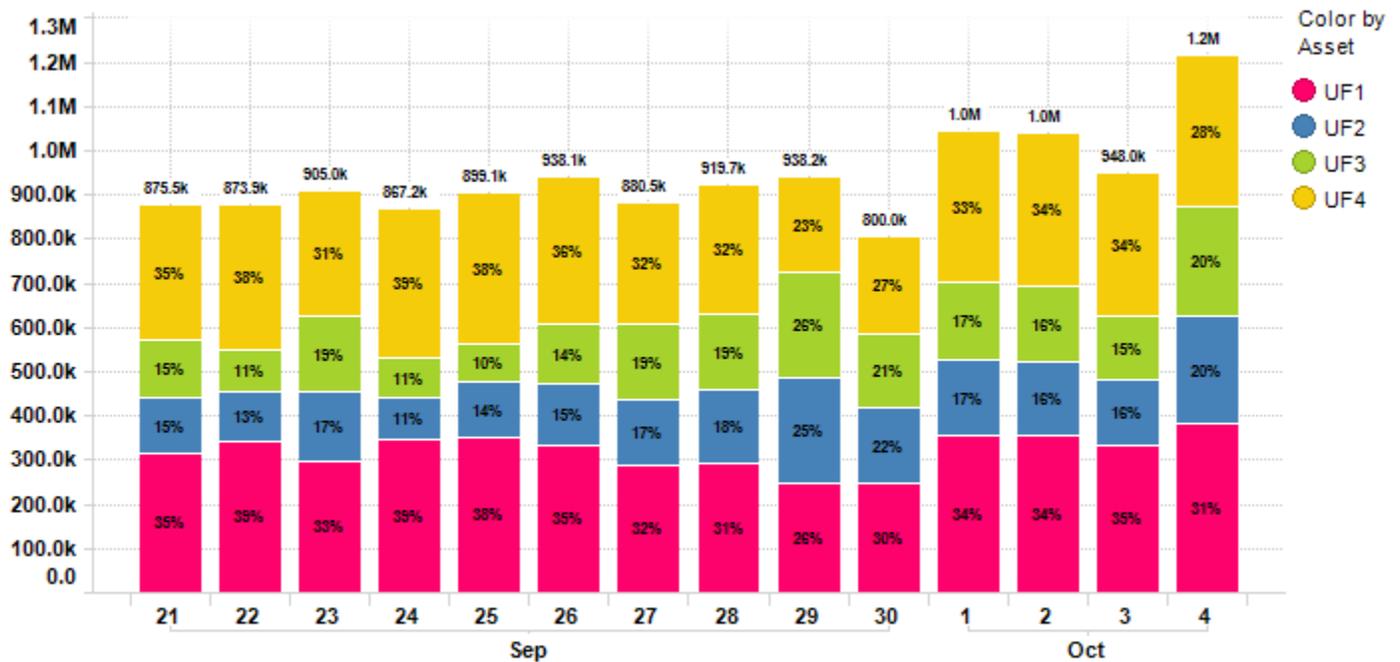
Before BPTMP Trend



Before BP Flux Trend



Daily Permeate Flow



Average Daily permeate flow from 9/21/2022 to 10/4/2022 is 938.2k gal with a maximum daily flow of 1.2M gal.

Asset Summary

KPI Parameters	Value/Ch...	UF1	UF2	UF3	UF4
FluxBeforeBP gfd	Value	11.41	11.44	11.37	11.43
	Change	0.96%	1.83%	1.13%	1.11%
FluxDuringBP gfd	Value	18.66	18.37	18.42	18.74
	Change	-0.46%	0.66%	-0.09%	-0.09%
PermeateTurbidityAfterBP NTU	Value	0.10	0.08	0.06	0.05
	Change	-7.30%	5.70%	17.77%	2.36%
TCPPermeabilityBeforeBP gfd/psi	Value	6.63	10.55	11.29	9.88
	Change	-12.5...	0.78%	-29.0...	-6.27%
TMPBeforeBP psi	Value	1.55	1.00	0.93	1.05
	Change	16.69%	6.71%	27.33%	11.89%
TotalPermeateFlowDaily gal	Value	315.8...	158.9...	156.1...	307.1...
	Change	-0.71%	15.05%	13.24%	-3.22%

Plant Summary

KPI Parameters	Value/Change	UF Plant
PermeateTemperature °F	Value	76.16
	Change	-5.76%
TotalPermeateFlowDaily gal	Value	1.02M
	Change	2.38%



Contract Expiry Date: 08/11/2022

For InSight technical assistance please email insight.src@suez.com or please call technical support at 1 866 271 5425 or 905 469 7723 and follow the prompts, if you require after hours assistance please contact the 24/7 Emergency number provided in your plant documentation. This email is a summary of issues identified during a manual review of InSight data from the time period above. This review is an analysis of data that is logged by InSight and identifies key plant performance issues determined from this data. This data review was not focused on minor data issues but on identifying possible existing and/or upcoming critical operational issues.

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