PUMP.	ST.	ATION	196
Jul-21		PS 196	
		METER	24 HOUR
		READING	FLOW
THUR	1	66078490	0.242780
FRI	2	66321270	0.277490
SAT	3	66598760	0.280160
SUN	4	66878920	0.253750
MON	5	67132670	0.236420
TUE	6	67369090	0.166520
WED	7	67535610	0.150910
THU	8	67686520	0.173340
FRI	9	67859860	0.151940
SAT	10	68011800	0.150770
SUN	11	68162570	0.148010
MON	12	68310580	0.136320
TUE	13	68446900	0.131010
WED	14	68577910	0.128850
THU	15	68706760	0.132220
FRI	16	68838980	0.148130
SAT	17	68987110	0.155030
SUN	18	69142140	0.144400
MON	19	69286540	0.134030
TUE	20	69420570	0.132180
WED	21	69552750	0.127600
THU	22	69680350	0.134260
FRI	23	69814610	0.145820
SAT	24	69960430	0.142400
SUN	25	70102830	0.146370
MON	26	70249200	0.142920
TUE	27	70392120	0.127320
WED	28	70519440	0.132890
THU	29	70652330	0.133130
FRI	30	70785460	0.114600
SAT	31	70900060	0.172720
		71072780	
TOTA	L		4.994290
COUN	T		31
AVERA	9E		0.161106
MINIM	JM		0.114600
MAXIM	UM		0.280160

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

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

FACILITY ADDRESS LOCATION 116 American Legion Road, Lewes, DE 19958 US Howard Seymour Water Reclamation Plant Howard Seymour Water Reclamation Plant 116 American Legion Road, Lewes, DE 19958 US FROM 2021 06 01

PERMIT NUMBER DE0021512 MONITORING PERIOD DISCHARGE NUMBER

2021 06 30 STATUS OF SUBMISSION Submitted for Signature DAT RE

richardplack	7/28/2021	А	

richardplack	RT SUBMITTED BY
7/28/2021	ENTRY COMPLETE
А	RT DESIGNATOR

DISCHARGE MONITORING REPORT (DMR	IG REPORT (DMR)	
001	REPORT DESIGNATOR	А
DISCHARGE NUMBER	DATA ENTRY COMPLETE	7/28/2021
G PERIOD	REPORT SUBMITTED BY	richardplack

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COMMENTS AND

1/4

Enterococcus

Gross Effluent (00400)

PERMIT REQUIREMENT

ī

No Monitoring Required

No Monitoring Required

1

No Monitoring Required

9 7.5

Std pH Units Std pH Units

01/01 01/01

Grab Grab

1

6.9 6

1

SAMPLE MEASUREMENT

Gross Effluent (31639)

REQUIREMENT

No Monitoring Required

No Monitoring Required

No Monitoring Required

10 2

104 <36

CFU/100

1

Grab Grab

3

CFU/100 ML

0 1 0 1 0

01/07

<2.4 15

SAMPLE MEASUREMENT

1/5

BOD5

Gross Effluent (00310)

PERMIT

188 417

288 ^20

lbs/Day lbs/Day

No Monitoring Required

SAMPLE MEASUREMENT

SAMPLE MEASUREMENT

1/7

SST

Gross Effluent (00530)

PERMIT REQUIREMENT

188 6

288 4

lbs/Day

No Monitoring Required

15

23 7

mg/ mg/l

1 0

01/07 01/07

Composite 24

Composite 24

SAMPLE MEASUREMENT

1/6

BOD5

Raw Sewage (00310) PERMIT REQUIREMENT

No Monitoring Required

No Monitoring Required

1 1

No Monitoring Required

No Limit | Monitoring Reqd

No Limit | Monitoring Reqd

mg/l

1 0 1 0

01/30

Composite 24 Composite 24 Composite 24

**^315** 

<315

mg/l

01/30

23 2.4

mg/l mg/l

01/07

01/07 01/07

Composite 24

<0.6

lbs/Day

1/3

PH

1/2

Dissolved oxygen (DO)

Gross Effluent (50050)

PERMIT REQUIREMENT SAMPLE MEASUREMENT

No Limit | Monitoring Reqd

No Limit | Monitoring Reqd

Gal/Day Gal/Day

No Monitoring Required

No Monitoring Required

No Monitoring Required

1 ı

1

RCOTOT Imersion

7.54

2.46

Gross Effluent (00300)

PERMIT REQUIREMENT

No Monitoring Required

No Monitoring Required

No Limit | Monitoring Read

No Monitoring Required

No Limit | Monitoring Reqd

mg/l mg/l

99/99 99/99 99/99

**Imersion** 

SAMPLE MEASUREMENT

11

Flow

PARAMETER

B

QUANTITY OR LOADING

AVERAGE

MAXIMUM

STINU

MINIMUM

AVERAGE

MAXIMUM

UNITS

0

99/99

RCOTOT

EX.

OF ANALYSIS

SAMPLE TYPE

TO

QUALITY OR CONCENTRATION

0.911

1.215

3 

TYPED OR PRINTED			NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
NCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.	PERSONS WHO MANGET HE SYSTEM, OR HOSE PERSONS DIRECTLY RESPONSIBLE NAY GATHERING THE NEPARATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCUPATE, SIGNATURE OF PRINCIPAL AND COMPLETE LAM MYARE THAT THERE ARE SIGNIFICANT PERMITTES FOR SUBMITTING FALSE INFORMATION.	PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR	I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY
OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE	CACMENA	ATTACH DIGITAL SIGNATURE RECEIPT FROM
			TELEPHONE
YEAR MO DAY			DATE

DNREC DISCHARGE MONITORING REPORT - DMR1 [EPA FORM 3320-1 (Rev. 10-96) USED AS TEMPLATE], 2016. NDI (No Data Indicator) Reasons: 8 - No Sample (Other), 9 - No Sample (Monitoring Not Required this Monitoring Period); B - Not Detected; C - No Sample (No Discharge)

7/28/2021 10:24 AM PAGE 1 OF 2

(IZED AGENT	YEAR	MO	DAY
	 100000		

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here) NAME/TITLE PRINCIPAL EXECUTIVE OFFICER No Limit | Monitoring Reqd IT AND ALL ATTACHMENTS WERE PREPARED WIDER MY
STEM DESIGNED TO ASSURE THAT QUALIFIED PRESONNEL
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MS DIRECTLY PRESONNELLE FOR AN HERIOR THE
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WIT PENALTIES OF SUBMITM THE AT SULES INFORMATION. No Monitoring Required SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT [ATTACH DIGITAL SIGNATURE RECEIPT FROM CROMERR] No Limit | Monitoring Reqd TELEPHONE DATE

**DISCHARGE MONITORING REPORT (DMR)** 

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

PERMIT NUMBER DE0021512 **MONITORING PERIOD** 

2/3

Phosphorus, Total

SAMPLE MEASUREMENT

8.23 25

8.23

lbs/Day lbs/Day lbs/Day

lbs/Day

N 1.5 œ

mg/l mg/l mg/l mg/l mg/l mg/l

01/30

Composite 24

Gross Effluent (00665) PERMIT REQUIREMENT

2/2

Total Nitrogen

Raw Sewage (00530)

PERMIT REQUIREMENT

1

No Monitoring Required 19.05

No Monitoring Required

1 1

No Monitoring Required

No Limit | Monitoring Reqd

Monitoring Reqd

3.52

No Limit

ì 0

01/30

01/30

Composite 24

3.52

19.05

SAMPLE MEASUREMENT

Gross Effluent (00600)

PERMIT REQUIREMENT SAMPLE MEASUREMENT

100

No Limit | Monitoring Reqd

No Monitoring Required

No Limit | Monitoring Reqd

1 0

01/30

Composite 24

01/30

Composite 24 Composite 24

1.5

0

01/30

Composite 24

2/1

SST

FACILITY

LOCATION

116 American Legion Road, Lewes, DE 19958 US Howard Seymour Water Reclamation Plant

ND

QUANTITY OR LOADING MAXIMUM

FROM

2021 06 01

TO

2021 06 30

STATUS OF SUBMISSION

Submitted for Signature

NO. FREQUENCY EX. OF ANALYSIS

SAMPLE TYPE

QUALITY OR CONCENTRATION

**AVERAGE** 

UNITS

MINIMUM

AVERAGE

MAXIMUM

UNITS

477

477

PARAMETER

ADDRESS

116 American Legion Road, Lewes, DE 19958 US Howard Seymour Water Reclamation Plant

NAME

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

DISCHARGE NUMBER

DATA ENTRY COMPLETE REPORT SUBMITTED BY

REPORT DESIGNATOR

richardplack

7/28/2021 D

TYPED OR PRINTED

# Monthly Operations Report: June 2021

Site: LEWES WWTP

mg/L   lbs   my/L   lbs   my/L   lbs   mg/L   lbs   lso				0	3	19		Enteroc	eroc Total P To	POOL	Total N	Ž	Ammonia as N	ia as N	Nitri	0 +	Nitrite + Nitrate	e + Nitrate TKN
Mich	DATE	DAY	Flow	B		TSS	7	Enteroc.	IOre	- T	ma/l	50	ma/l	2	₹ 10 m	+	+	ma/L lbs ma/L
Title. 0.644		1	MGD	mg/L	lbs	mg/L	a lbs	col/1uumi	mg/L	8 23	3.5	19.05	0.1		_ 5	1 2.7	2.7	2.7 15
Thu.	-	lue.	0.0010	74.7		0.0	-	<1.0										
Fit   0.984	۱ در	Thi	0.554															
Sult   1034	4	Fn.	0.984											_				
Sun   0.792	5	Sat.	1.034															
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Tue   0.643   <2.4   <13   0.5   3	7	Mon.	0.615															
Wed. 0.589   1.0   1.0   1.0     1.0	ω	Tue.	0.643	<2.4	<13	0.5	w							L				
Thu. 0.721	9	Wed.	0.589					1.0										
Fri.   0.950	10	Thu.	0.721															
Sat. 0.949  Mon. 0.932  Tue. 1.025  Wed. 0.966  C.2.4  C.19  C.10  Sat. 1.061  Tue. 1.000  C.2.4  C.20  C.20  C.30  C.30	1	Fri.	0.950															
Sun.   0.932   .	12	Sat.	0.949								7							
Mon.   0.997	13	Sun.	0.932															
Tue.   1.025	14	Mon.	0.997															
Wed.   0.966   <2.4   <19   0.7   0	15	Tue.	1.025			24	,											
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Mon. 1.052 Tue. 1.000 <2.4 <20 <0.5 <4 35.8 Wed. 0.946 Fri. 1.055 Fri. 1.055 Sat. 1.215 Sun. 1.009 Sun. 1.072 Wed. 0.958 Mon. 1.072 Ved. 0.958  Tue. 0.873 <2.4 <18 <1.0 <7 <1.0  Wed. 0.958 VERAGE 0.9106 <2.40 <16.54 <0.64 <4.50  2.0 1.52 8.23 3.52 19.05 INIMUM 0.5540 <2.40 <12.90 <0.50 2.70 <1.00  Title 0.5540 <2.40 <12.90 <0.50 2.70 <1.00  Title 0.9106 <2.40 <12.90 <10.50 2.70 <1.00  Title 0.9106 <2.40 <12.90 <10.50 2.70 <1.00  Title 0.9106 <2.40 <12.90 <1.00 1.52 8.23 3.52 19.05	20	Sun.	1.043															
Tue. 1.000 <2.4 <20 <0.5 <4 35.8	21	Mon.	1.052															
Wed.   0.946	22	Tue.	1.000	<2.4	<20	<0.5	4	S D										
Fri.   1,055	24	Thu	1 043															
Sat. 1215       1.215       4.216	25	Fi.	1.055					<1.0										
Sun.   1.009	26	Sat.	1.215															
Mon. 1.072   Tue. 0.873   <2.4   <18   <1.0   <7   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0	27	Sun.	1.009															
Tue. 0.873 <2.4 <18 <1.0 <7 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0	28	Mon.	1.072										T					
Wed. 0.958 < <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1	29	Tue.	0.873	<2.4	<18	<1.0	-77						T					
27.3190 0.9106 <2.40 <16.54 <0.64 <4.50	30	Wed.	0.958					<1.0					T					
27.3190     4.50     2.0     1.52     8.23     3.52     19.05       0.9106     <2.40																		
0.9106         <2.40         <16.54         <0.64         <4.50         2.0         1.52         8.23         3.52         19.05           1.2150         <2.40	70	TAL	27.319	1000	NAME OF TAXABLE PARTY.		100			2	2	200			100	0 00	0.60	060 268 1451
1,2150         <2,40         <20.00         <1.00         <1.30         35.80         1.52         6.23         3.52         18.05           0,5540         <2,40	A	ERAGE	0.9106			1	-	-	1.52	8.23	3.52	19.05	0.11	-	+	0.50	0.50	0.60 2.68
0.5540 <2.40 <12.90 <0.50 2.70 <1.00 1.52 0.23 5.52 15.55	M	MUM	1.2150		-	+	-	+	+	8.23	3.52	10.05	0 0		0.00	+	0.60 2.68	0.60 2.68 14.51
	<u>≤</u>	MUMIN					100	VIV		0.23	3.02	19.00				0.00	0.00	2.00

0.000

## LEWES BPW WWTP Biweekly InSight Report

### Date: 7/14/2021

From: Erin Horocholyn - Suez Water Technologies & Solutions

To: Darrin Gordon, Austin Calaman, 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)

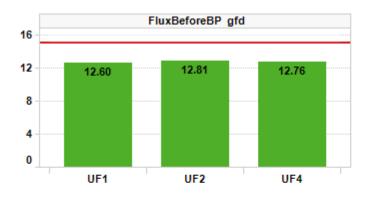
Replacement membranes installed Q1 2020 on trains UF3 and UF4

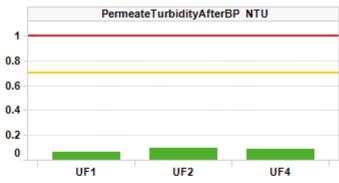
### Cleaning Strategy

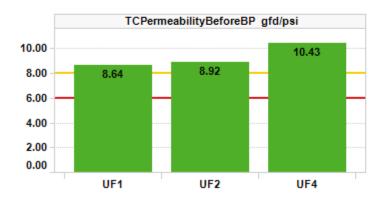
Recovery cleaning - 2 NaOCI @ 2000 ppm dose/1000 ppm soak per year, 1 Citric acid @ 2000 ppm per year Maintenance cleaning - 1 NaOCI per week @ 2000 ppm, 1 Citric acid per week @ 2000 ppm

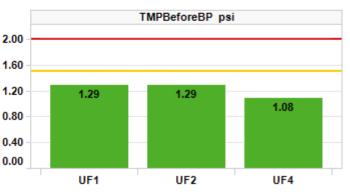
### KPI Dashboard – Avg values through reporting period









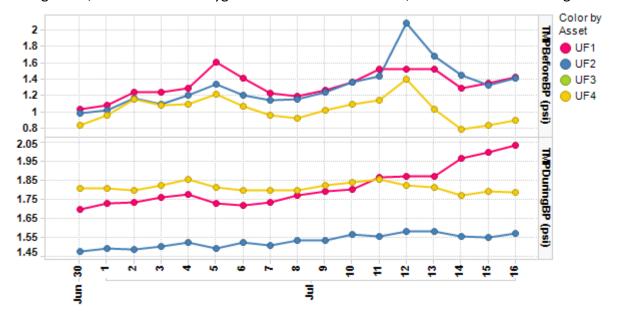




### **Plant Summary**

All trains had good KPI levels for permeability, TMP, and turbidity. Trains did see a slight increase in TMPs even with stable and lower flux compared to the last report.

- UF3 has been OFF since June 3. UF1 was OFF from June 12 13. Daily permeate production averaged 0.99 MGD. Permeate temperature averaged 80°F (+3°F). All online trains are in Backpulse with constant LEAP Hi aeration
- Flux BBP averaged 12.6 12.8 gfd on UF1, UF2, and UF4, seeing a 6 10% decrease from last report
- TMP BBP averaged >1.0 psi on all trains. Averages ranged from 1.10 − 1.29 psi on UF1, UF2, and UF4. UF1 and UF2's TMPs rose 0.1 0.2 psi compared to last report. Daily median averages are shown in the plot below for both TMP before backpulse and during backpulse. There is a rise in TMP DBP for UF1 and UF2 which may signal a small accumulation of pore fouling. UF2 had no hypo MCs in this reporting period, and both UF1 and UF2 may benefit from having 1 or 2 hypo MCs scheduled in the upcoming two weeks. Both primary and secondary RAS flows have fallen around the same time as the slightly rising TMPs, while dissolved oxygen has been somewhat low, so it could have a biological cause as well



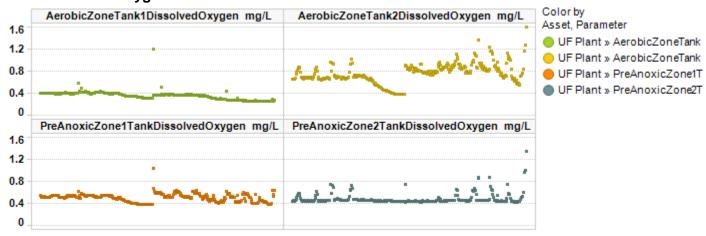
- TC permeability BBP averages ranged 8.6 10.4 gfd/psi across trains, all >8 gfd/psi even during periods
  of high flux, which is good. TCP dropped in this report due to higher TMPs and lower flux
- Permeate turbidity ABP averages ranged from 0.07 0.10 NTU on all trains with mostly stable trends

**Table 1.** Record of maintenance cleans (MCs) run in this two-week reporting period.

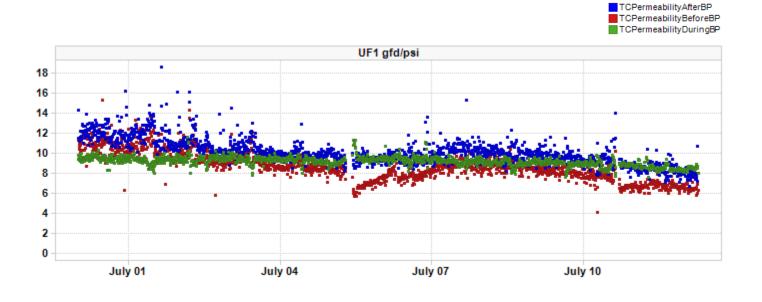
Train	UF1	UF2	UF3	UF4
# of Hypochlorite MCs	1	0	0	2
# of Citric Acid MCs	1	2	0	2

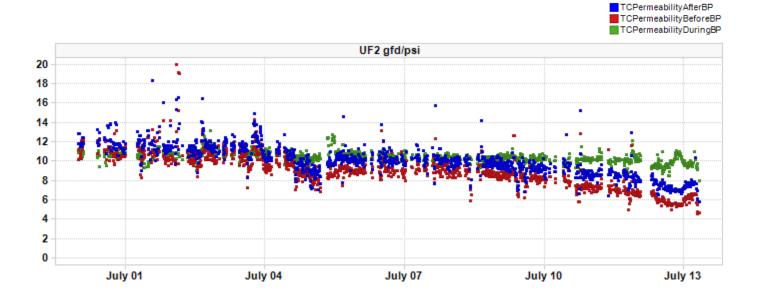
Aerobic zone 1 dissolved oxygen averaged 0.34 ppm, while tank 2 averaged 0.76. Both averages are on the low side for ideal MLSS health, which should be between 1 – 2 ppm. Between July 13 – 16, Aerobic Tank 2's DO did rise to 1.04 mg/L on average, though the pre-anoxic zone's DOs have also risen from ~0.5 mg/L from June 30 – July 12, to 0.57 and 0.73 mg/L which is on the high side for feeding anoxic zones (ideally at or under 0.5 mg/L for denitrification)

### **Bioreactor Dissolved Oxygen**



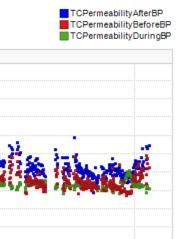
### **TC Permeability Trends By Train**





July 04



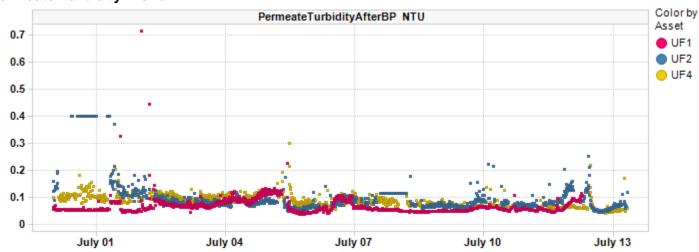


July 13

July 10

### **Permeate Turbidity Trend**

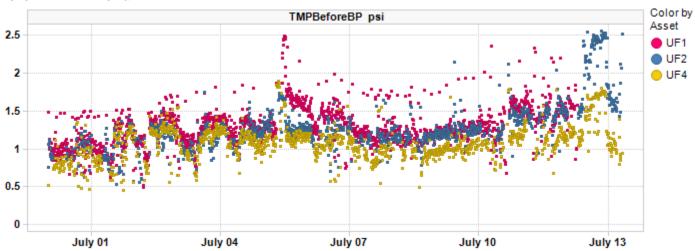
July 01



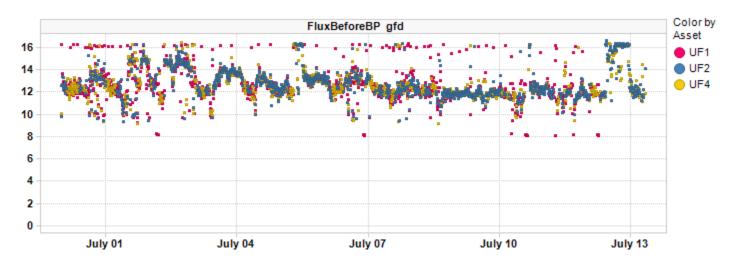
UF4 gfd/psi

July 07

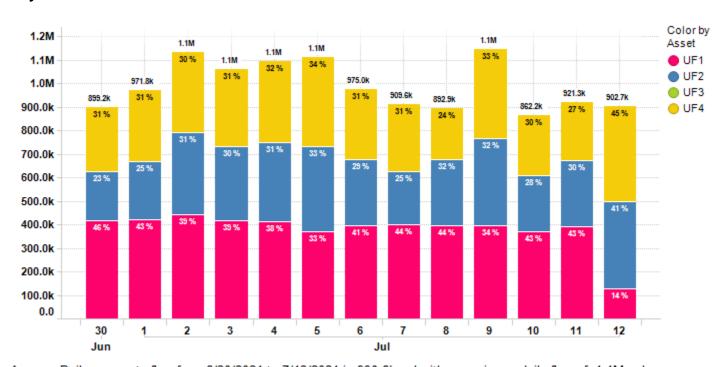
### **Before BPTMP Trend**



### **Before BP Flux Trend**



### **Daily Permeate Flow**



Average Daily permeate flow from 6/30/2021 to 7/13/2021 is 990.6k gal with a maximum daily flow of 1.1M gal.

### **Asset Summary**

KPI Parameters	Value/Change	UF1	UF2	UF3	UF4
FluxBeforeBP gfd	Value	12.60	12.81		12.76
	Change	-5.83 %	-11.38 %		-9.86 %
FluxDuringBP gfd	Value	18.75	18.44		18.66
	Change	-0.06 %	-0.41 %		-0.08 %
PermeateTurbidityAfterBP NTU	Value	0.07	0.10		0.09
	Change	30.32 %	-151.59 %		-65.69 %
TCPermeabilityBeforeBP	Value	8.64	8.92		10.43
gfd/psi	Change	-27.22 %	-25.12 %		-15.49 %
TMPBeforeBP psi	Value	1.29	1.29		1.08
	Change	14.37 %	9.48 %		-1.55 %
TotalPermeateFlowDaily gal	Value	381.46k	297.46k	0.00	311.68k
	Change	12.44 %	-18.93 %	0.00 %	-13.42 %

### **Plant Summary**

KPI Parameters	Value/Change	<b>UF Plant</b>
PermeateTemperature °F	Value	79.81
	Change	3.76 %
TotalPermeateFlowDaily gal	Value	1.05M
	Change	-5.60 %

### Contract Expiry Date: 08/11/2021

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## LEWES BPW WWTP Biweekly InSight Report

### Date: 7/28/2021

From: Erin Horocholyn - Suez Water Technologies & Solutions

To: Darrin Gordon, Austin Calaman, 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)

0

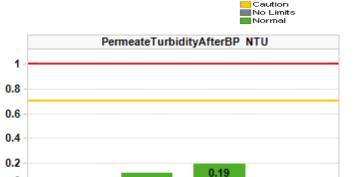
UF1

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

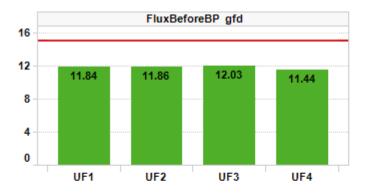
### KPI Dashboard – Avg values through reporting period

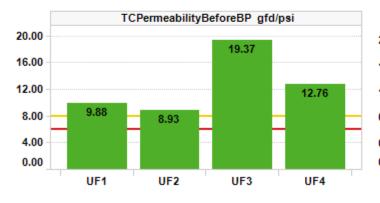


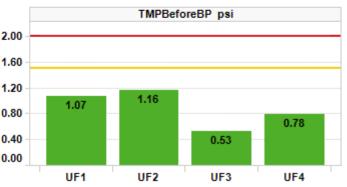
UF3

Action Required

UF4







UF<sub>2</sub>



### **Plant Summary**

All trains had good KPI levels for permeability, TMP, and turbidity. Trains saw a decrease in TMPs in this report. UF3 is now back online and its RC restored 6.5 gfd/psi of permeability, leaving it with excellent permeability averaging 19 gfd/psi.

- Daily permeate production averaged 0.85 MGD. Permeate temperature averaged 82°F (+2°F). All online trains are in Backpulse with constant LEAP Hi aeration
- Flux BBP averaged 11.4 12.0 gfd on UF1, UF2, and UF4, seeing a 6 12% decrease from last report
- TMP BBP averaged >1.0 psi on UF1 and UF2, and <1.0 psi on UF3 and UF4. Averages for UF1 and UF2 ranged 1.1 1.2 psi, and 0.53 0.78 psi on UF3 and UF4. All trains saw an improvement in TMPs
- TC permeability BBP averages ranged 8.9 12.8 gfd/psi on trains UF1,2,4, and 19.4 gfd/psi on UF3. All trains are >8 gfd/psi which is excellent
- Permeate turbidity ABP averages ranged from 0.05 0.19 NTU on all trains with higher values seen on UF2 near the second half of this reporting period

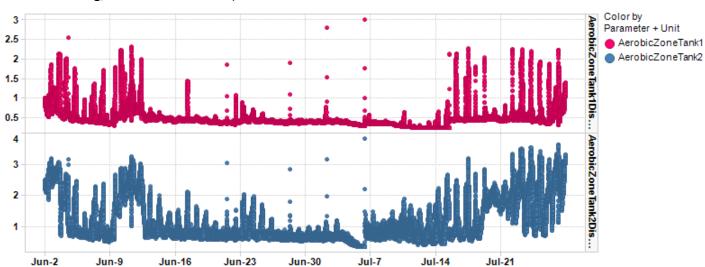
Table 1. Record of maintenance cleans (MCs) run in this two-week reporting period.

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

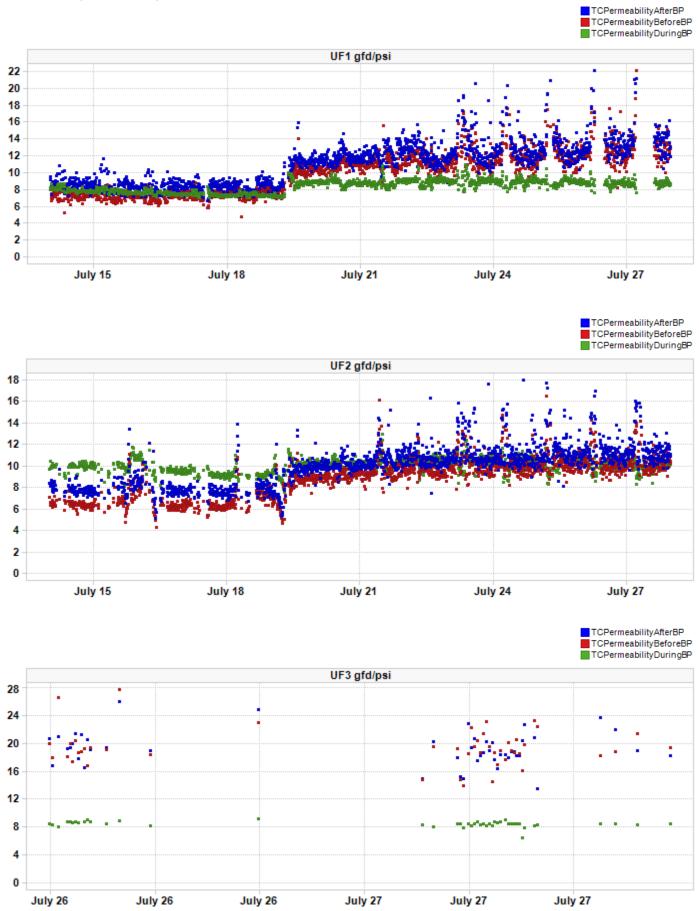
**Table 2.** Results of recovery cleans (RCs). TCP = temperature corrected (TC) permeability before backpulse (gfd/psi).

Train	Date	Pre-clean TCP	Post-Clean TCP	Restored TCP
UF3	July 21	12.83 (June 3)	19.37	+ 6.54

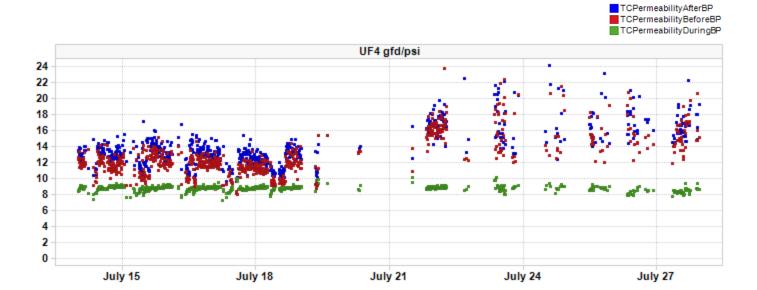
Aerobic zone 1 dissolved oxygen averaged 0.49 ppm, while tank 2 averaged 1.20 overall. From July 14 – 26, tank 1 averaged 0.55 mg/L and tank 2 averaged 1.72 mg/L. Tank 1 averages are on the low side for ideal MLSS health, which should be between 1 – 2 ppm. The pre-anoxic zone's DO averages were 0.65 mg/L in tank 1, and 0.94 mg/L in tank 2 which is on the high side for feeding anoxic zones (ideally at or under 0.5 mg/L for denitrification)



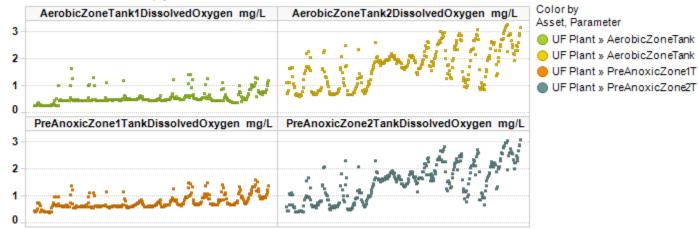
### **TC Permeability Trends By Train**



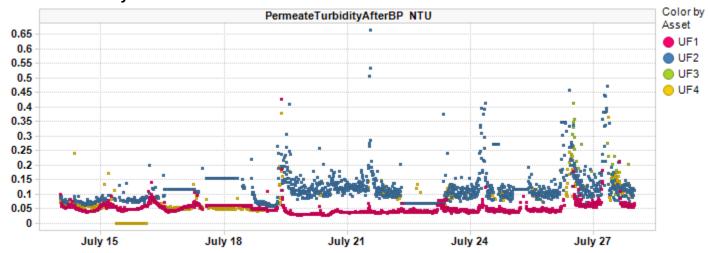




### **Bioreactor Dissolved Oxygen**

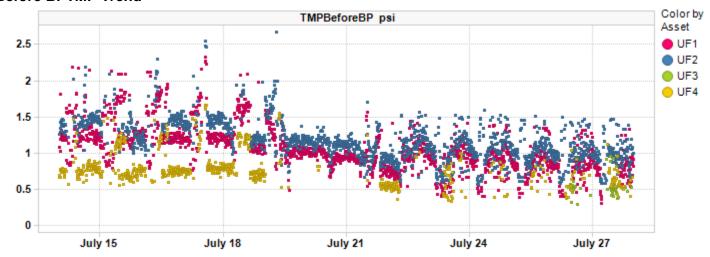


### **Permeate Turbidity Trend**

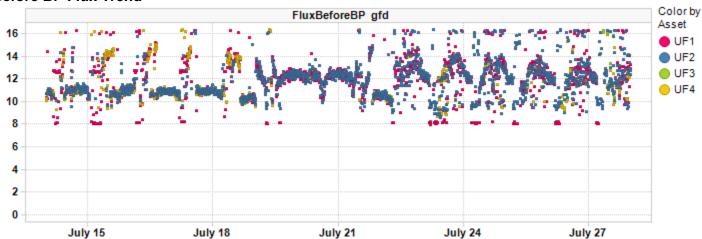




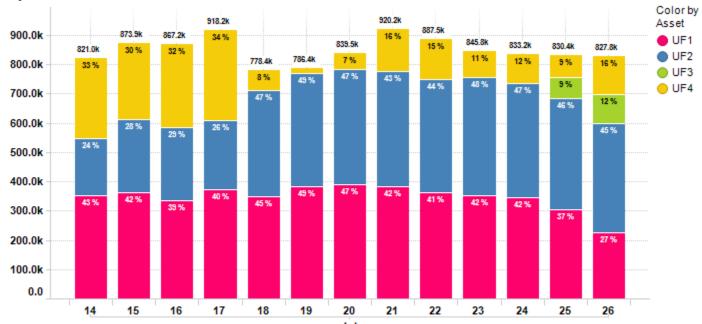
### **Before BPTMP Trend**



### **Before BP Flux Trend**







Average Daily permeate flow from 7/14/2021 to 7/27/2021 is 848.4k gal with a maximum daily flow of 920.2k gal.

### **Asset Summary**

KPI Parameters	Value/Change	UF1	UF2	UF3	UF4
FluxBeforeBP gfd	Value	11.84	11.86	12.03	11.44
	Change	-6.38 %	-7.78 %		-11.52 %
FluxDuringBP gfd	Value	18.72	18.45	18.48	18.69
	Change	-0.15 %	0.10 %		0.15 %
PermeateTurbidityAfterBP NTU	Value	0.05	0.12	0.19	0.07
	Change	-31.81 %	17.00 %		-30.68 %
TCPermeabilityBeforeBP	Value	9.88	8.93	19.37	12.76
gfd/psi	Change	13.30 %	1.09 %		18.24 %
TMPBeforeBP psi	Value	1.07	1.16	0.53	0.78
	Change	-21.71 %	-12.00 %		-37.50 %
TotalPermeateFlowDaily gal	Value	347.79k	338.62k	13.09k	148.92k
	Change	-11.16 %	14.18 %	100.00 %	-102.53 %

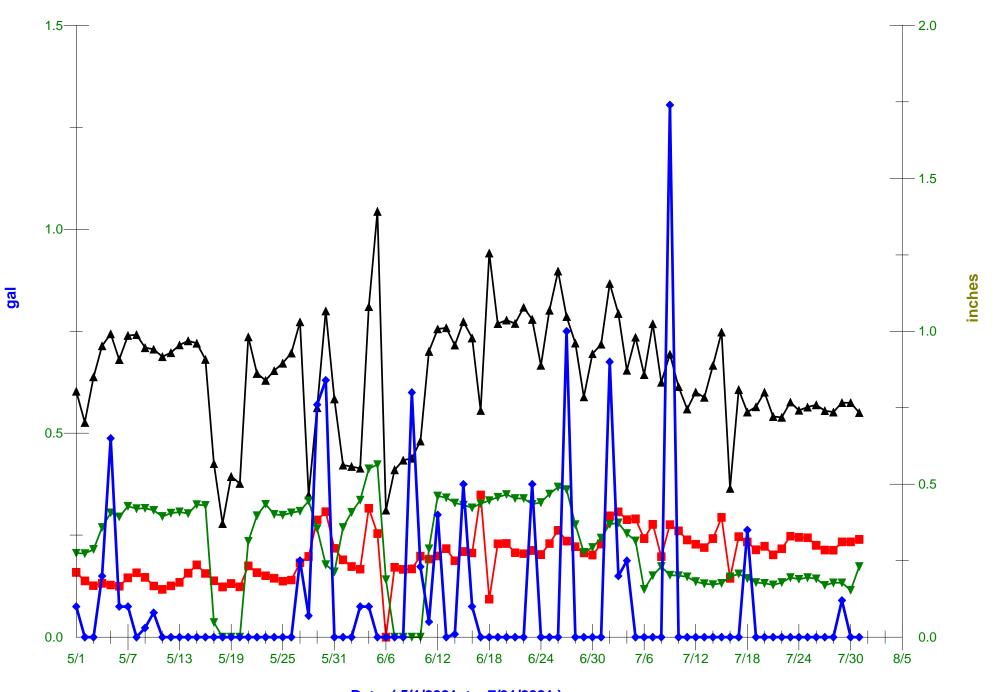
### **Plant Summary**

KPI Parameters	Value/Change	<b>UF Plant</b>
PermeateTemperature °F	Value	81.78
	Change	2.27 %
TotalPermeateFlowDaily gal	Value	918.75k
	Change	-13.15 %

### Contract Expiry Date: 08/11/2021

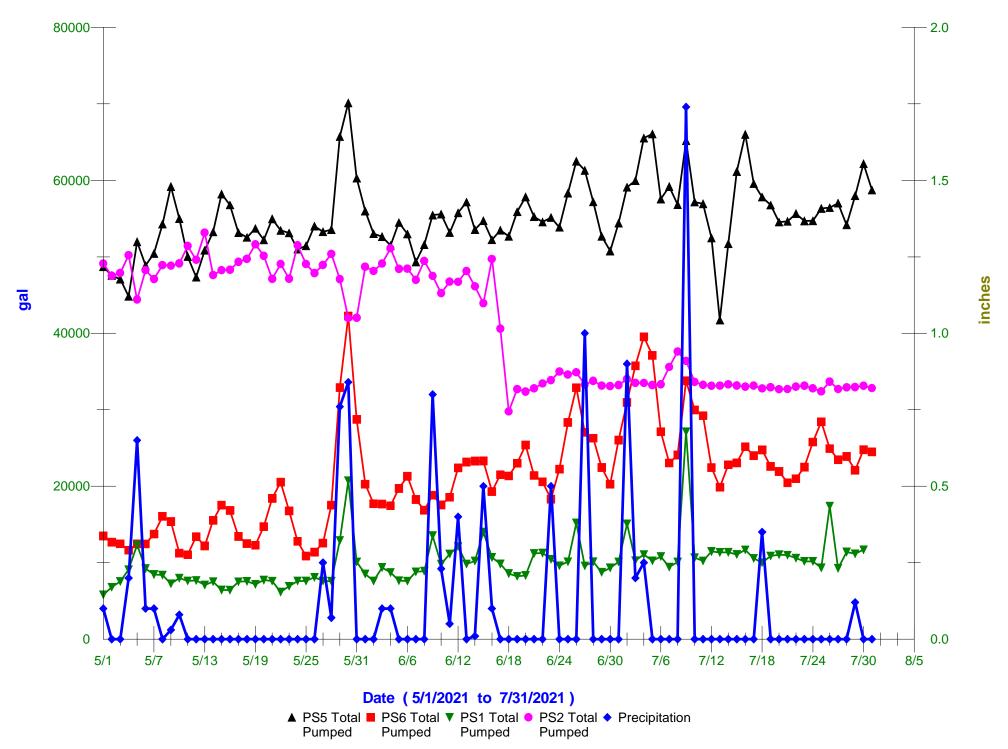
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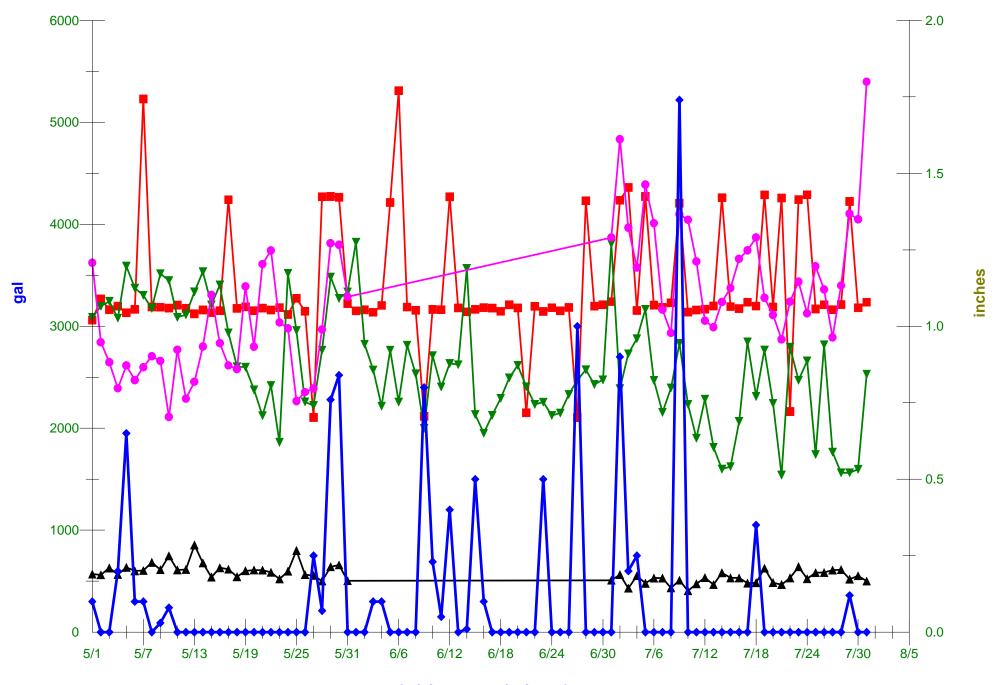
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Date (5/1/2021 to 7/31/2021)

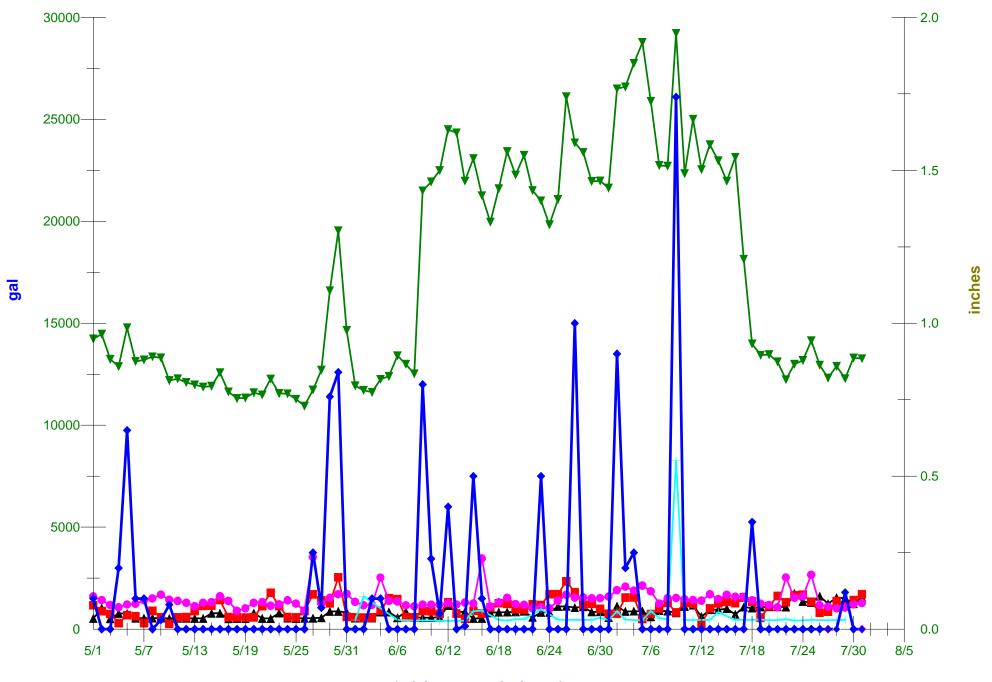
▲ PS4 Calculate PS8 Calculate Sussex County Precipitation Flows





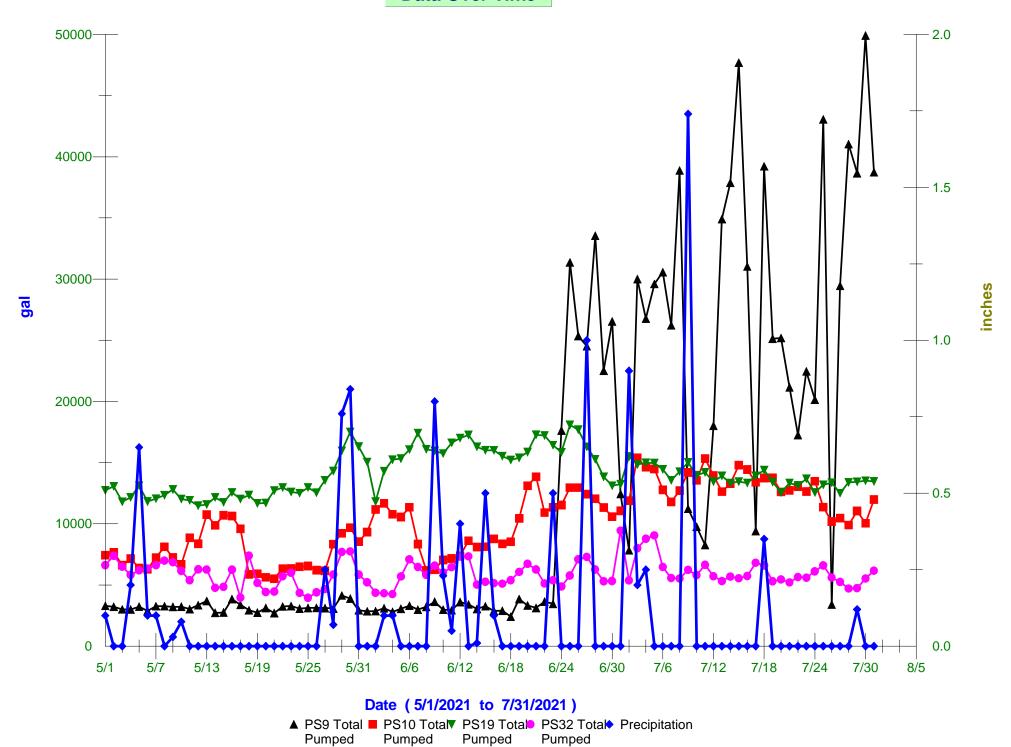
Date (5/1/2021 to 7/31/2021)

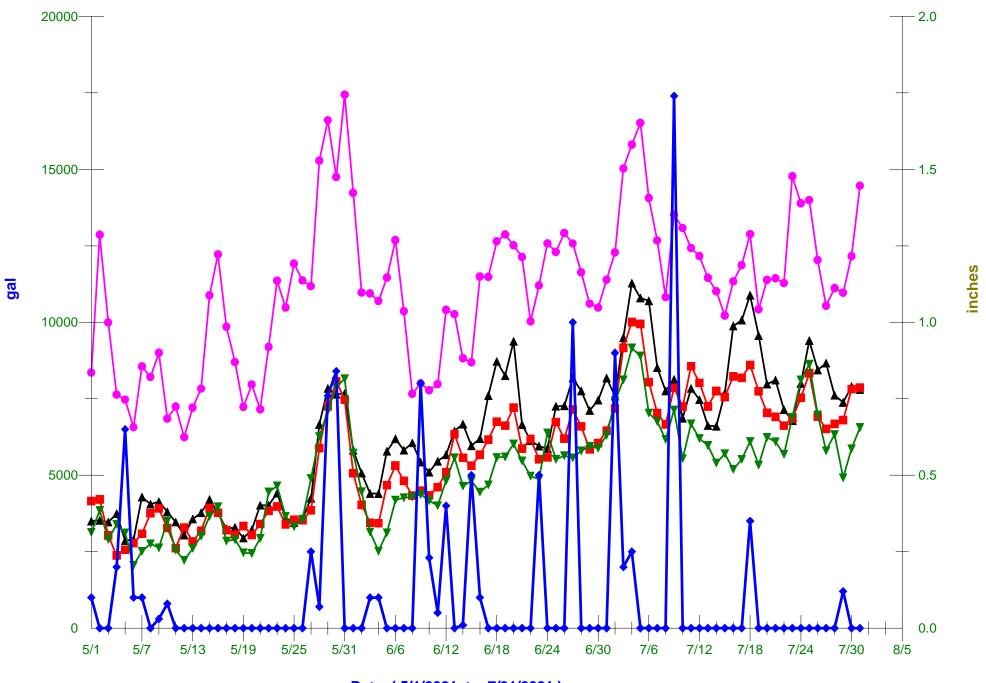
▲ PS17 Tota PS17B Tota PS18 Tota PS16 Tota Precipitation Pumped Pumped Pumped Pumped



### Date (5/1/2021 to 7/31/2021)

▲ PS11 Tota PS12 Tota PS3 Tota PS14 Tota PS13 Tota Precipitation Pumped Pumped Pumped Pumped Pumped





Date (5/1/2021 to 7/31/2021)

▲ PS74 Tota PS83 Tota PS 15 Tota PS7 Total Precipitation Pumped Pumped Pumped Pumped