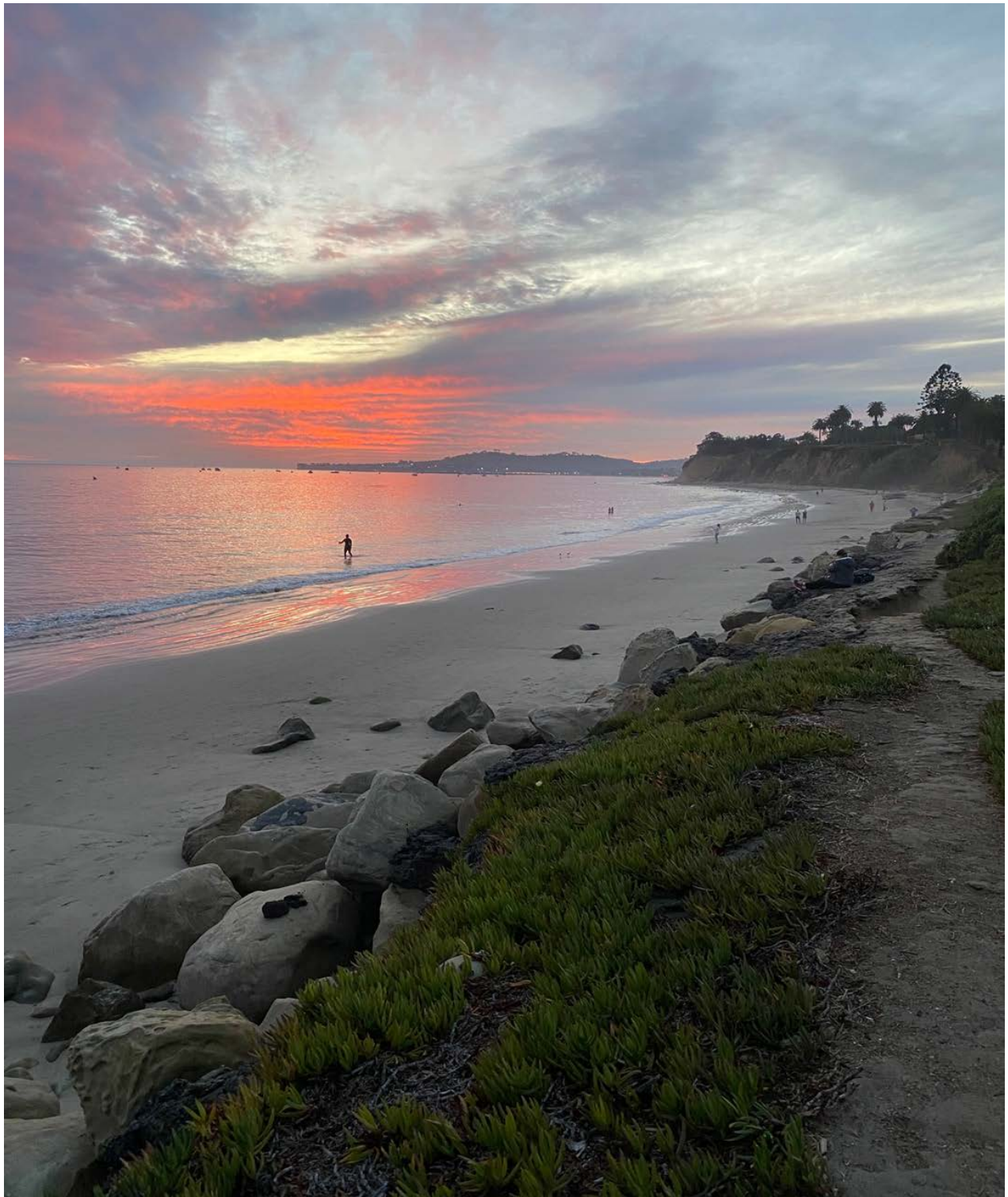


MONTECITO SANITARY DISTRICT



2020 ANNUAL SUMMARY REPORT

NPDES No. CA0047899

Order No. R3-2012-0016



Montecito Sanitary District

1042 Monte Cristo Lane
Santa Barbara, CA 93108
General Manager: Diane M. Gabriel, P.E.

A Public Service Agency

PHONE: (805) 969-4200
FAX: (805) 969-9049
E-MAIL: dgabriel@montsan.org

January 25, 2021

California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

SUBJECT: NPDES Permit No. CA 0047899
Order No. R3-2012-0016
Annual Summary Report 2020

Staff of the Regional Board:

On February 7, 2018 the District received a letter from the Central Coast RWQCB (RWQCB) notifying the District that the Water Board had administratively extended the expiration date of the District's NPDES permit until such time as the permit is reissued. The letter also informed us that the District's application for renewal was deemed complete on June 9, 2017. Additionally, the District received correspondence from the RWQCB dated January 28, 2020 and May 22, 2020 informing us that a draft of the reissued NPDES permit would likely be issued in the spring of 2021 due to a back log in RWQCB workload.

In accordance with the requirements of the general provisions of the District's NPDES Permit No. CA0047899, which is still in effect and binding, we are pleased to transmit the District's Annual Report for 2020.

The monitoring data compiled throughout the calendar year 2020 is presented in both tabular and graphic form.

The report includes the names and job titles of District personnel, the Governing Board of Directors, and an organizational chart.

Throughout the 2020 calendar year the following treatment operators were employed by the District:

- Daniel Jacquez, Chief Plant Operator, III-28608, exp. date 06/30/2021
- Marco Felix, Operator, V-41171, exp. 11/20/2023
- Marc Ciarlo, Operator, V-41067, exp. date 10/20/2023
- Michael Arce, Operator, III-43612, exp. date 06/22/2021
- Luis Rizo, Operator in Training, exp. date 01/01/2023
- Miguel Villafana, Operator in Training (Application Pending)

District staff continues to perform the majority of required analytical tests on-site in the District's ELAP accredited Laboratory. The District's Laboratory Manager, Carole Rollins, holds certification as a Grade 4 Laboratory Analyst; Marc Ciarlo holds certification as a Grade 2 Laboratory Analyst; and Operators Jacquez, Felix, and Arce maintain Grade 1 Laboratory Analyst certifications.

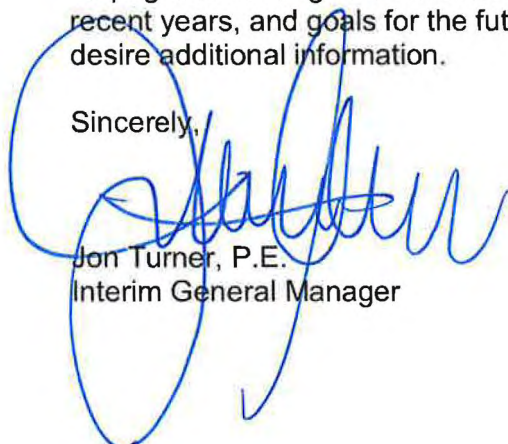
Required annual samples were collected on July 13th, 15th and 17th, 2020. The required analyses were performed by Oilfield Environmental & Compliance, Inc (OEC) and their subcontractors. All results were within acceptable limits.

On November 24, 2020, Harbor Offshore Inc. completed the annual inspection of the District's ocean outfall pipeline. The exterior of the outfall pipeline was inspected and videotaped. The full inspection report is being submitted to the Water Board via CIWQS with the Annual Summary Report. The outfall pipeline was found to be in good condition.

The District's Wastewater Treatment Plant Operations and Maintenance Manual was reviewed in December 2020 and it was determined that no updates were necessary.

Comments regarding the District's Collection System Maintenance and Renovation Program, as required by the NPDES permit, are included in this report on pages 23 through 25. Also included on pages 26 through 29 is a brief summary of the history of the District, our accomplishments in recent years, and goals for the future. Please feel free to contact me if you have any questions or desire additional information.

Sincerely,



Jon Turner, P.E.
Interim General Manager

**Montecito Sanitary District
2020 Annual Report**

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MONTECITO SANITARY DISTRICT

January 2020 – December 2020

GOVERNING BOARD

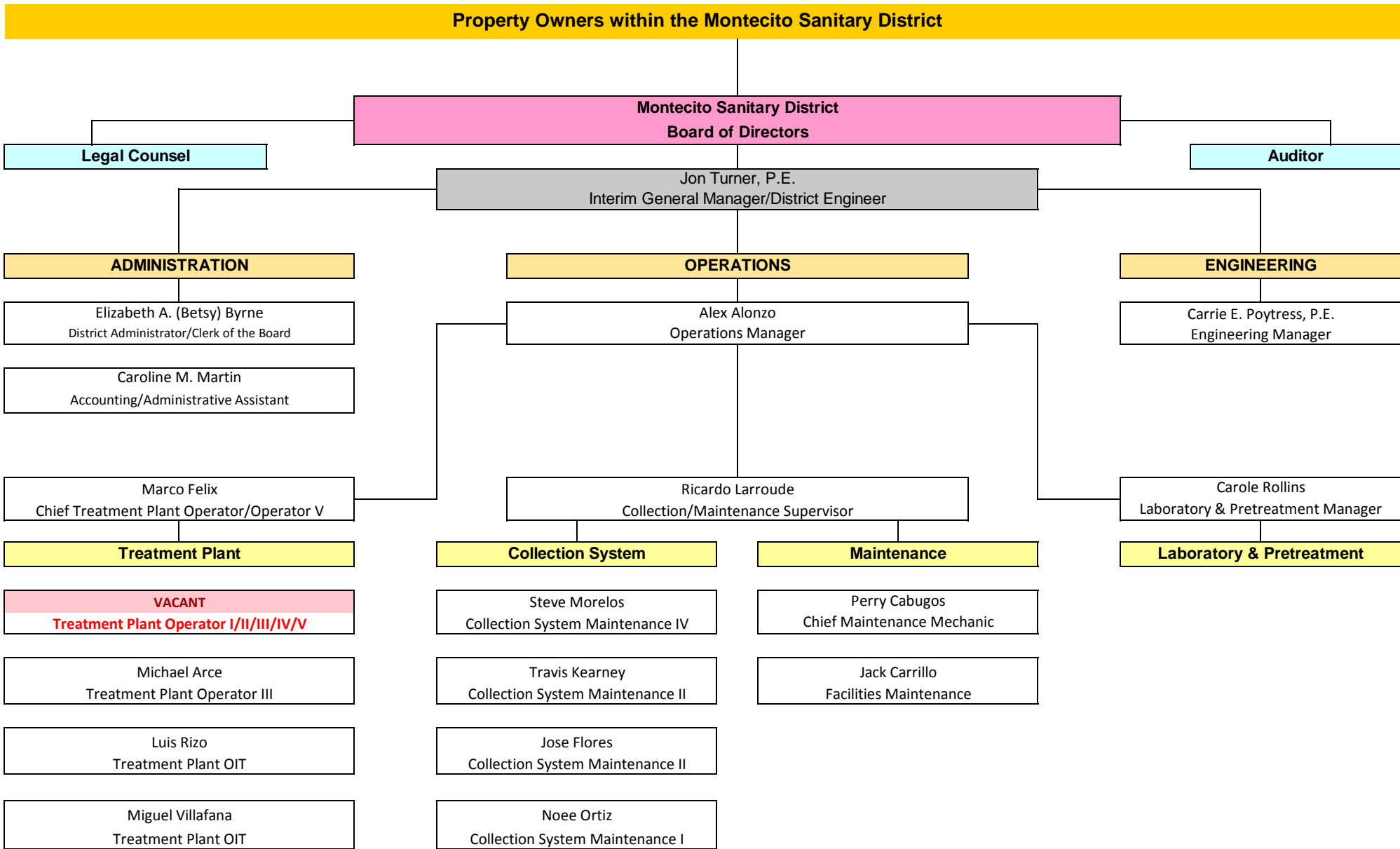
Thomas Bollay	President/Term Ended Dec 2020
Jeff Kerns	Vice President/Term Ended Dec 2020
Tom Kern	Treasurer/Term Ended Dec 2020
Ellwood Barrett II	Secretary
Dana Newquist	Director
Dorinne Lee Johnson	Elected November 2020
Don Eversoll	Elected November 2020
Gary Fuller	Elected November 2020

January 2020 – December 2020

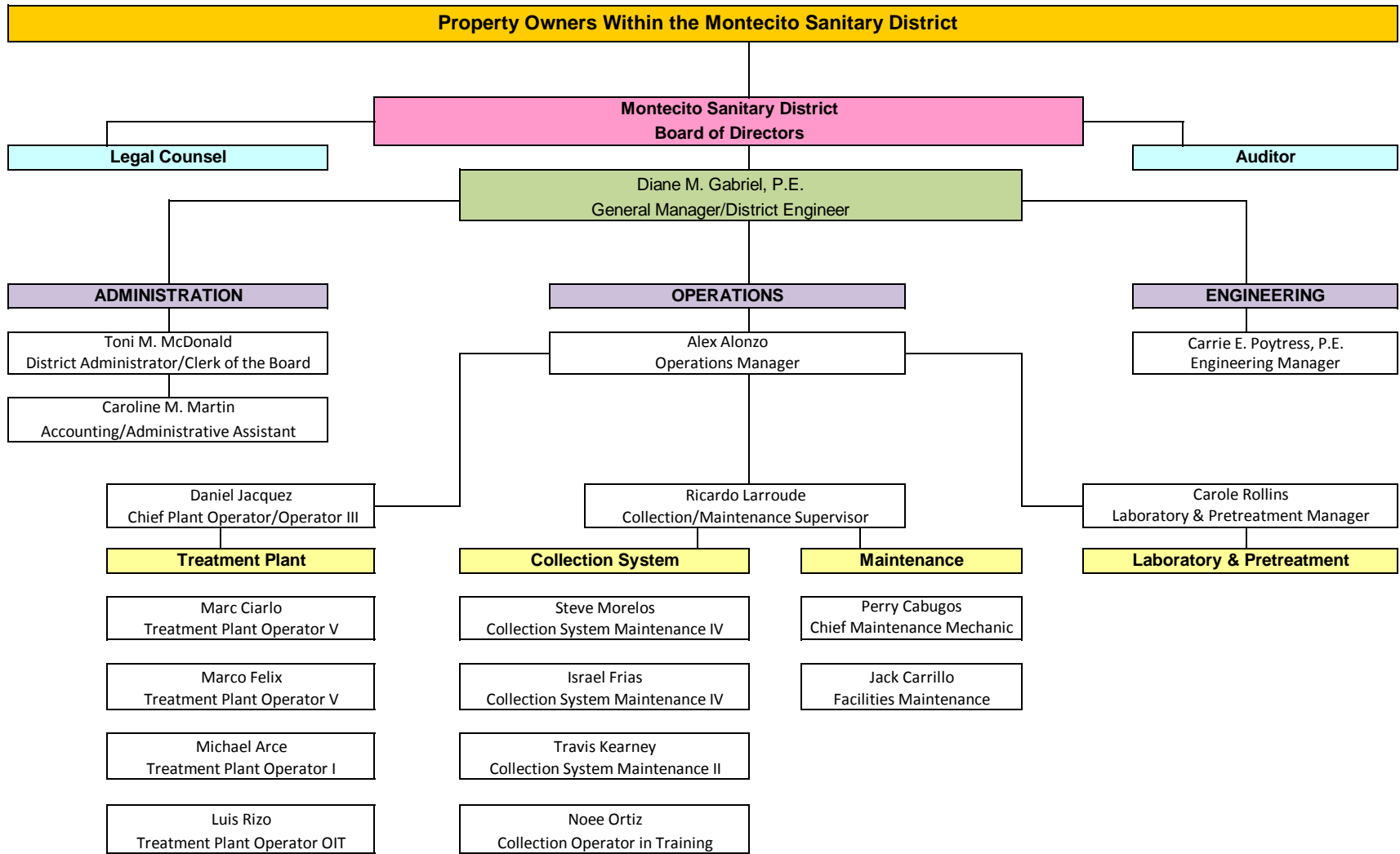
STAFF

Diane M. Gabriel, P.E.	General Manager/District Engineer (<i>Retired 10/2/20</i>)
Jon Turner, P.E.	Interim General Manager (<i>Temp/Hired 9/10/20</i>)
Carrie Poytress, P.E.	Engineering Manager
Toni McDonald	District Administrator (<i>Retired 9/5/20</i>)
Elizabeth Byrne	District Administrator (<i>Hired 8/17/20</i>)
Caroline M. Martin	Accounting/Administrative Assistant
Alex Alonzo	Operations Manager
Daniel Jacquez	Chief Plant Operator III (<i>Resigned 11/20/20</i>)
Marco Felix	Treatment Plant Operator V (<i>Promoted to CPO</i>)
Marc Ciarlo	Treatment Plant Operator V (<i>Resigned 10/30/20</i>)
Michael Arce	Treatment Plant Operator III
Luis Rizo	Treatment Plant Operator OIT
Miguel Villafana	Treatment Plant Operator OIT (<i>Hired 11/20/20</i>)
Carole Rollins	Laboratory & Pretreatment Manager
Ricardo Larroude	Collection/Maintenance Supervisor
Perry Cabugos	Chief Maintenance Mechanic
Jack Carrillo	Facilities Maintenance
Steve Morelos	Collection System Maintenance IV
Israel Frias	Collection System Maintenance IV (<i>Resigned 9/5/20</i>)
William "Travis" Kearney	Collection System Maintenance II
Noee Ortiz	Collection System Maintenance I
Jose Flores	Collection System Maintenance II (<i>Hired 10/19/20</i>)

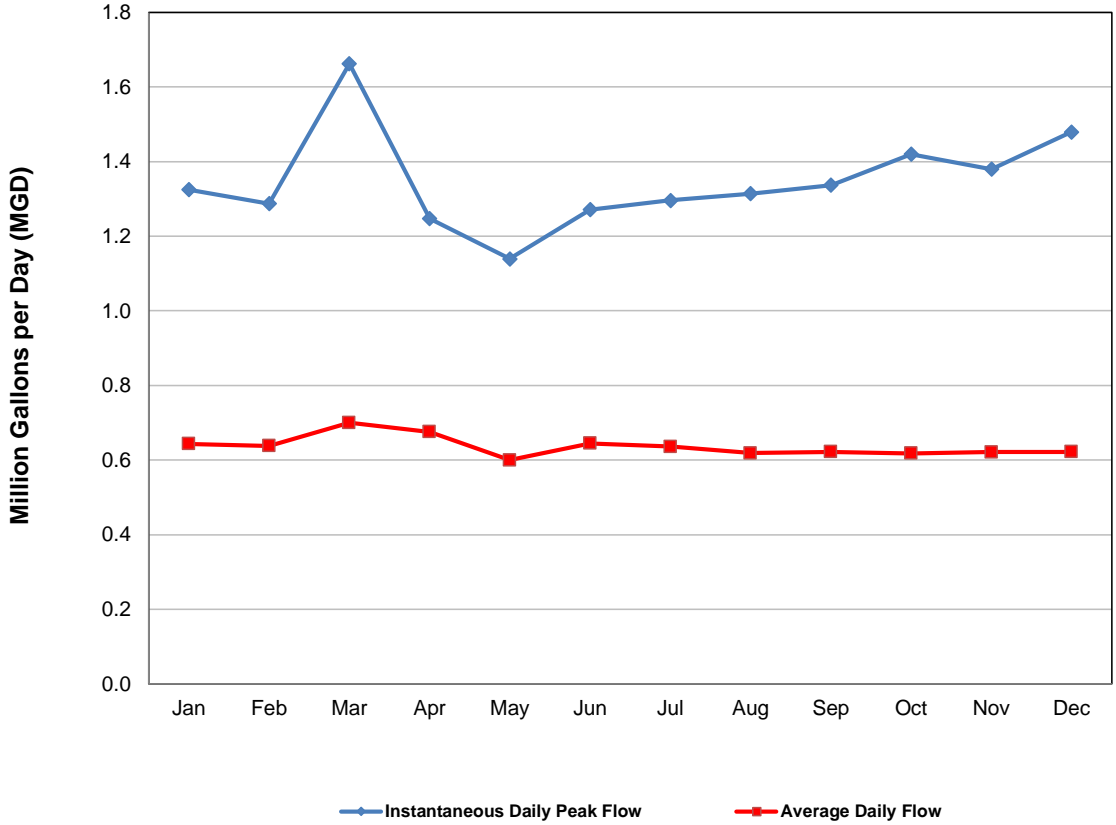
Ending 2020



Beginning 2020



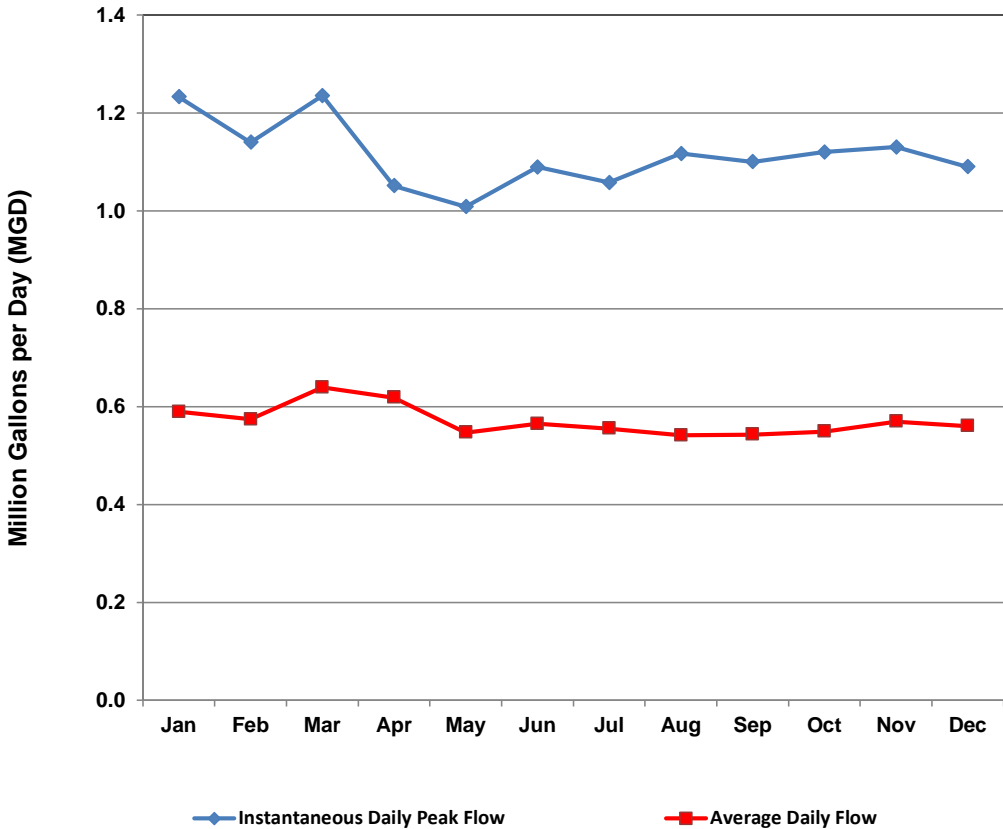
INFLUENT Daily Flow 2020



MILLION GALLONS PER DAY (MGD)		
Month	Instant Daily Peak	Average Daily Flow
Jan	1.33	0.643
Feb	1.29	0.638
Mar	1.66	0.700
Apr	1.25	0.676
May	1.14	0.600
Jun	1.27	0.645
Jul	1.30	0.636
Aug	1.31	0.619
Sep	1.34	0.622
Oct	1.42	0.618
Nov	1.38	0.621
Dec	1.48	0.622

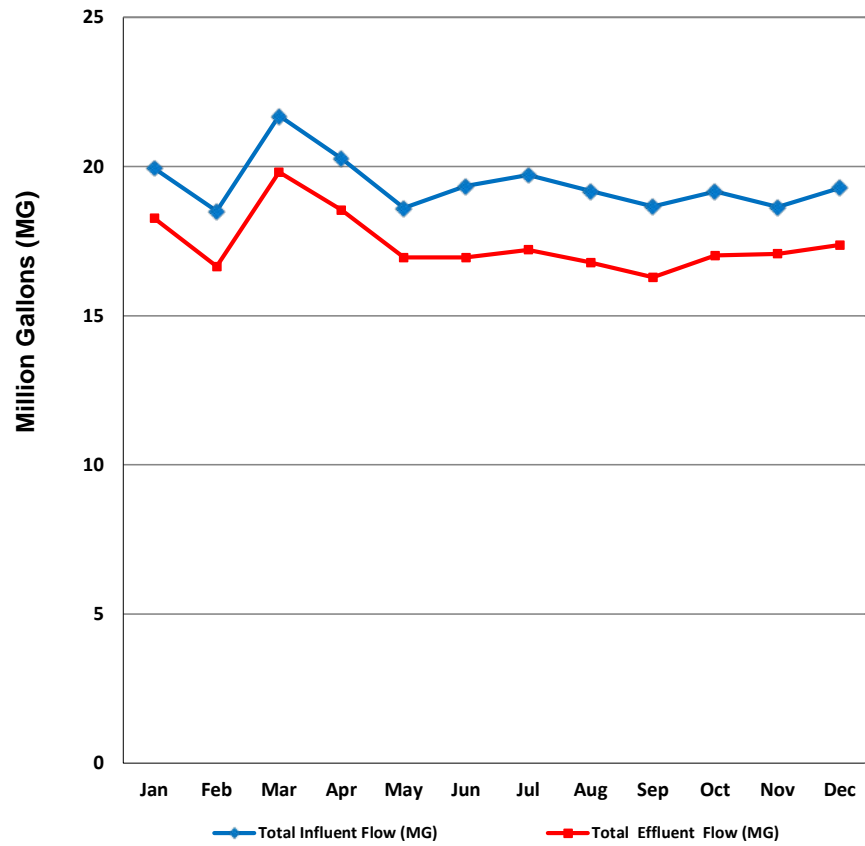
Avg	1.35	0.637
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EFFLUENT Daily Flow 2020



MILLION GALLONS PER DAY (MGD)		
MONTH	Instant Daily Peak	Average Daily Flow
Jan	1.232	0.589
Feb	1.140	0.574
Mar	1.235	0.639
Apr	1.051	0.618
May	1.008	0.547
Jun	1.089	0.565
Jul	1.057	0.555
Aug	1.117	0.541
Sep	1.100	0.543
Oct	1.120	0.549
Nov	1.130	0.569
Dec	1.090	0.560
AVG	1.114	0.571

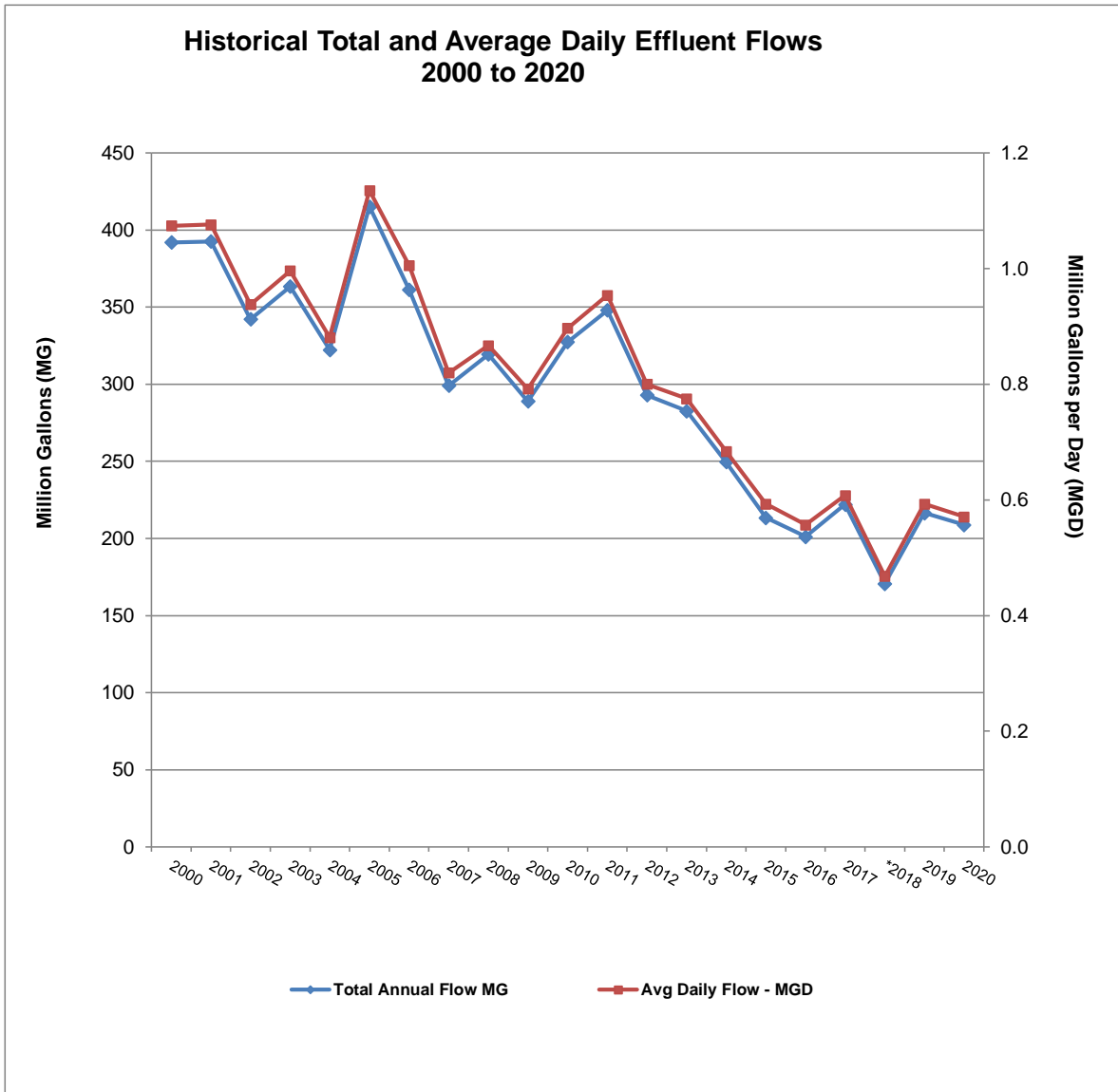
**INFLUENT & EFFLUENT
Monthly Flows
2020**



Month	Total Influent Flow (MG)	Total Effluent Flow (MG)
Jan	19.94	18.26
Feb	18.51	16.65
Mar	21.70	19.81
Apr	20.27	18.54
May	18.60	16.95
Jun	19.35	16.95
Jul	19.72	17.21
Aug	19.18	16.78
Sep	18.65	16.29
Oct	19.16	17.01
Nov	18.64	17.08
Dec	19.29	17.37

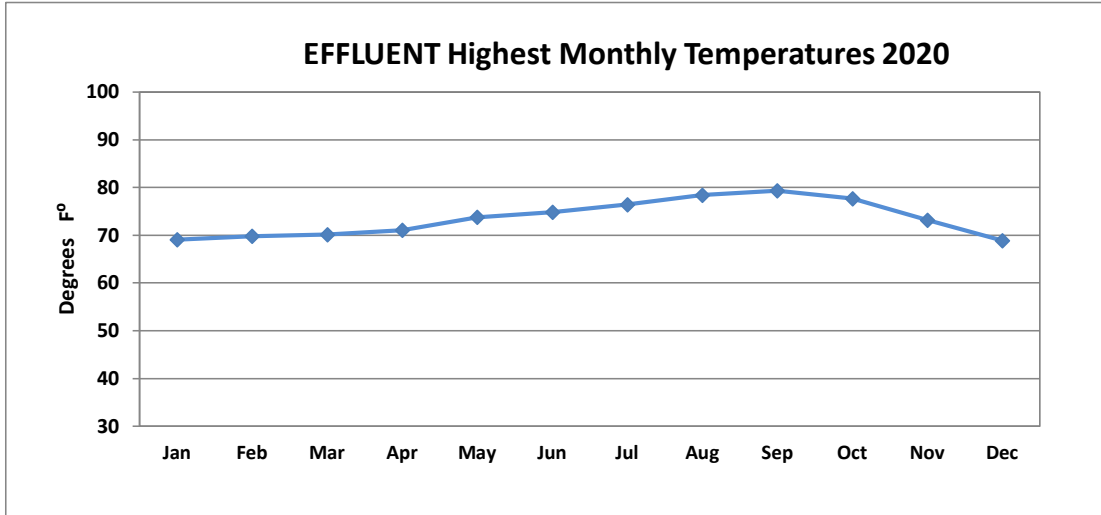
Total Annual Flows	233.00	208.89
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Note: Influent and Effluent flow differences are due to process recycled flows and process cleaning or maintenance which drains water back to the influent flow.

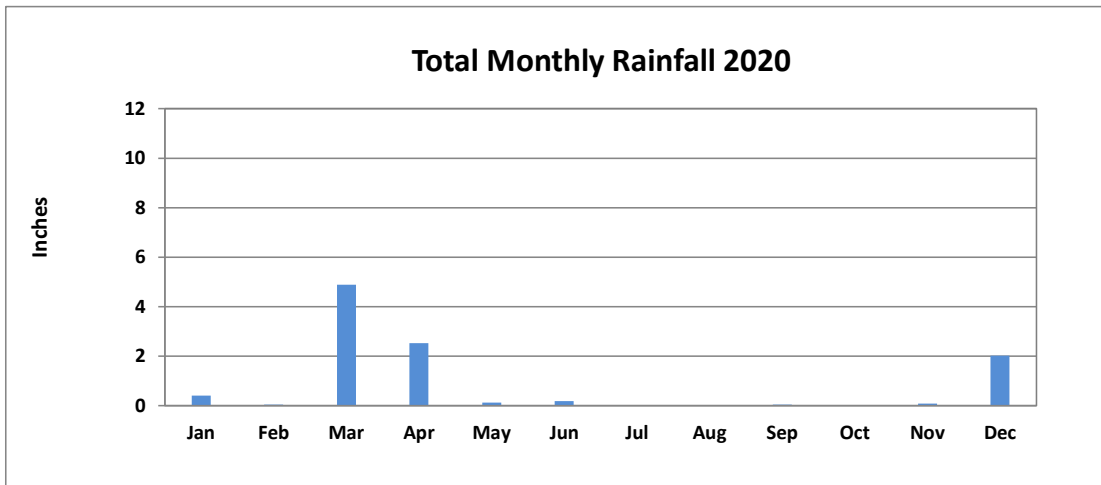


YEAR	Total Annual Flow MG	Avg Daily Flow MGD
2000	392.0	1.074
2001	392.6	1.076
2002	342.2	0.938
2003	363.4	0.996
2004	322.4	0.881
2005	415.3	1.135
2006	361.2	1.005
2007	299.2	0.820
2008	319.5	0.867
2009	289.0	0.792
2010	327.4	0.897
2011	348.0	0.954
2012	292.9	0.800
2013	282.7	0.775
2014	249.6	0.684
2015	213.4	0.593
2016	201.2	0.557
2017	222.1	0.608
*2018	170.8	0.468
2019	216.5	0.593
2020	208.9	0.571

*NOTE: Abnormally low flows for 2018 correspond to the January 9th Thomas Fire Debris Flow and evacuations of the service area.



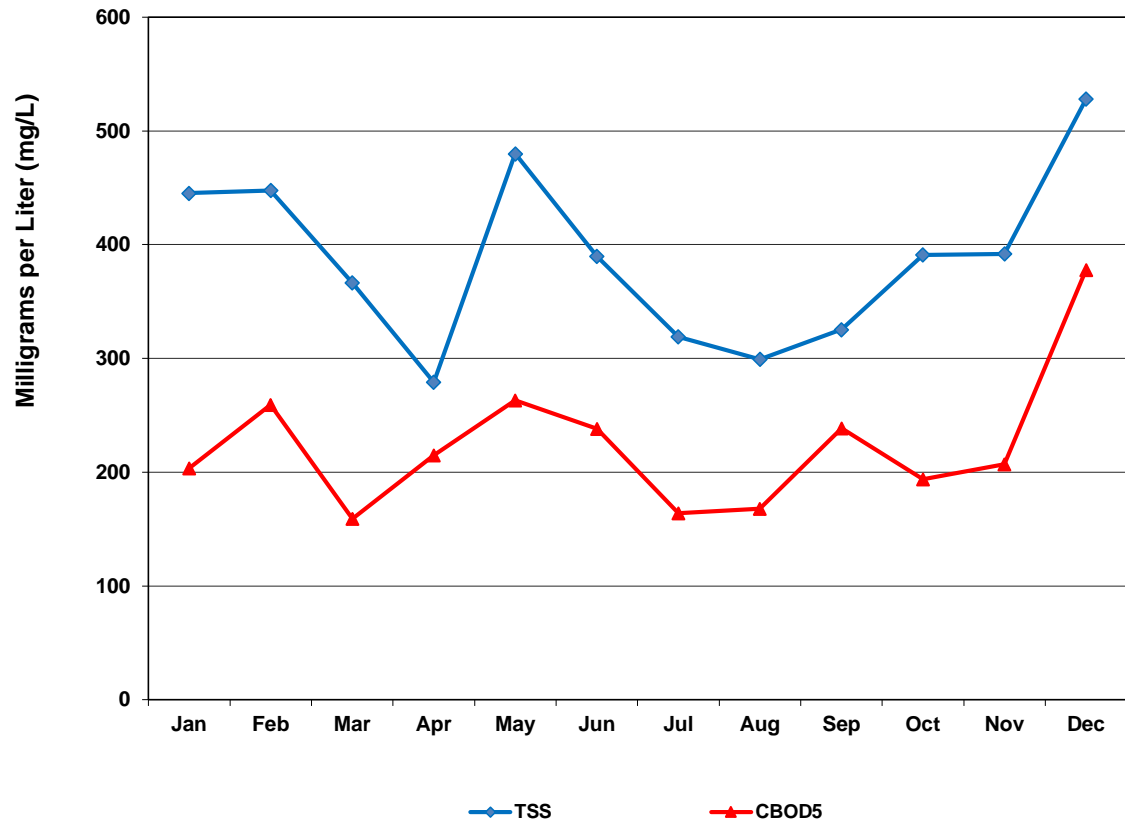
Month	High Temp. °F
Jan	69.1
Feb	69.8
Mar	70.2
Apr	71.1
May	73.8
Jun	74.8
Jul	76.5
Aug	78.4
Sep	79.3
Oct	77.7
Nov	73.2
Dec	68.9



Month	Rainfall Inches
Jan	0.40
Feb	0.05
Mar	4.88
Apr	2.53
May	0.13
Jun	0.18
Jul	0.00
Aug	0.00
Sep	0.05
Oct	0.03
Nov	0.08
Dec	2.02

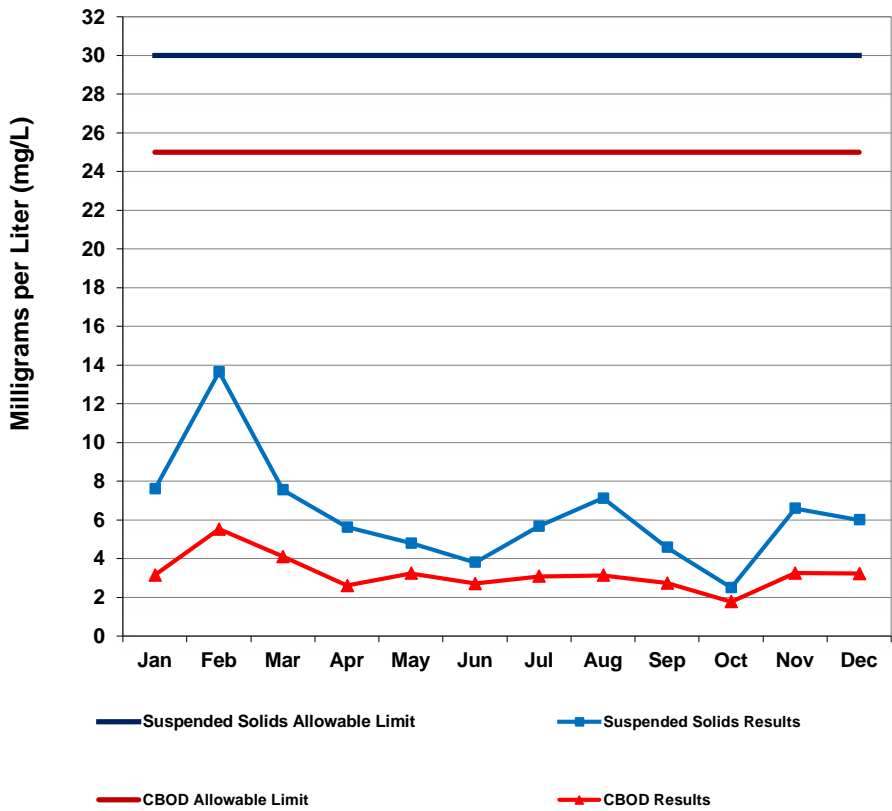
TOTAL	10.35
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**INFLUENT
Total Suspended Solids & Carbonaceous Biochemical
Oxygen Demand
2020**



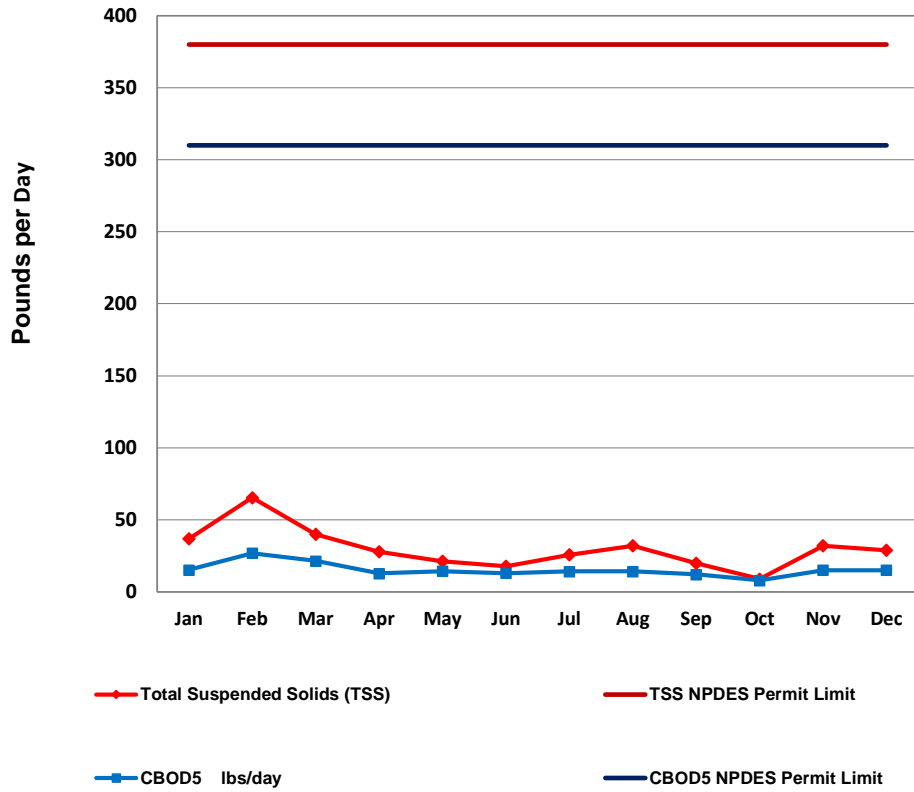
Month	TSS mg/L	CBOD ₅ mg/L
Jan	445	204
Feb	448	259
Mar	367	159
Apr	279	215
May	480	263
Jun	390	238
Jul	319	164
Aug	299	168
Sep	326	239
Oct	391	194
Nov	392	207
Dec	528	378
AVG	389	224

EFFLUENT Total Suspended Solids & Carbonaceous Biochemical Oxygen Demand 2020



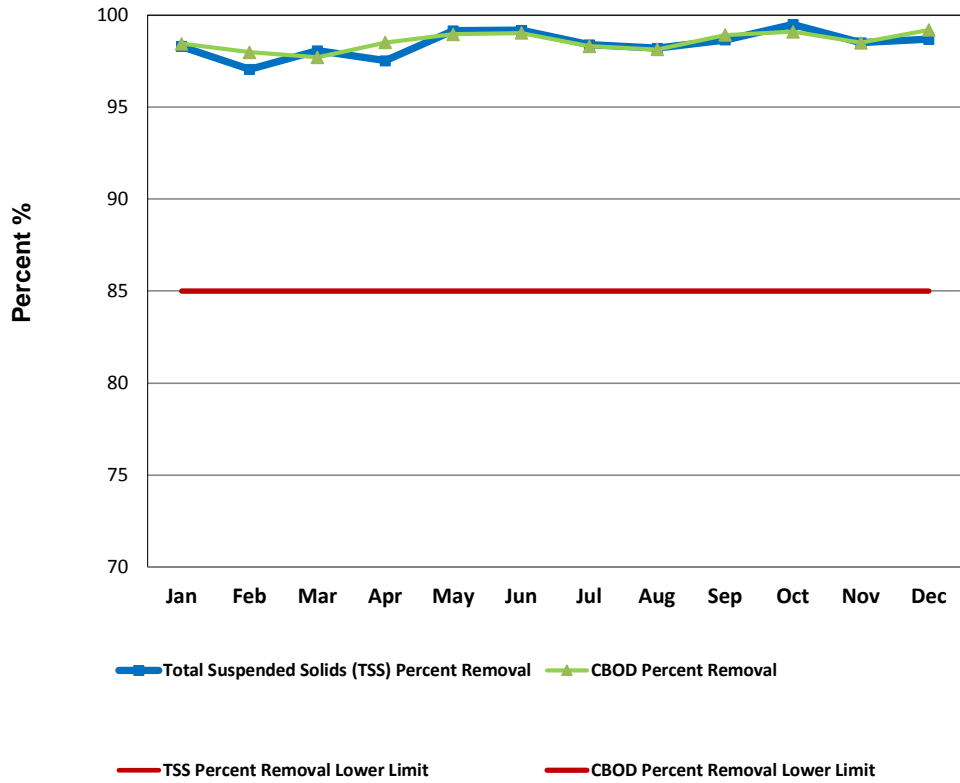
	TSS		CBOD	
	Permit Limit	Results	Permit Limit	Results
	mg/L	mg/L	mg/L	mg/L
Jan	30	7.6	25	3.15
Feb		13.7		5.53
Mar		7.6		4.10
Apr		5.6		2.61
May		4.8		3.24
Jun		3.8		2.71
Jul		5.7		3.08
Aug		7.1		3.14
Sep		4.6		2.73
Oct		2.5		1.77
Nov		6.6		3.25
Dec		6.0		3.22
AVG		6.3		3.21

EFFLUENT Total Suspended Solids & Carbonaceous Biochemical Oxygen Demand 2020



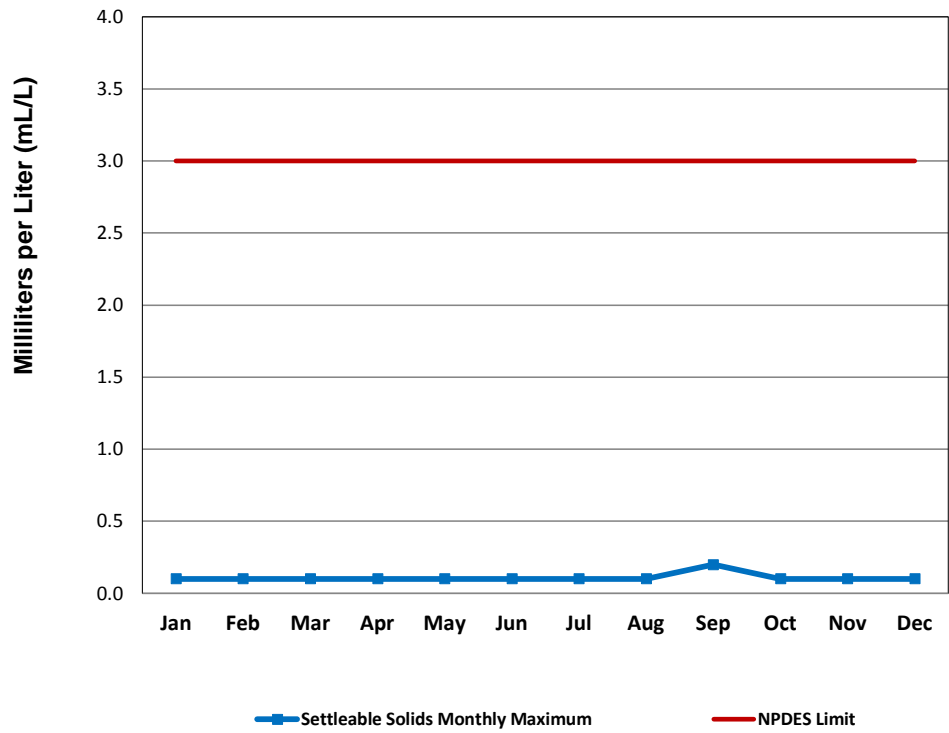
Month	TSS lbs/day	TSS NPDES Permit Upper Limit	CBOD ₅ lbs/day	CBOD ₅ NPDES Permit Upper Limit
Jan	37	380	15	310
Feb	65		27	
Mar	40		21	
Apr	28		13	
May	21		14	
Jun	18		13	
Jul	26		14	
Aug	32		14	
Sep	20		12	
Oct	9		8	
Nov	32		15	
Dec	29		15	
AVG	30		15	

EFFLUENT
Total Suspended Solids & Carbonaceous Biochemical Oxygen Demand
Percent Removal
2020



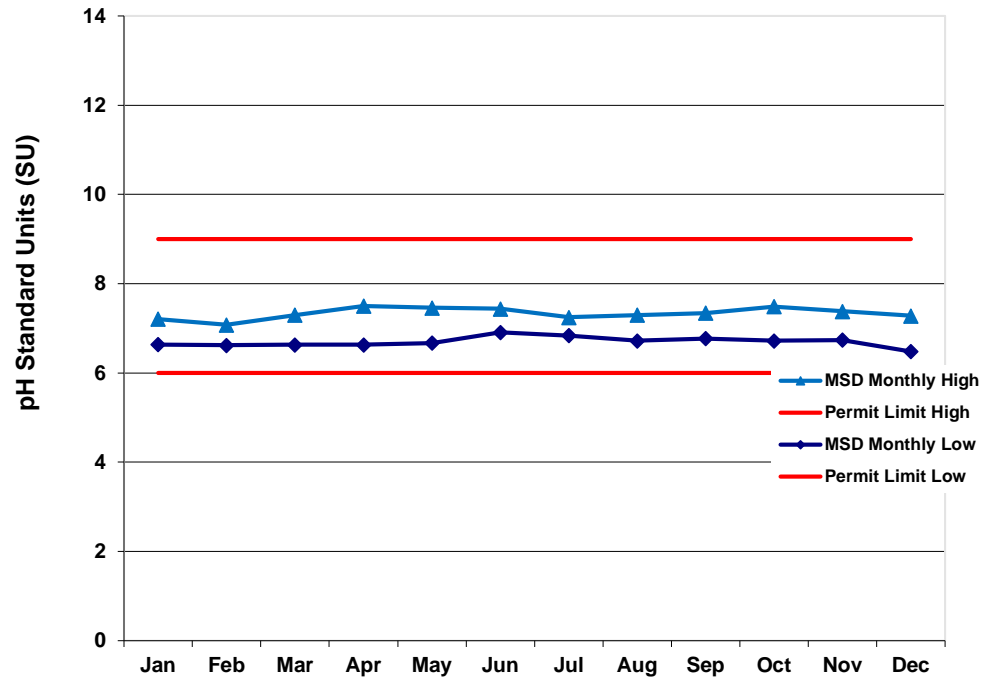
Month	NPDES PERMIT LOWER LIMIT %	TSS Average Percent Removal %	NPDES PERMIT LOWER LIMIT %	CBOD ₅ Average Percent Removal %
Jan	85	98	85	98
Feb		97		98
Mar		98		98
Apr		98		99
May		99		99
Jun		99		99
Jul		98		98
Aug		98		98
Sep		99		99
Oct		100		99
Nov		99		99
Dec		99		99
AVG		98		99

**EFFLUENT
Settleable Solids
Monthly Maximum
2020**



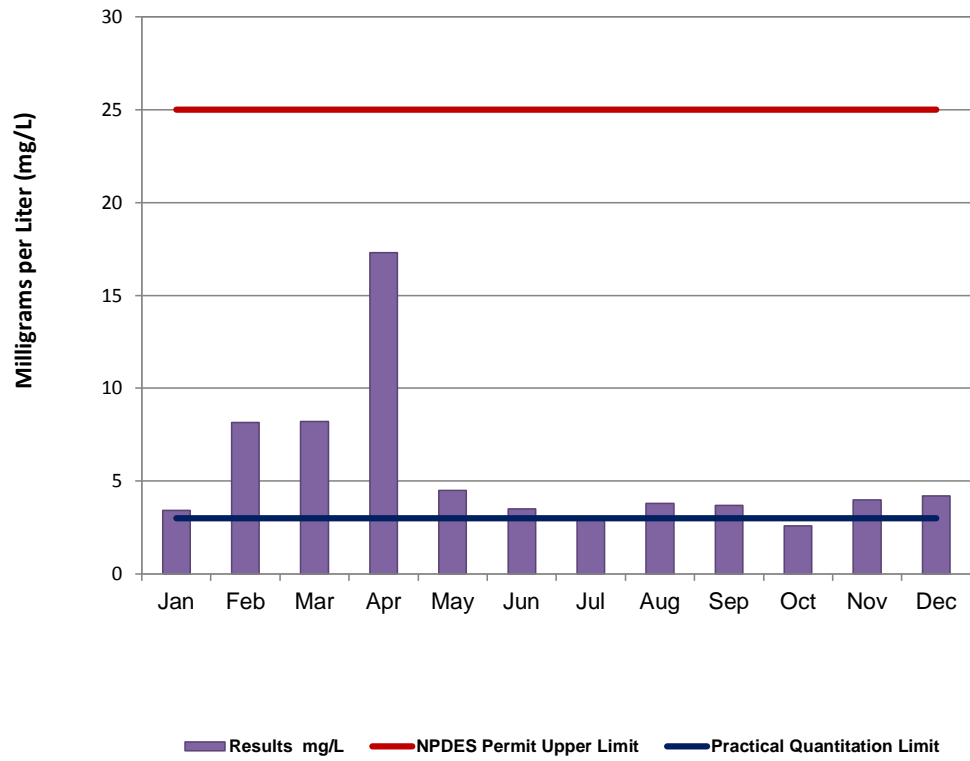
Month	NPDES Permit Limit mL/L	Monthly Maximum mL/L
Jan	3.0	<0.1
Feb		0.1
Mar		0.1
Apr		<0.1
May		0.1
Jun		<0.1
Jul		0.1
Aug		<0.1
Sep		0.2
Oct		<0.1
Nov		0.1
Dec		<0.1

EFFLUENT pH 2020



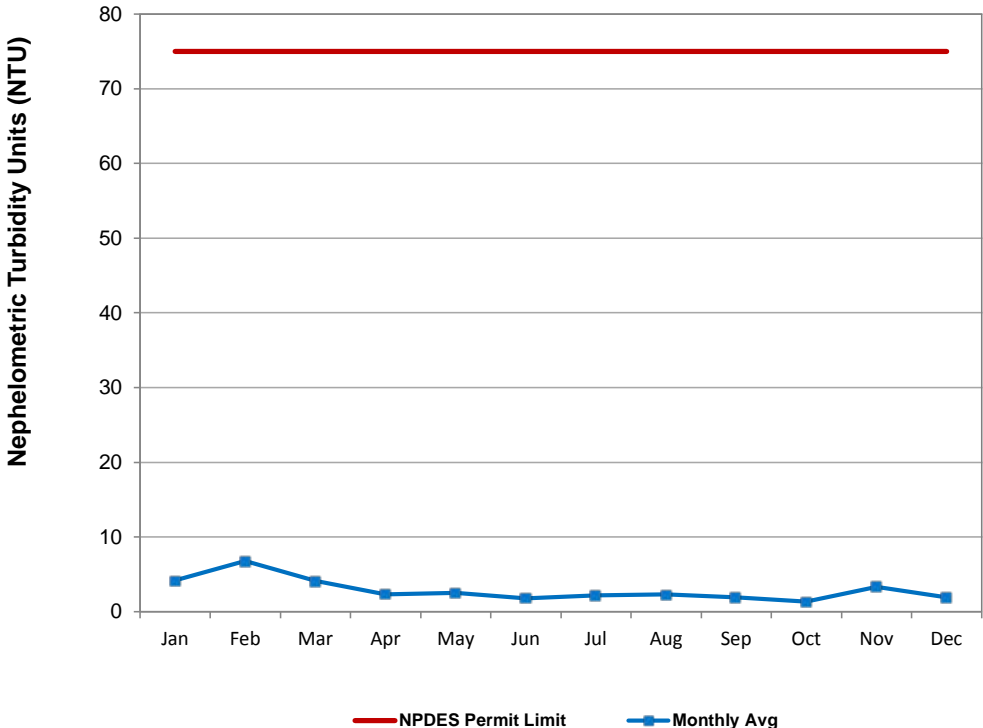
Month	MSD Monthly Low	NPDES Low Limit	MSD Monthly High	NPDES High Limit
Jan	6.64	6.0	7.21	9.0
Feb	6.62		7.08	
Mar	6.63		7.30	
Apr	6.63		7.50	
May	6.67		7.46	
Jun	6.91		7.44	
Jul	6.84		7.25	
Aug	6.72		7.30	
Sep	6.77		7.34	
Oct	6.72		7.49	
Nov	6.74		7.38	
Dec	6.48		7.28	
Avg	6.70		7.34	

**EFFLUENT
Oil & Grease
2020**



Oil & Grease			
Month	Results mg/L	PQL	NPDES Limit
Jan	3.43	3.0	25
Feb	8.15		
Mar	8.22		
Apr	17.30		
May	DNQ4.50		
Jun	DNQ3.50		
Jul	DNQ2.90		
Aug	DNQ3.80		
Sep	DNQ3.70		
Oct	DNQ2.60		
Nov	DNQ4.00		
Dec	DNQ4.20		

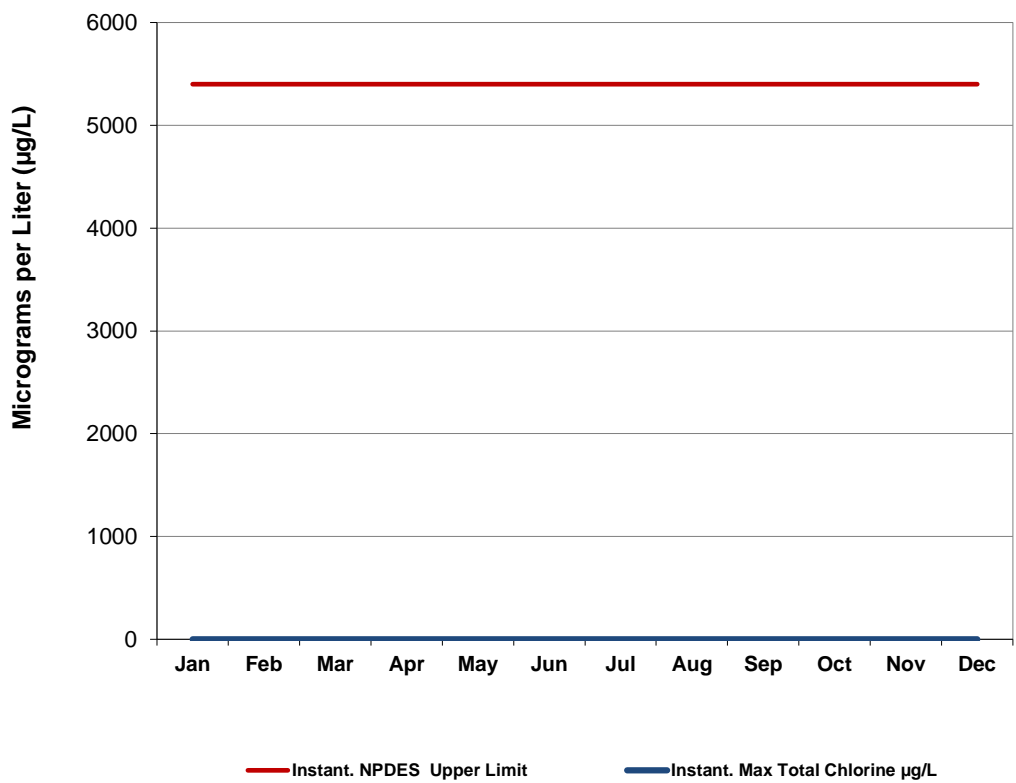
EFFLUENT Turbidity 2020



Turbidity - NTU		
Month	NPDES Limit	Monthly Avg
Jan	75	4.18
Feb		6.79
Mar		4.10
Apr		2.35
May		2.55
Jun		1.81
Jul		2.19
Aug		2.32
Sep		1.91
Oct		1.35
Nov		3.35
Dec		1.95

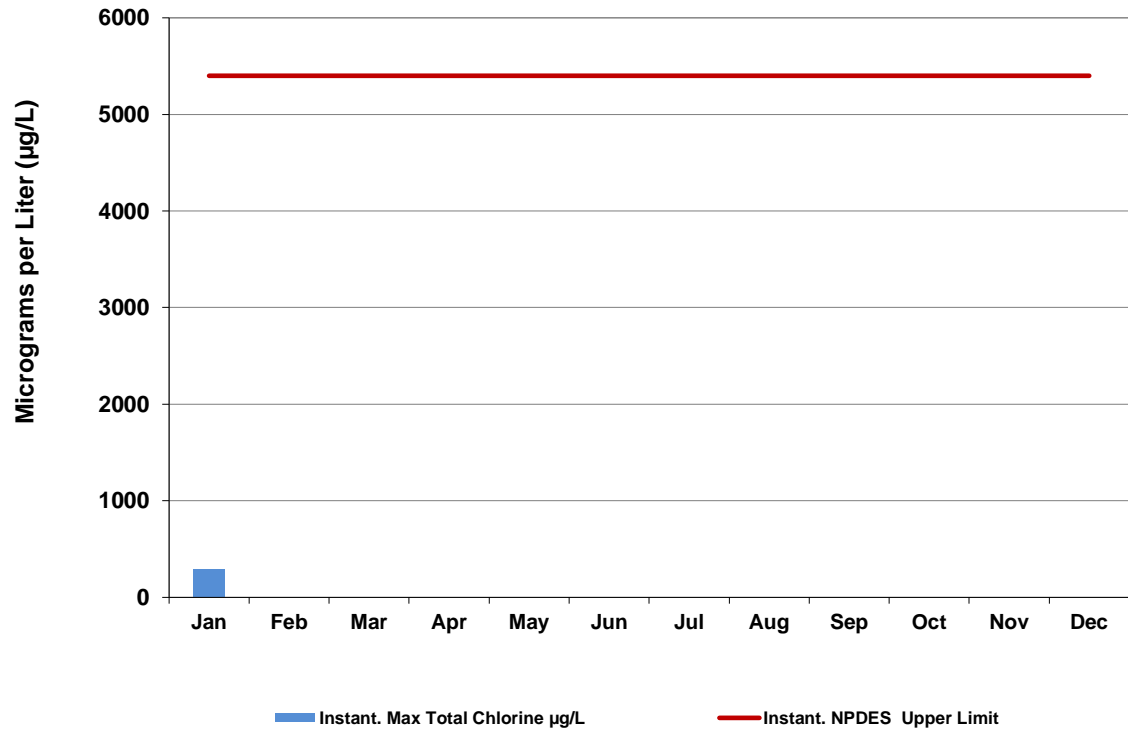
AVG		2.90
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**FINAL EFFLUENT
Total Chlorine Residual - Instantaneous Max (Grab) 2020**



Month	Instant. NPDES Upper Limit	Instant. Max Total Chlorine µg/L
Jan	5400	0
Feb		0
Mar		0
Apr		0
May		0
Jun		0
Jul		0
Aug		0
Sep		0
Oct		0
Nov		0
Dec		0

FINAL EFFLUENT
Total Chlorine Residual - Instantaneous Max (Meter)
2020

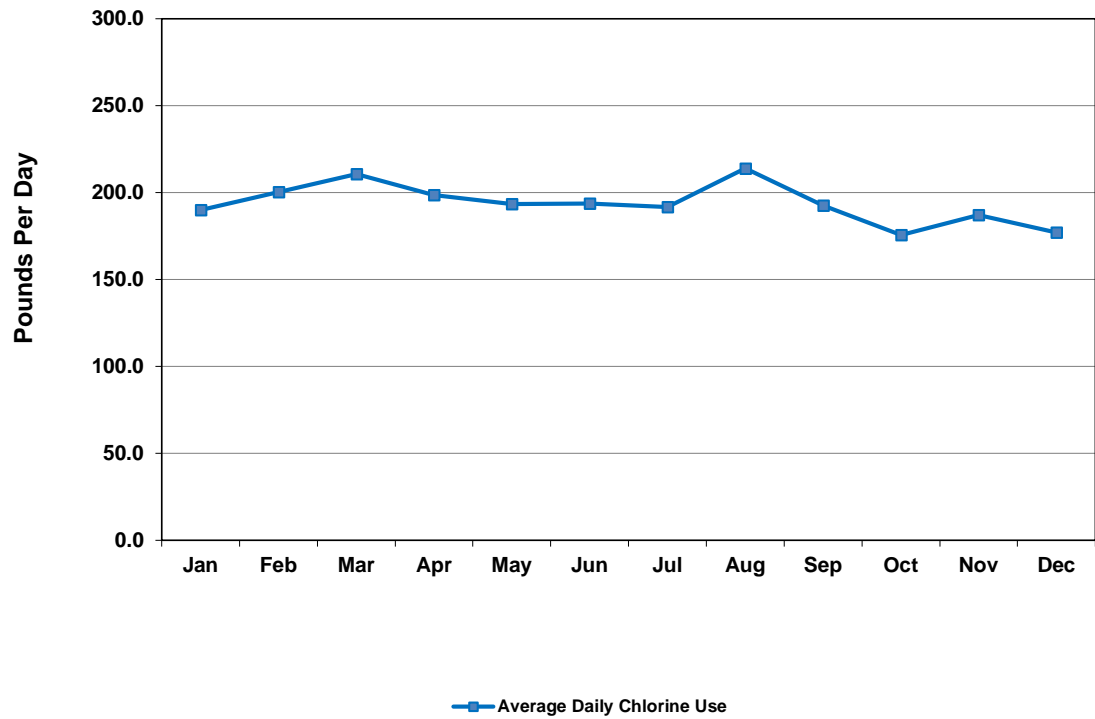


Month	NPDES Instant. Upper Limit µg/L	Instant. Max Total Chlorine µg/L
Jan	5400	288
Feb		0
Mar		0
Apr		0
May		0
Jun		0
Jul		0
Aug		0
Sep		0
Oct		0
Nov		0
Dec		0

*Higher total chlorine residual due to chlorine feed pump malfunction.

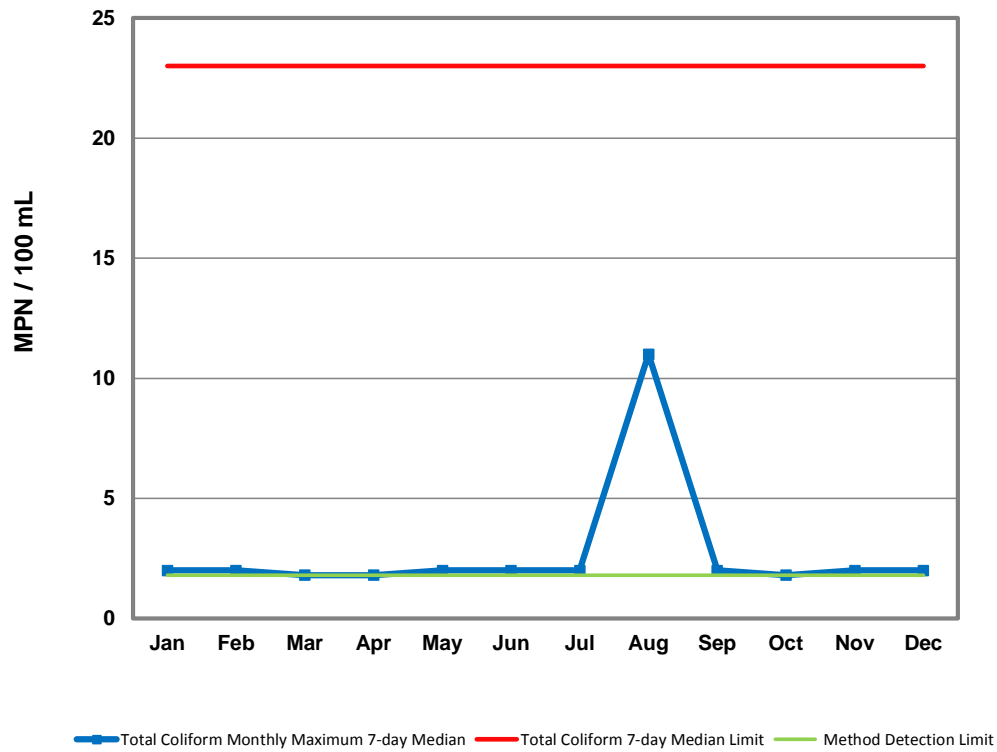
Note: "Meter" refers to instrumentation that continuously monitors and analyzes data.

**EFFLUENT
Chlorine Used
2020**



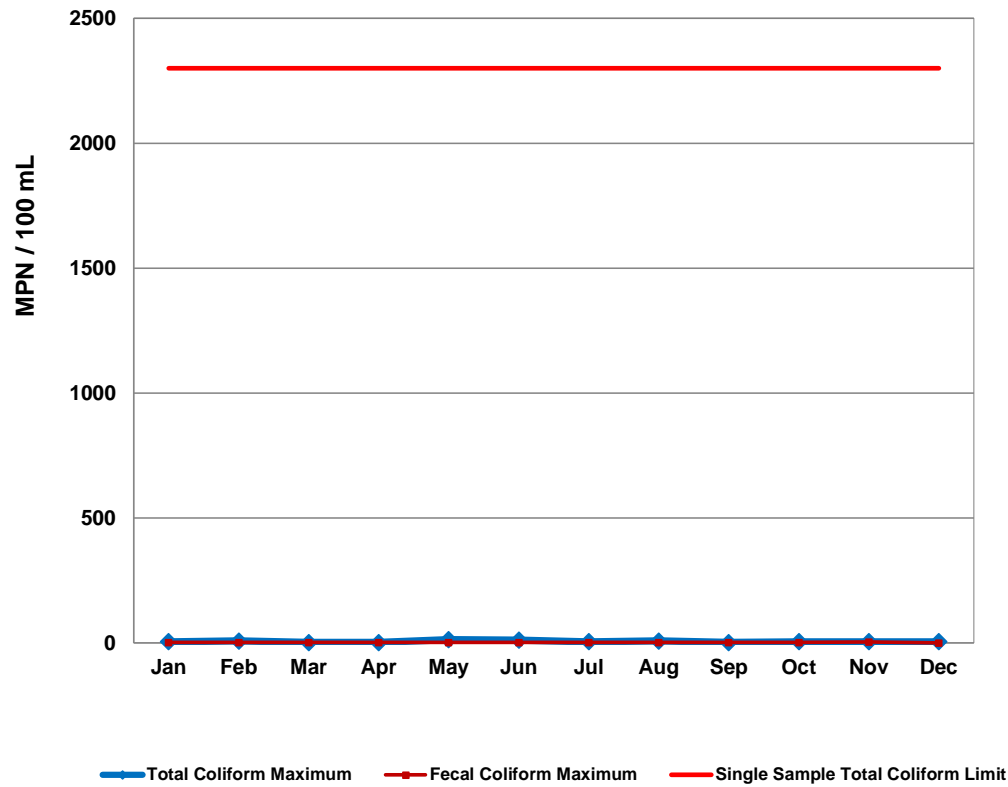
Month	Chlorine Used lbs/day
Jan	190.0
Feb	200.2
Mar	210.6
Apr	198.7
May	193.4
Jun	193.6
Jul	191.7
Aug	214.0
Sep	192.5
Oct	175.6
Nov	187.2
Dec	177.1
AVG	193.7

**EFFLUENT Total Coliform
Monthly Maximum 7-day Median
2020**



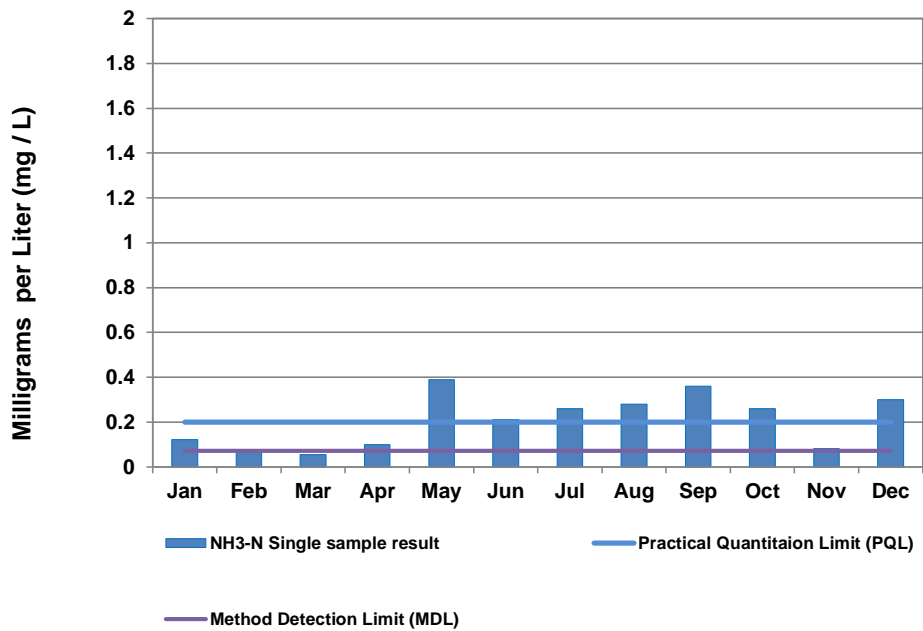
MPN/100mL			
Month	Total Coliform Monthly Maximum 7-day Median	Total Coliform 7-day Median Limit	Method Detection Limit
Jan	2.0	23	1.8
Feb	2.0		
Mar	1.8		
Apr	1.8		
May	2.0		
Jun	2.0		
Jul	2.0		
Aug	11.0		
Sep	2.0		
Oct	1.8		
Nov	2.0		
Dec	2.0		

**EFFLUENT Total and Fecal Coliform Monthly
Single-Sample Maximums
2020**



Month	MPN/100mL		Total Coliform Single Sample Limit
	Total Coliform Monthly Maximum	Fecal Coliform Monthly Maximum	
Jan	4.5	2.0	2300
Feb	7.8	2.0	
Mar	2.0	1.8	
Apr	2.0	1.8	
May	13.0	2.0	
Jun	11.0	2.0	
Jul	4.5	2.0	
Aug	7.8	1.8	
Sep	2.0	2.0	
Oct	4.5	1.8	
Nov	4.5	3.7	
Dec	4.5	<1.8	

EFFLUENT Ammonia as Nitrogen (NH₃-N) 2020



Ammonia / NH -N				
	Results	Method Detection Limit (MDL)	Practical Quantitation Limit (PQL)	NPDES Permit Limit
	mg/L	mg/L	mg/L	mg/L
Jan	DNQ0.122	0.072	0.200	NA
Feb	DNQ0.075			
Mar	*DNQ0.054			
Apr	DNQ0.099			
May	0.390			
Jun	0.210			
Jul	0.260			
Aug	0.280			
Sep	0.360			
Oct	0.260			
Nov	DNQ0.081			
Dec	0.300			

Note: MDL is the lowest value the test method can detect. PQL is the concentration below which data cannot be reported with accuracy.

*Note: MDL for this sample was 0.035 mg/L

Annual Report Tabular Data for Excel

Month	INFLUENT						
	Monthly Total Flow	Avg Inst Peak	Avg Flow	Avg TSS	Avg TSS	Avg CBOD5	Avg CBOD5
	MG	MGD	MGD	mg/L	lbs/day	mg/L	lbs/day
Jan 2020	19.94	1.33	0.643	445	2,313	204	1,055
Feb 2020	18.51	1.29	0.638	448	2,350	259	1,375
Mar 2020	21.70	1.66	0.700	367	2,070	159	897
Apr 2020	20.27	1.25	0.676	279	1,551	215	1,202
May 2020	18.60	1.14	0.600	480	2,378	263	1,303
Jun 2020	19.35	1.27	0.645	390	2,133	238	1,271
Jul 2020	19.72	1.30	0.636	319	1,658	164	903
Aug 2020	19.18	1.31	0.619	299	1,597	168	894
Sep 2020	18.65	1.34	0.622	326	1,609	239	1,191
Oct 2020	19.16	1.42	0.618	391	2,045	194	1,005
Nov 2020	18.64	1.38	0.621	392	1,983	207	1,040
Dec 2020	19.29	1.48	0.622	528	2,766	378	1,979

Total Rain	Total Monthly Flow	Avg Inst Peak Flow	Max Flow	Avg Flow	Avg TSS	Avg TSS	Avg Monthly TSS	Avg CBOD5	Avg CBOD5	CBOD5
inches	MD	MGD	MGD	MGD	mg/L	lbs/day	% Removal	mg/L	lbs/day	% Removal
0.40	18.26	1.23	0.658	0.589	7.6	37	98	3.15	15	98
0.05	16.65	1.14	0.640	0.574	13.7	65	97	5.53	27	98
4.88	19.81	1.24	1.411	0.639	7.6	40	98	4.10	21	98
2.53	18.54	1.05	0.849	0.618	5.6	28	98	2.61	13	99
0.13	16.95	1.01	0.604	0.547	4.8	21	99	3.24	14	99
0.18	16.95	1.09	0.618	0.565	3.8	18	99	2.71	13	99
0.00	17.21	1.06	0.618	0.555	5.7	26	98	3.08	14	98
0.00	16.78	1.12	0.613	0.541	7.1	32	98	3.14	14	98
0.05	16.29	1.10	0.583	0.543	4.6	20	99	2.73	12	99
0.03	17.01	1.12	0.589	0.549	2.5	9	100	1.77	8	99
0.08	17.08	1.13	0.624	0.569	6.6	32	99	3.25	15	98
2.02	17.37	1.09	0.737	0.560	6.0	29	99	3.22	15	99

Annual Report Tabular Data for Excel

NH3-N	NH3-N	O + G	O + G	Avg Turb	pH High	pH Low	Max Final Cl2 grab	Avg Cl2 before Dechlor	Avg Cl2 Total	Max Temp	Max Total Coliform	Max Total Coliform 7-day Median	Max Fecal Coliform	Max Final Cl2 meter	Max Settleable solids
mg/L	lbs/day	mg/L	lbs/day	NTU	SU	SU	ug/L	mg/L	lbs/day	degree F	MPN/100 mL	MPN/100 mL	MPN/100 mL	ug/L	mL/L
DNQ0.122	DNQ0.64	3.43	18	4.18	7.21	6.64	0	20.0	190.0	69.1	4.5	2.0	2.0	288	<0.1
DNQ0.075	DNQ0.35	8.15	38	6.79	7.08	6.62	0	22.5	200.2	69.8	7.8	2.0	2.0	0	0.1
DNQ0.054	0.26	8.22	40	4.10	7.30	6.63	0	22.5	210.6	70.2	2.0	1.8	1.8	0	0.1
DNQ0.099	DNQ0.48	17.30	84	2.35	7.50	6.63	0	21.8	198.7	71.1	2.0	1.8	1.8	0	<0.1
0.390	1.89	DNQ4.50	DNQ22	2.55	7.46	6.67	0	20.5	193.4	73.8	13.0	2.0	2.0	0	0.1
0.210	0.94	DNQ3.50	DNQ16	1.81	7.44	6.91	0	18.9	193.6	74.8	11.0	2.0	2.0	0	<0.1
0.260	1.29	DNQ2.90	DNQ14	2.19	7.25	6.84	0	16.6	191.7	76.5	4.5	2.0	2.0	0	0.1
0.280	1.31	DNQ3.80	DNQ18	2.32	7.30	6.72	0	17.1	214.0	78.4	7.8	4.5	1.8	0	<0.1
0.360	1.53	DNQ3.70	DNQ16	1.91	7.34	6.77	0	18.9	192.5	79.3	2.0	2.0	2.0	0	0.2
0.260	1.21	DNQ2.60	DNQ12	1.35	7.49	6.72	0	17.6	175.6	77.7	4.5	1.8	1.8	0	<0.1
DNQ0.081	DNQ0.37	DNQ4.00	DNQ18	3.35	7.38	6.74	0	18.2	187.2	73.2	4.5	2.0	3.7	0	0.1
0.300	1.50	DNQ4.20	DNQ21	1.95	7.28	6.48	0	19.6	177.1	68.9	4.5	2.0	1.8	0	<0.1

MONTECITO SANITARY DISTRICT

Collection System Maintenance and Renovation Program 2020

OBJECTIVE

To reduce Sanitary Sewer Overflows (SSO's), increase system reliability, optimize service life of all collection system components through continued systematic assessment and maintenance, and plan for future facility rehabilitation and/or replacement.

GOALS – SHORT AND LONG TERM

Short Term:

1. Continue a systematic maintenance program based on past years' data to prevent SSO's. Identify lines that need to be evaluated by Closed Circuit Television (CCTV) using the NASSCO pipe rating system.
2. Continue a systematic CCTV program based on the pipeline segment ratings to identify intrusion of roots, grease and/or structural defects and also check on the effectiveness of the District's cleaning procedures and equipment.
3. Continue to enforce District Ordinance No. 13 - To Regulate and Reduce Fat, Oil, and Grease in the Sewer System and to Require Fat, Oil, and Grease Removal Devices.
4. Continue to enhance the District's Geographic Information System (GIS) of the collection system piping, including routine updating of the District's maintenance activities consisting of cleaning, CCTV, and manhole inspection.
5. Continue to repair collection system piping when and if damage is found during regular CCTV'ing activities.
6. Rehabilitate pipe sections that have been identified as needing repair/replacement.
7. Continue to promote and fund a program that provides a financial incentive to property owners (offering a rebate up to \$2,000) for the rehabilitation and/or replacement of private sewer laterals. The District's FY 2019-20 funding for this program was \$50,000 and for FY 2020-21 is also \$50,000.
8. Continue a proactive lift station maintenance program consisting of de-ragging pumps, exercising valves, maintaining backup generators at each of the lift stations.

Long Term:

1. Clean and CCTV the entire collection system for inspection and condition assessment purposes. Complete this condition assessment using the District owned and operated CCTV equipment in accordance with the NASSCO pipe rating system for each line segment.
2. Rehabilitate / reline District VCP pipelines as determined necessary by the NASSCO rating.
3. Rehabilitate and replace manholes as determined necessary.
4. Continue to investigate the inflow and infiltration issues that may still exist within the District.

ACTIONS COMPLETED IN 2020

1. District staff performed CCTV inspection of approximately 11.6 miles of District pipeline.
2. District staff cleaned approximately 92 miles of collection system piping.
3. Promoted and provided financial incentive for the rehabilitation/replacement of private sewer laterals. In 2020, twenty-one property owners participated in the Private Lateral Rehabilitation Program by replacing or repairing their deteriorated or damaged laterals. The District issued rebates for a total of \$38,925 to property owners for these repairs.
4. Due to County Road overlays, 60 manholes were raised to grade at various locations. The projects were paid for by the County of Santa Barbara and the District has yet to be invoiced for the share of the costs.
5. Survey work was performed for the design of a sewer main extension in Lilac Drive for a total cost of \$13,280; survey work in the amount of \$3,280 was also performed for a possible sewer main extension for a portion of Oak Grove Road.
6. The District funded, and construction started, in November 2020 on the 2” diameter Riven Rock low pressure force main project of approximately 827 linear feet to convert 5 properties from septic to sewer. Each property is required to have a private lift station. The property owners are required to pay the District their proportionate share of the construction cost before they are issued a permit to abandon their septic system and tie into the public sewer system. Total cost of the project was \$263,636.50.

2020 SANITARY SEWER OVERFLOW (SSO) REPORT SUMMARY

PRIVATE

1. 03/03/20 – 71 Eucalyptus Lane; Property line cleanout to a private sewer lateral overflowed resulting in a spill of approximately 5.5 gallons. The Collections crew was notified by the property owner's plumber requesting a grate to be set to clear blockage. Upon arrival, Collections Crew identified that wastewater had flowed out of the clean-out into the driveway. At that time, the owner was given a written notice to CCTV their private sewer lateral and to provide a video inspection to the District to determine if repairs are required. A video inspection of the sewer lateral was performed on 3/10/20 and the owner was notified that replacement of the sewer lateral was required from the Residence to the District main.
2. 10/07/20 – 430 Hot Springs Road; Property line cleanout to a private sewer lateral overflowed resulting in a spill of approximately 22 gallons. The Collections Crew was notified by property owner after the plumber had cleared the blockage in lateral. Upon arrival, Collections Crew identified that wastewater had flowed out of the property and into the public right of way. At that time, the owner was given a written Notice to CCTV their private sewer lateral and to provide a video inspection to the District to determine if repairs are required. A video inspection was performed on 11/4/20 and the owner was notified that replacement of the entire sewer lateral was required from the Residence to the District mainline.

DISTRICT

08/03/20 – Category 3; A break in the Montecito Water District's 10" water main at the intersection of East Valley Road and East Mountain Drive caused water to enter the sewer system through manhole 1700-5G resulting in a surcharge of flow in the gravity sewer main. This surcharge of water caused multiple downstream manholes to overflow and caused sewer backups into 3 Residential homes. Montecito Fire District was on scene and their crews assisted in the cleanup of the affected residences. The Collection crew cleaned and disinfected the areas around the manholes and the gravel driveway at one of the affected residences. The District's Collection Crew cleaned, inspected and cleared debris caused by the water main break from mainlines and manholes upstream and downstream of the location of the water line break. It was determined that the spill totaled approximately 94 gallons.

MONTECITO SANITARY DISTRICT

Mission, History and Future Goals

OUR MISSION

To provide the residents of Montecito with a community service to protect public health and to preserve the natural environment through the collection, treatment, and disposal of wastewater in the most cost effective way possible.

To meet all regulatory discharge requirements as directed by Local, State, and Federal agencies.

OUR BACKGROUND

The Montecito Sanitary District (MSD) is an independent special district voted into existence in 1947 by the residents of Montecito. A few highlights of MSD's history include the following:

- 1947: The Montecito Sanitary District was voted into existence by the residents.
- 1947-1960: The community worked toward implementation of service by approving a bond issuance, selecting a plant site, and establishing a District boundary.
- 1960: A \$900,000 bond issuance was passed to build a 750,000 gallon per day extended aeration secondary treatment plant, an ocean outfall, and trunk sewer system.
- 1961-1969: Six assessment districts were formed to finance the installation of 70 miles of collection system pipelines.
- 1981: Voters approved a \$3.1 million revenue bond issuance to incorporate new technology and expand the plant's capacity to 1.5 MGD.
- 1982-1999: A second activated sludge reactor basin was added to the treatment plant; two additional secondary clarifiers were constructed; the volume of the aerobic digester was increased; a dissolved air flotation thickener and a belt filter press were installed; a second chlorine contact chamber was constructed along with a de-chlorination chamber; a 250 KW emergency generator was installed at the treatment plant. In the mid 1990's, sodium hypochlorite and sodium bisulfite liquids, replaced gaseous chlorine and sulfur dioxide for safety reasons.

MONTECITO SANITARY DISTRICT
Mission, History and Future Goals -- Continued

- 2000-2006: The District completed the following capital improvement projects: bulk chemical storage tanks were replaced with larger, double wall containment with earthquake restraints; six new disinfection chemical feed pumps for sodium hypochlorite and sodium bisulfite were installed; a paperless data trend process recorder was installed; an aeration system optimization project was completed, the laboratory was upgraded; the influent pump station was replaced, increasing the station's pumping capacity from 3.5 MGD to 5.0 MGD; a SCADA control center was implemented and a new 3,600 square foot maintenance building was constructed.
- 2007-2008: Board of Directors approved "mission critical" capital improvement projects totaling approximately \$11 million. The District then issued Certificates of Participation (COP's) to fund the capital program. A new SCADA server with future expandability was put online for the influent pump station control; the waste activated sludge pump was replaced; the aeration air header was replaced with a new stainless steel pipe; a new 125 KW portable emergency generator that can be used to power a portion of the treatment plant or as a backup at pump stations; the Posilipo Lift Station (Lift Station No. 4) was refurbished including the replacement of the existing 6" dual force mains with dual 8" lines; a new fully redundant pumping system (three new pumps) were installed along with an automatic switch over to generator power.
- 2009-2010: Replacement of the influent channel grinders increasing flow volume from 3.5 mgd to 6.0 mgd; secondary clarifiers (3 & 4) and the effluent channel were refurbished. Completed the refurbishment of two motor control centers (MCC) and replacement of another (MCC); installation of a new 450 KW emergency diesel powered generator providing 100 percent power to the treatment plant and associated facilities during main power outages. The new laboratory building design and site grading was completed in the fall of 2010.
- 2011-2012: The new laboratory building construction was completed. Upgrades to the treatment plant SCADA monitoring system and additional essential treatment plant equipment was added to the SCADA system. An after-hours alarm notification system was added to the SCADA system as the primary notification system with the existing auto dialer (ADA) becoming the back up. Three effluent disinfection chemical dosing pumps were replaced with new pumps.
- 2012-2013 Refurbishment of all four Secondary Clarifiers; installation of two new sodium hypochlorite chemical feed pumps and one sodium bisulfite chemical feed pump; all three Influent Pumps were retrofitted with new high chrome impellers and volutes and the Influent Variable Frequency Drive motors were replaced with new energy efficient units. Capital projects included the remodel of the former lab into an

MONTECITO SANITARY DISTRICT
Mission, History and Future Goals -- Continued

Operations Control Center; the refurbishment of the Belt Filter Press System; the replacement of the sodium hypochlorite and sodium bisulfite analyzers and the replacement of a 3,000-gallon hypochlorite tank.

- 2014-2015: Preventative maintenance was completed on the Secondary Treatment Clarifiers No. 2 and No. 3; the Aeration Basin Blower No.1 and the Belt Press. The Influent grinders at the wastewater treatment plant were replaced. The District Laboratory received accreditation by California ELAP, effective June 1, 2015. Subsequently, the District added coliform analyses by method SM9221B, E to its list of approved laboratory tests. Completed the installation of Mission boxes at the treatment plant for the internet SCADA system to monitor flows.
- 2016–2017: The District completed the Plant Paving and Resurfacing project, the Aeration Air Header Replacement project, installed new swing-fusers in the Aeration Basin. Purchased a new plant compressor. Capital Improvement Projects included repairs to the air headers in Aeration Basin #1, replacement of the meter and metering pump on the sodium hypochlorite tank, and impeller replacement at Lift Station 4 pumps.
- 2018: The District endured the tragic January 9th Thomas Fire Debris Flow event. On July 31, 2018, the MSD Board of Directors approved a Purchase Order contract with IDE Technologies for the design, manufacturing and delivery of an ultrafiltration and reverse osmosis recycled water pilot project.
- 2019: Completed rough grading for the Essential Services Building (ESB); the ESB design was completed and went out for bid in April; the MSD Board awarded the ESB construction contract to Menemsha Development Group in June. Construction was postponed due to County issues; the Dissolved Air Floatation Thickener (DAFT) was installed by District staff working in conjunction with Cushman Contracting; the Recycled Water Pilot Project skid mounted ultrafiltration and reverse osmosis systems were delivered, commissioned, and put into operation in September.
- 2020: Operation and analysis of the Recycled Water Pilot Project continued throughout the entire year. The design of a Recycled Water Project to serve the irrigation needs of the Santa Barbara Cemetery was put on hold due to continued discussions with Montecito Water District and approval of the MSD Coastal Development Plan. The MSD Coastal Development Plan including the proposed recycled water treatment facilities, solar panel structures, and the MSD Essential Services Building was approved by the Montecito Planning Commission, but was appealed by the Montecito Water District therefore these projects were put on hold.

MONTECITO SANITARY DISTRICT
Mission, History and Future Goals -- Continued

- 2021: Current / Future District Projects include the following:
 - Operation and analysis of the Recycled Water Pilot Project will continue throughout the entire year.
 - Construction of the Riven Rock Low Pressure Sewer Force Main project will be completed in January 2021.
 - Flow testing of the collection system in order to calibrate and complete our sewer model is scheduled for February 2021.
 - Preliminary design of a Recycled Water Project to serve the irrigation needs of the Santa Barbara Cemetery in coordination with Montecito Water District is planned for the entire year.
 - Design and construction of sewer main extensions for Lilac Drive, Oak Grove Drive, East Mountain Drive and Ashley Road are scheduled for 2021.
 - Design of the relocated 12" gravity main that crosses Highway 101 due to the conflicts with the proposed highway bridge at Oak Creek is schedule for mid-2021.
 - Design of the electrical rehabilitation project to replace the original electrical motor control centers will be completed by mid-2021.

Montecito Sanitary District

Annual Ocean Outfall Diver Survey Report

November 24th, 2020



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Introduction

Background

Aquatic Bioassay conducted an underwater dive survey and video of Montecito Sanitary Districts ocean outfall and diffuser on November 24th, 2020. The purpose of the survey was to inspect the physical integrity of the outfall pipe and note any impediments to flow from the diffuser ports. A copy of the dive video is included with this report.

Objectives

The outfall survey is designed to address the following requirements in the NPDES permit:

‘At least once per year the Discharger shall visually inspect the entire outfall and diffuser structure (e.g., divers) to note its structural integrity and any cracks, breaks, leaks, plugged ports, or other actual or potential malfunctions. The outfall inspections will also check for possible external blockage of ports by sand and/or silt deposition. The Discharger shall report all findings and actions, including any observed cracks, breaks, or malfunctions to the Executive Officer in the applicable annual report. The month for inspection specified by the Discharger shall be a month of good underwater visibility.’

Materials and Methods

Divers, using a GoPro Hero 5 enclosed in an underwater housing, conducted the survey. Once the outfall had been located by global positioning (GPS) and bottom finder, a buoy, attached to a line and a weight, was deployed over the side. Divers entered the water, descended the line, swam to the diffuser terminus, and began videotaping.

The footage was downloaded to computer files, and edited using Adobe Premiere software, then transferred to USB flash drive. The diver’s observations and video were reviewed by the survey team to assess conditions of the outfall. The video is arranged from the deepest part of the dives (outfall terminus) to the shallowest part of the survey (outfall beginning).



Results

Station Event and Sea State Conditions

The 2020 outfall dive survey was conducted aboard the research vessel *Hey Jude*. Weather conditions were calm and clear with very little wind. Swell height was 1-2 feet, watercolor was green, and turbidity was high with less than 1 foot visibility (Table 1).

Table 1. Station occupation and sea state condition for the 2020 outfall and diffuser inspection survey.

Outfall Inspection Station Occupation	
Date	24-Nov-2020
Depth at Terminus (ft)	32
Weather	Clear
Wind Speed (kts)	4
Wind Direction	Southwest
Air Visibility (km)	35
Watercolor	Green
Water Visibility (ft)	1
Swell Height (ft)	1 - 2
Swell Direction	Southwest
Turbidity	High

Condition of Outfall Structure

The outfall extends approximately 1500 feet into the ocean where it terminates in a 100-foot section of diffuser ports where the effluent is discharged. The diffuser section of the outfall contains ten alternating lateral ports (Figure 1). The end cap, located at a depth of 32 ft, was inspected, and filmed first, and then



each lateral port of the diffuser section was filmed. The end cap of the outfall was partially buried, however the end cap was in place. The Tideflex rubber valves located on each of the ten diffuser ports were functioning properly and the port openings were 1/16th inch. The lateral and terminal ports showed considerable biological growth surrounding each port, however this growth did not appear to disrupt flow. There was no evidence of leaks, damage, erosion, holes, plugged ports, cracks or potential malfunctions observed on any part of the diffuser.

The middle section of the outfall was covered by a layer of armored rock. The armor rock bed appeared stable with little displacement throughout this section. The shallow section of the outfall lays on top of a sandy bottom and becomes covered by sand in 15 feet of water. There was some undercutting in this section of the outfall (visible on video at 14 minutes, 8 seconds), however this was not an issue in terms of pipe integrity. There were no obvious leaks, damage, holes, cracks, or erosion in the middle and shallow section of the outfall.

Flora and Fauna

The outfall structure supports a diverse assemblage of marine species, however fish and invertebrates were difficult to see due to low visibility. Several species of algae were observed along the length of the outfall pipe. These included red algae (Rhodophyta), which includes encrusting red algae, bladed red algae, and Turkish towel; and brown algae (Phaeophyta), which includes the giant kelp (*Macrocystis pyrifera*).

Macroinvertebrate species observed during the 2020 outfall dive survey included tunicates, golden gorgonians (*Muricea* sp), and the California spiny lobster (*Panulirus interruptus*). No fish species were observed due to low visibility.

Summary and Conclusions

The end cap, diffuser section lateral ports, and ballast were visually observed and filmed by divers using a GoPro Hero 5 during the 2020 outfall inspection. Although flow was low during the survey and there was considerable attached biological growth, the ten Tideflex diffuser ports were operating as designed. The outfall and diffuser port dive survey yielded no evidence of external damage, holes, cracks, leaks or potential malfunctions. The pipe and associated armor rock appeared stable with little or no



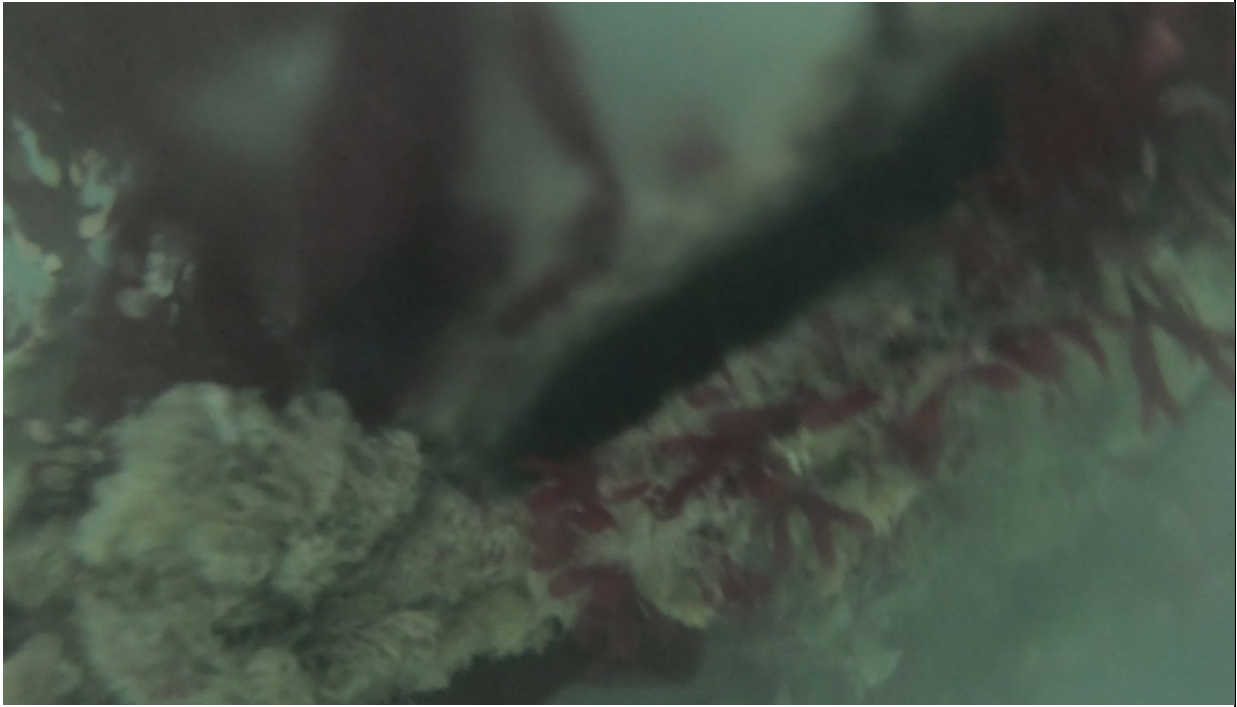
displacement. There was some undercutting in this section of the outfall, however this was not an issue in terms of pipe integrity.

The outfall section supports a rocky reef community typical of other areas on the southern California coast, however fish and invertebrates were difficult to see due to low visibility.



Figure 1. Montecito outfall diffuser port pictures.

Port No. 1



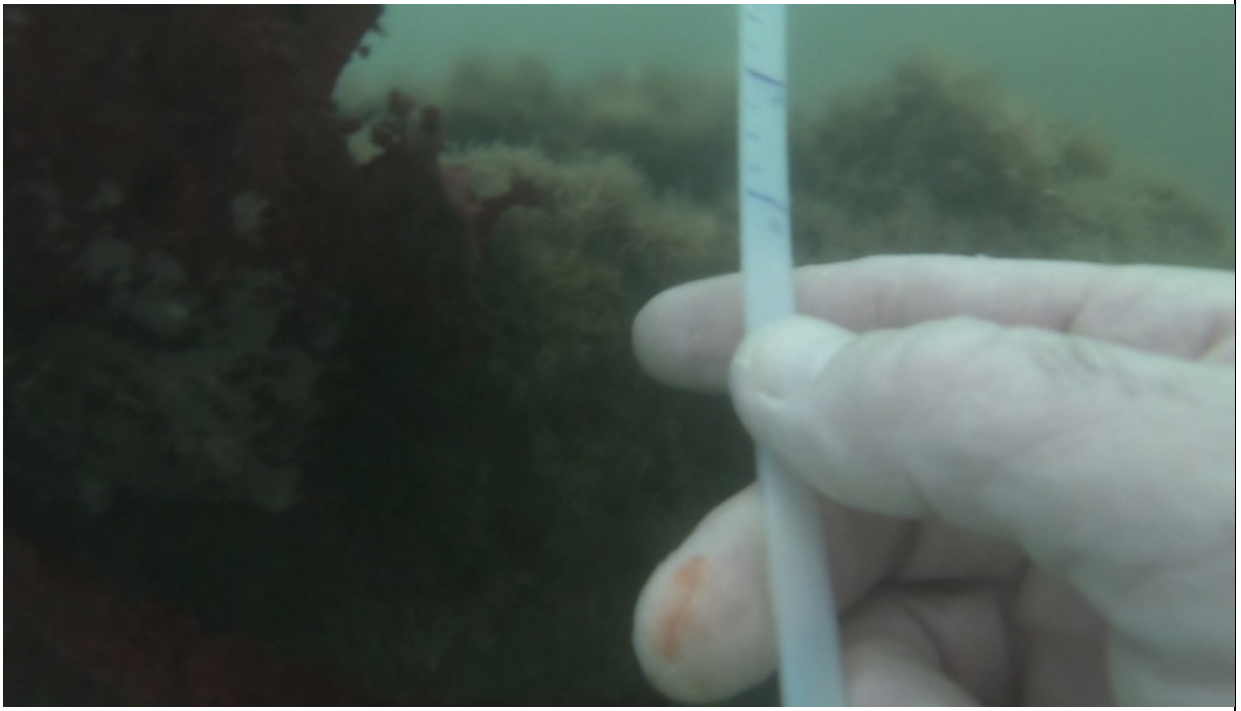
Port No. 2



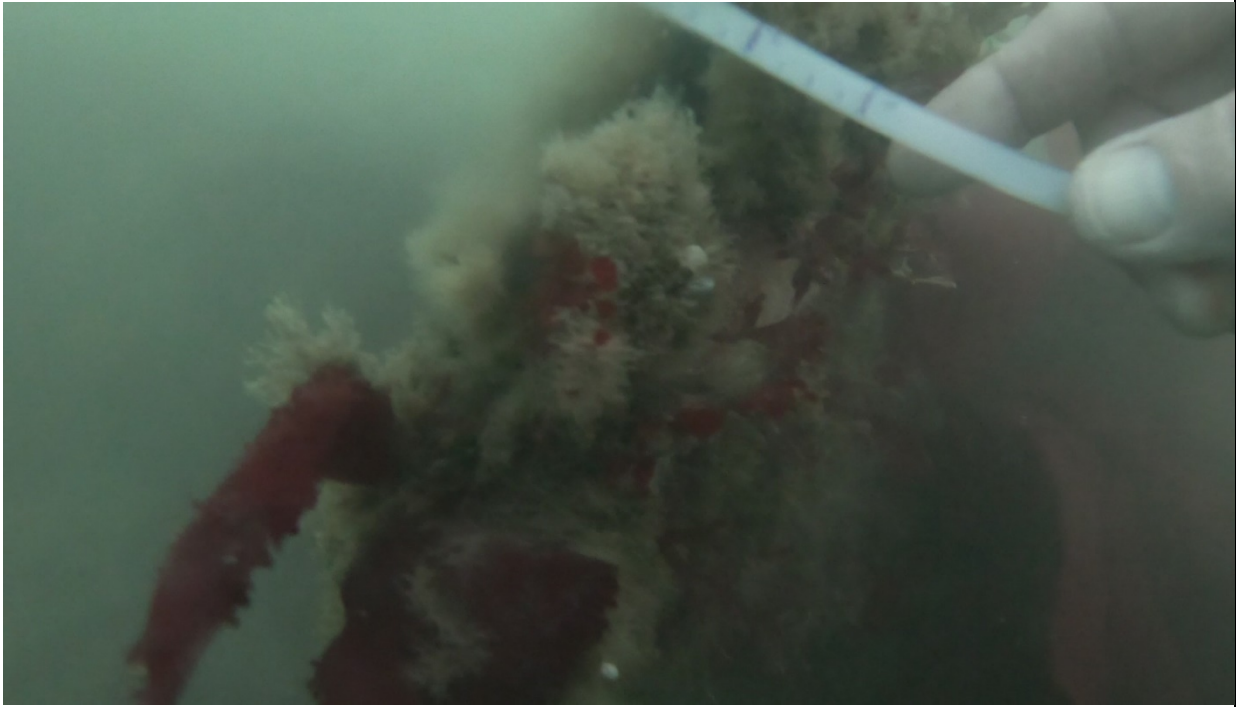
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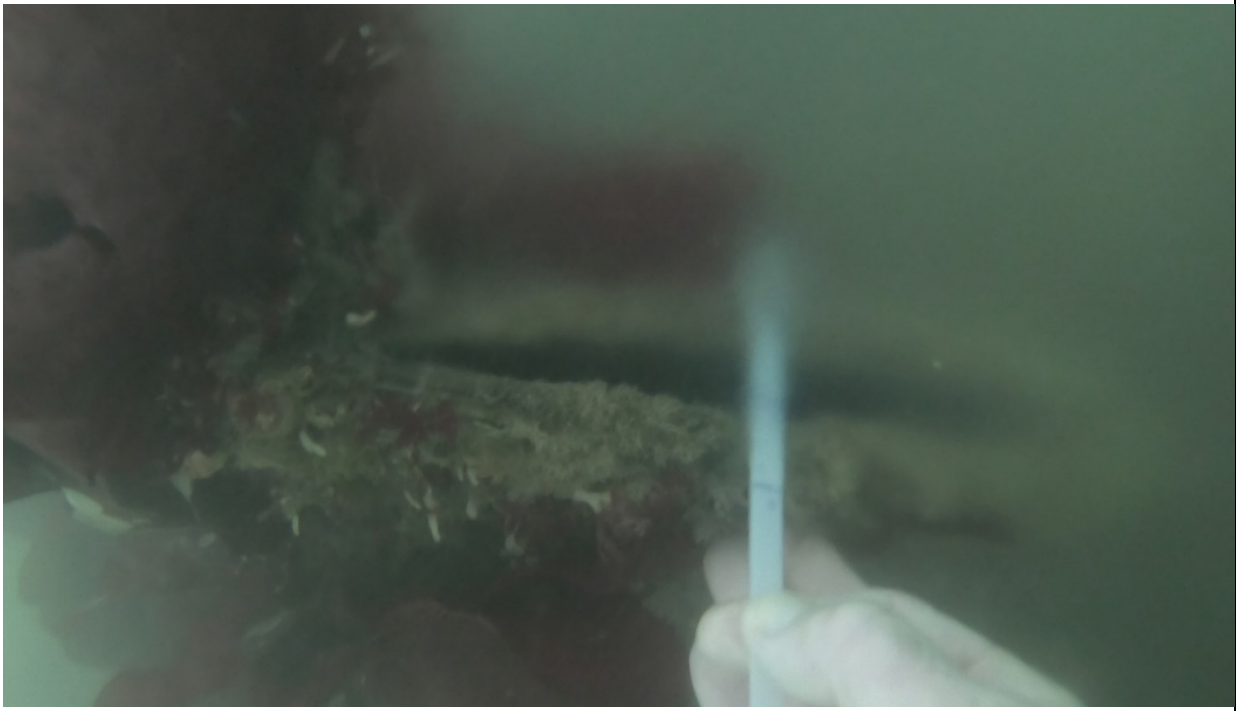
Port No. 4



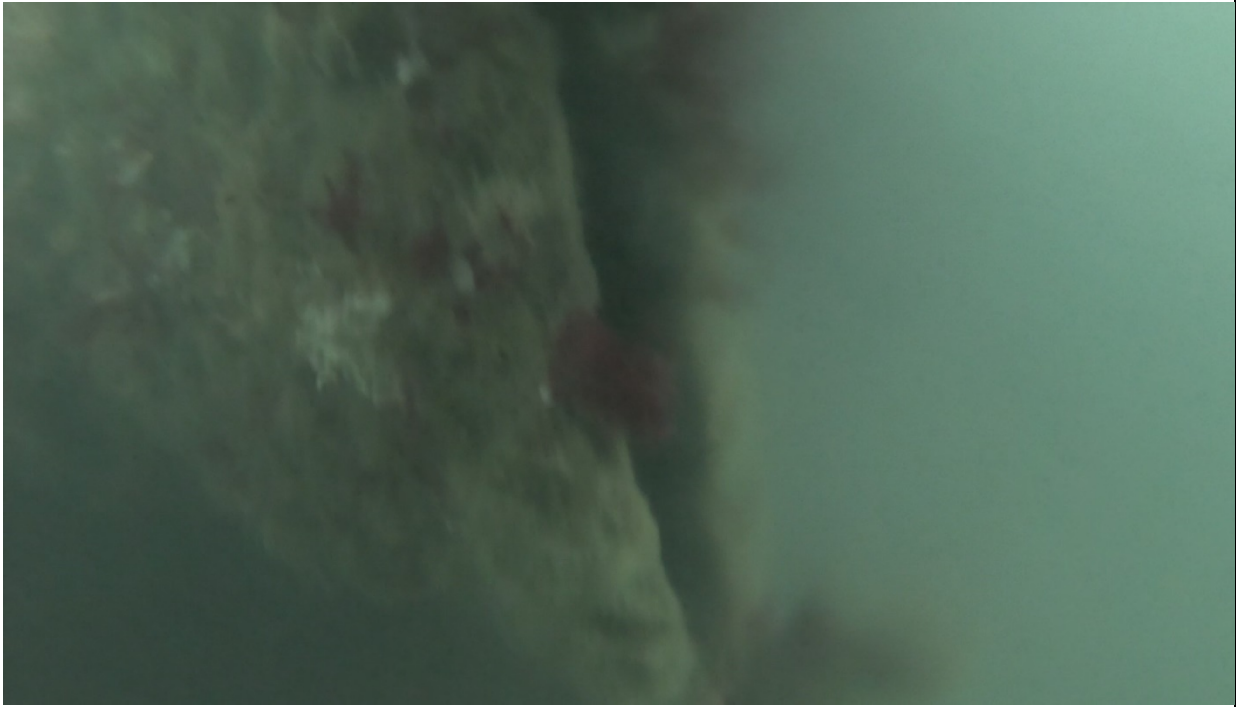
Port No. 5



Port No. 6



Port No. 7



Port No. 8



Port 9



Port No. 10

