

2015 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

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January 29, 2016

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 2015

Staff of the Regional Board:

In accordance with the requirements of the general provisions of the District's NPDES Permit No. CA0047899, we are transmitting the District's Annual Report for 2015. The monitoring data compiled throughout the year 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 2015 calendar year the following certified operators were employed by the District:

- Daniel Jacquez, Chief Plant Operator, III-28608, exp. date 06/30/18
- Chad Steinlicht, Operator, III-10297, exp. date 12/31/17
- Marco Felix, Operator, III-41171, exp. 9/09/16 (Passed Grade V on 10/10/15, requires more qualifying experience prior to grade V certification).
- Marc Ciarlo, Operator, IV-41067, exp. date 12/10/17 (Passed Grade V on 4/10/15, requires more qualifying experience prior to grade V certification).

The District Testing 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.

Required plant annual samples were collected on July 6 - 10. Analyses were performed by Fruit Growers Laboratory, Inc. and their subcontractors. All results were within acceptable limits.

On December 16th, Harbor Offshore, Inc. completed the 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.

NPDES Permit No. CA 0047899 Order No. R3-2012-0016 Annual Summary Report 2015 Page 2 of 2

The District is continuing to update the Wastewater Treatment Plant Operations and Maintenance Manual that is on file with your office.

Comments regarding the District's Collection System Maintenance and Renovation Program, as required by the NPDES permit, are included in this report on pages 21 through 23. Also included on pages 24 through 26 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,

Diane Gabriel, P.E

General Manager/District Engineer

Montecito Sanitary District 2015 Annual Report

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January 2015 - December 2015

GOVERNING BOARD

Warner Owens

President

Judith M. Ishkanian

Vice President

Tom Kern

Treasurer

Jeff Kerns

Secretary

Bob Williams

Director

January 2015 – December 2015

STAFF

Diane M. Gabriel, P.E.

Toni McDonald

Caroline M. Martin

General Manager/District Engineer

District Administrator

Accounting/Administrative Assistant

Alex Alonzo
Daniel Jacquez
Chad Steinlicht
Marco Felix

Operations Manager Chief Plant Operator - III Treatment Plant Operator III

Treatment Plant Operator III
Treatment Plant Operator IV

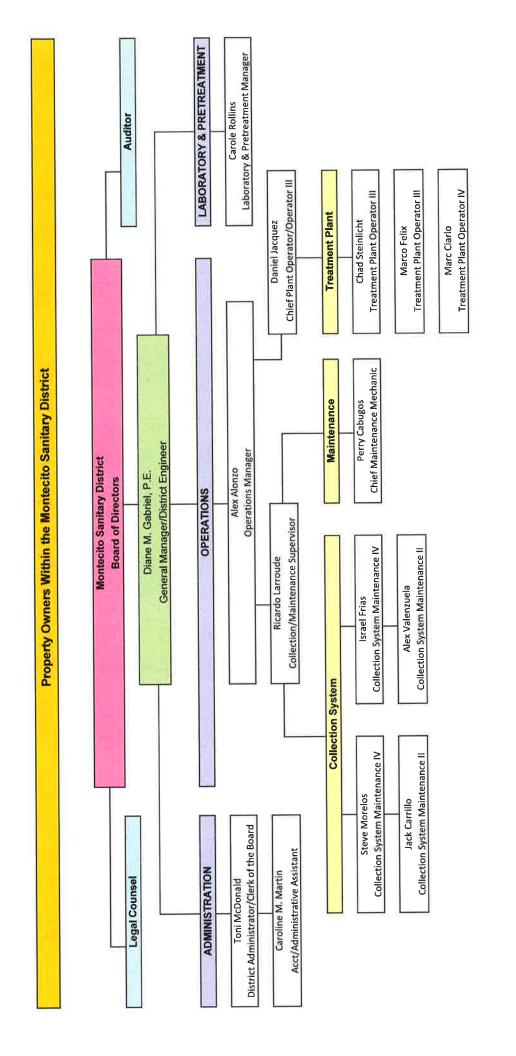
Carole Rollins

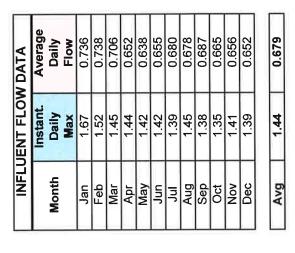
Marc Ciarlo

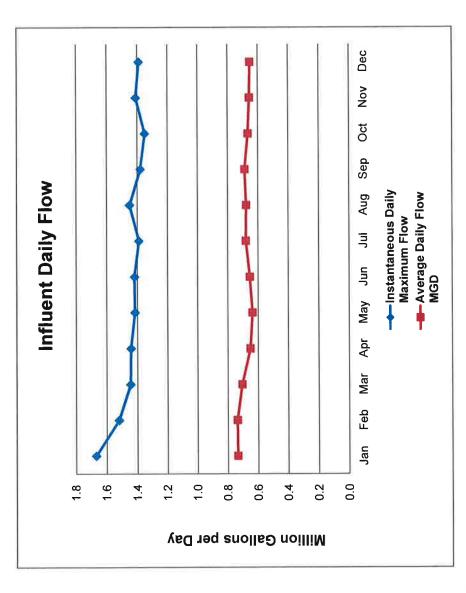
Pretreatment & Laboratory Manager

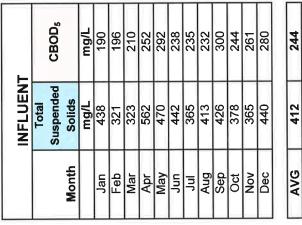
Ricardo Larroude Perry Cabugos Steve Morelos Israel Frias Jack Carrillo Alex Valenzuela Collection/Maintenance Supervisor Chief Maintenance Mechanic Collection System Maintenance IV

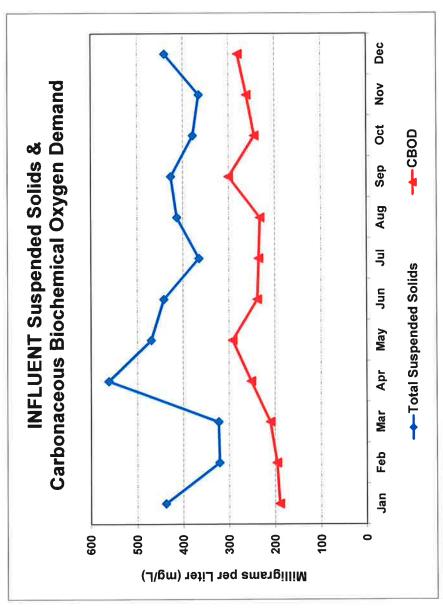
Collection System Maintenance IV Collections System Maintenance II Collection System Maintenance II

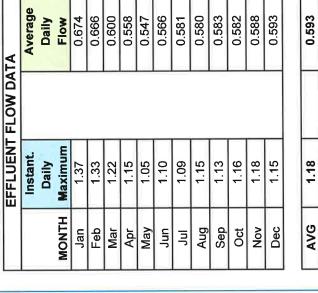


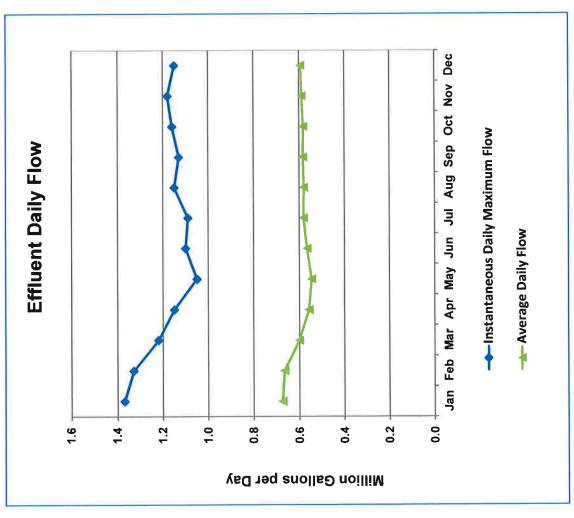


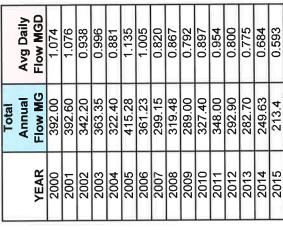


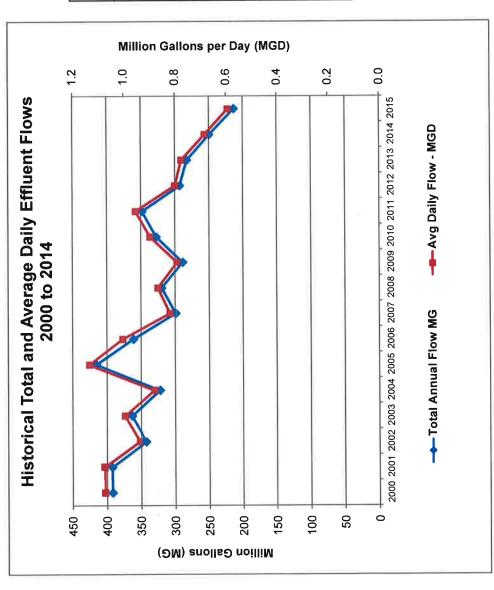


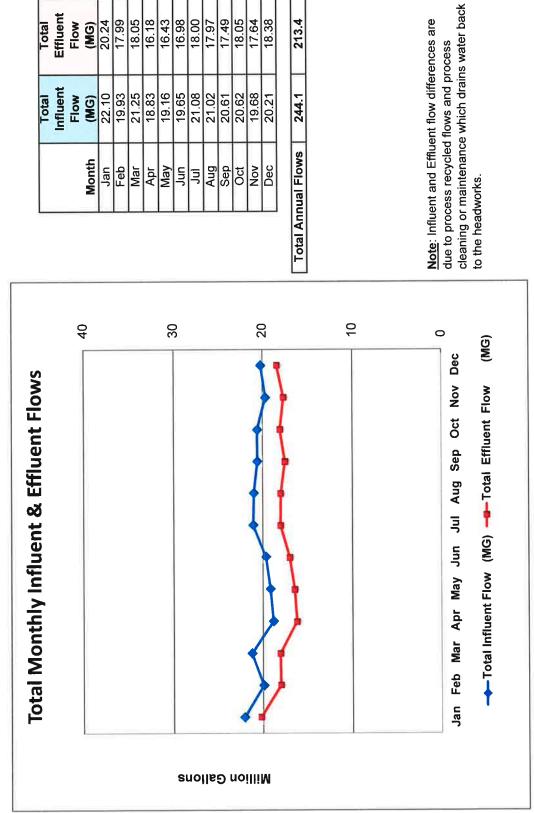












Effluent Flow

Influent

(MG) 20.24 17.99

Month Jan Feb 18.00 17.97 17.49

21.02 21.08

18.05 17.64 18.38

20.62 19.68 20.21

Sep Oct Nov Dec

213.4

244.1

16.18

16.43 16.98

May May Jun

18.05

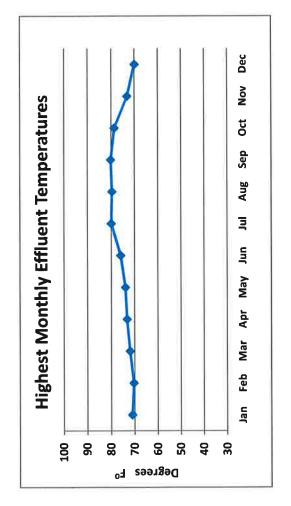
(MG) 22.10 19.93 21.25 18.83 19.16 19.65

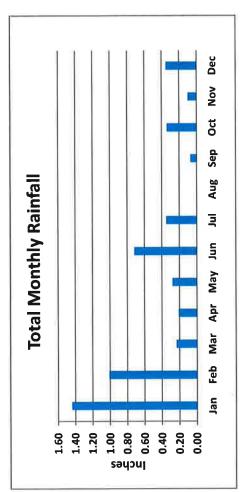
High Temp.	٠F	71	70	72	22	4/	9/	80	80	80	62	73	20	22	
	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg	

Rainfall Inches	1.44	1.01	0.24	0.21	0.28	0.72	0.35	00.00	0.07	0.34	0.10	0.35
Month	Jan	Feb	Mar	Apr	May	Jun	Juc	Aug	Sep	Oct	Nov	Dec

5.11

TOTAL





Carbonaceous Biochemical Oxygen Demand Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Suspended Solids & -Suspended Solids Allowable Limit EFFLUENT -Suspended Solids Results -CBOD Allowable Limit --- CBOD Results Jan 0 7 ∞ 9 4 Milligrams per Liter (mg/L)

Results mg/L

Permit Limit mg/L

Results

mg/L

CBODs

Total

7.5

4 E C C C

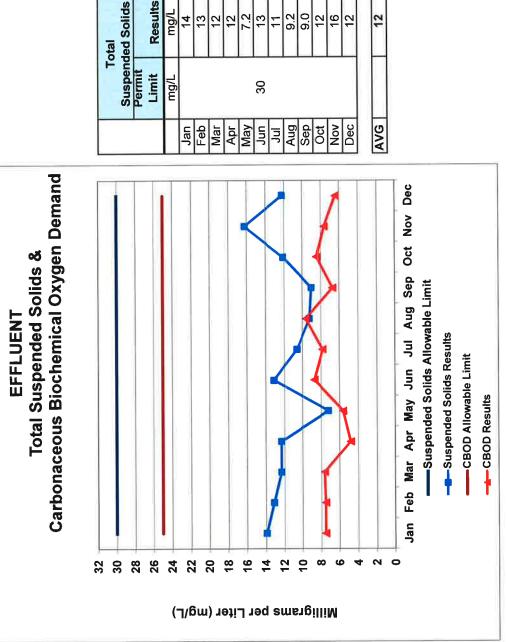
4.8 5.6 7.8 9.6 8.4 7.6 6.4

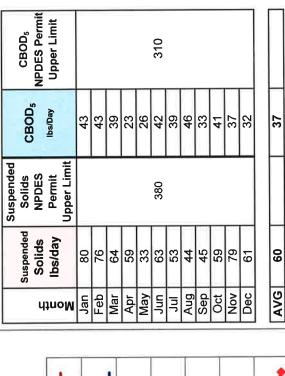
25

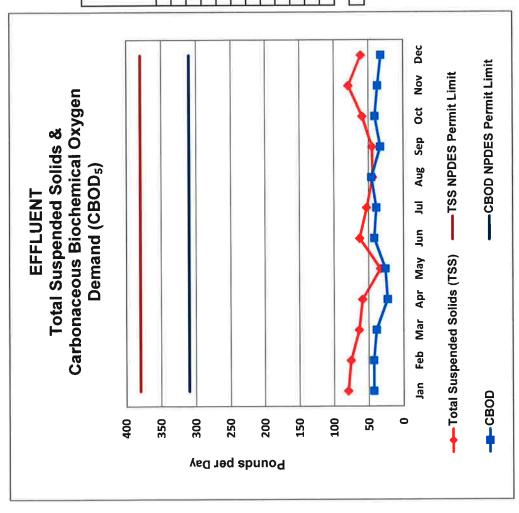
7.2 13 11

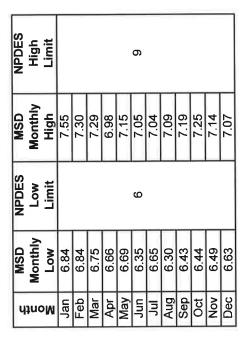
8

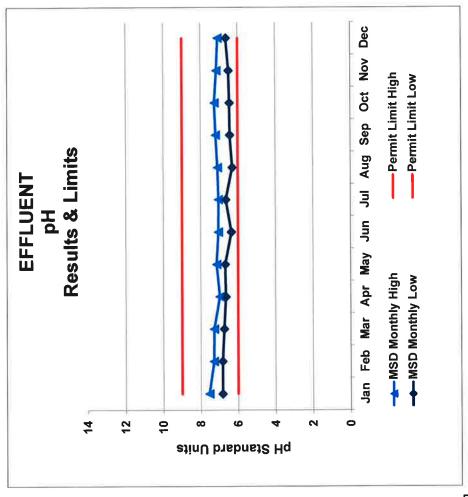
9.2 9.0 12 16

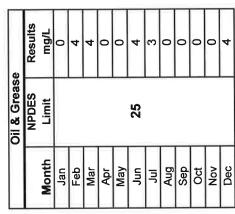




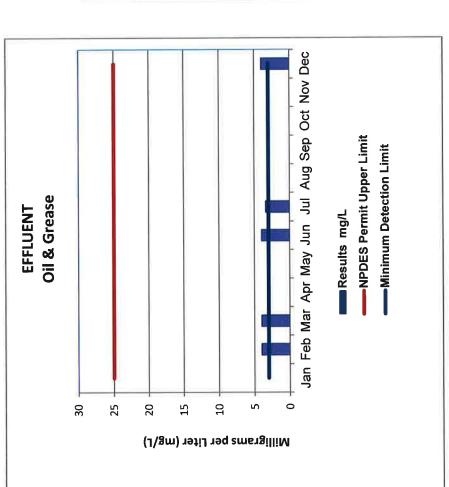




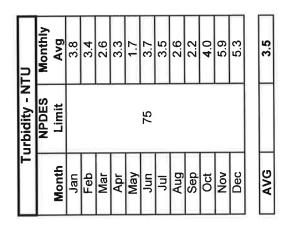


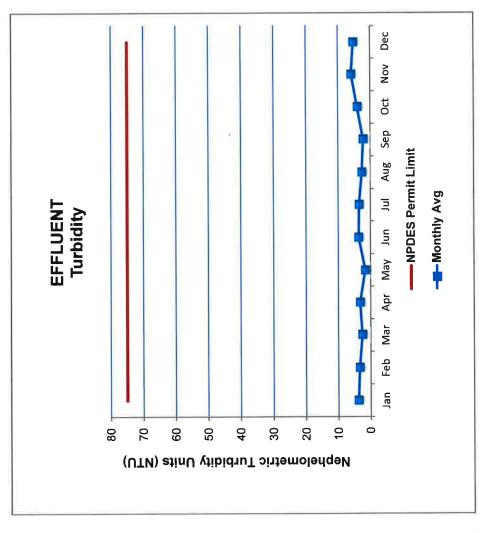


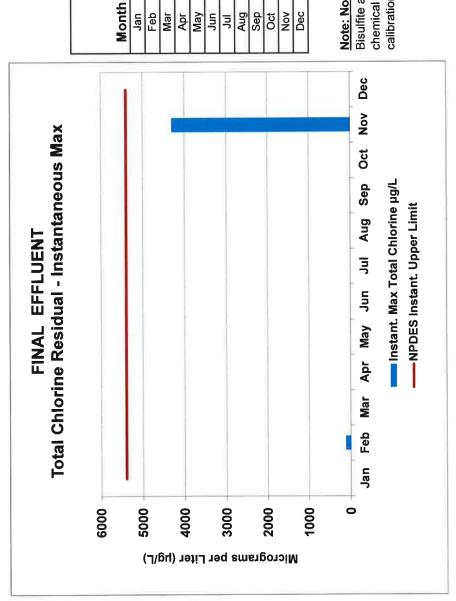
Note:
The Method Detection Limit (MDL) is 3 mg/L.
Values below detection are reported as 0 mg/L.



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Max Total Chlorine

Instant. Upper Limit

hg/L

00120

Instant.

NPDES

Note: November 4300 ug/mL:

0 4300

00

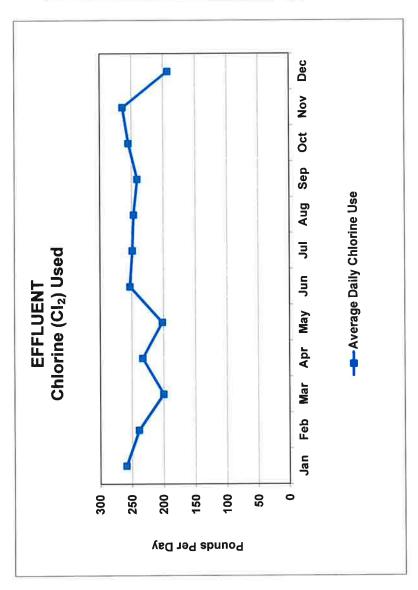
0

5400

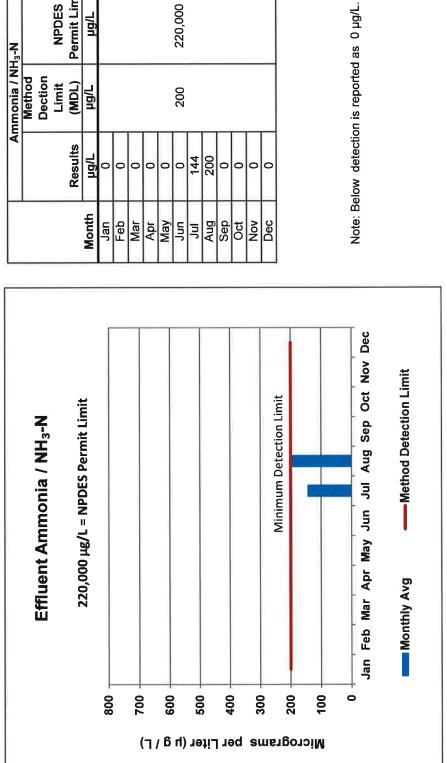
0

Bisulfite analyzer peristaltic pump chemical tubing lost flow, affecting calibration accuracy and readings.

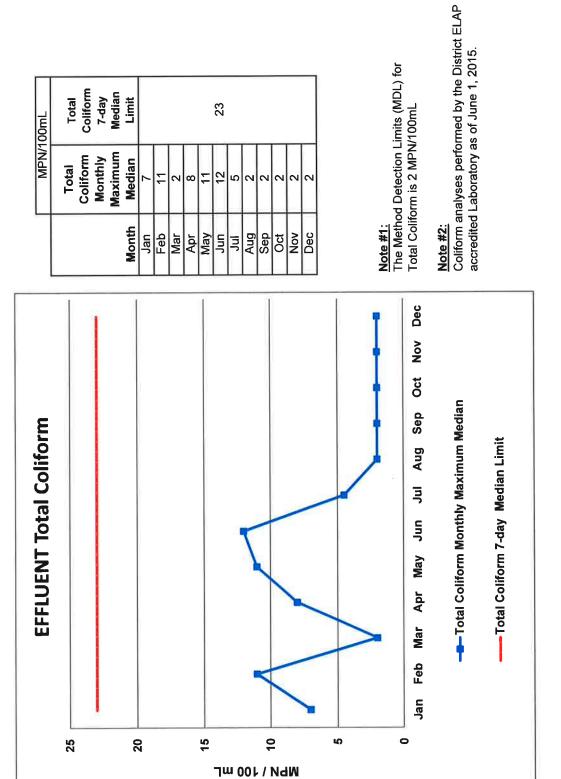
Month	Average Chlorine Ibs/day
Jan	259
Feb	239
Mar	200
Apr	233
May	202
Jun	253
Jul	249
Aug	247
Sep	241
Oct	255
Nov	264
Dec	193
AVG	236



H ₃ -N			NPDES	Permit Limit	µg/L						220,000						
Ammonia / NH ₃ -N	Method	Dection	Limit	(MDL)	hg/L					12	200						
Ā				Results	µg/L	0	0	0	0	0	0	144	200	0	0	0	0
					Month	Jan	Feb	Mar	Apr	May	unf	Jul	Aug	Sep	Oct	Nov	Dec

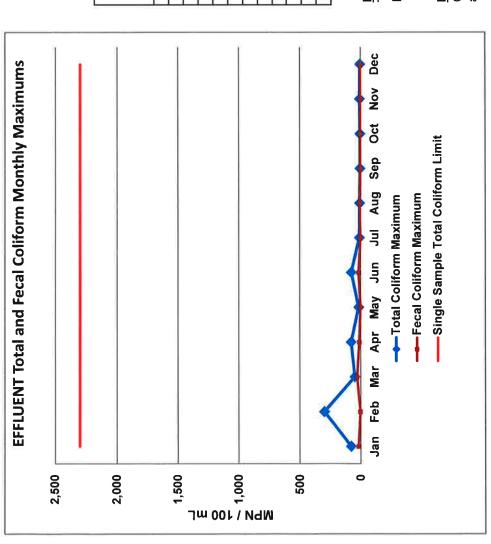


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Total Coliform 7-day Median Limit

23



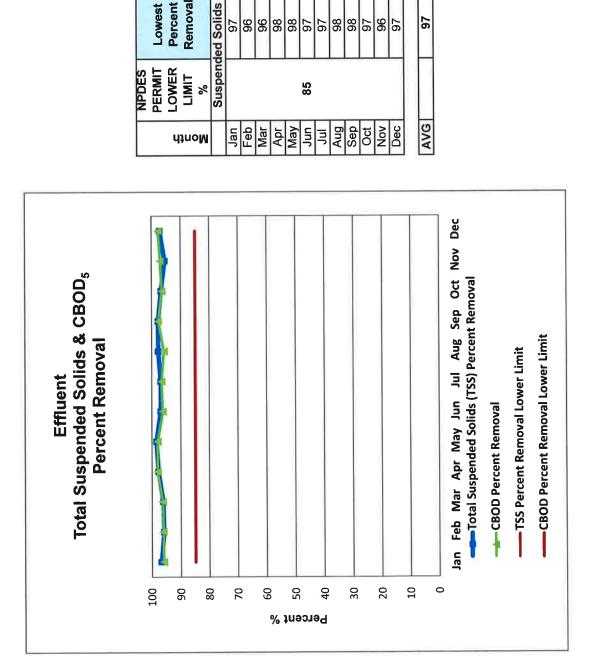
Sample Limit Coliform Single 2300 Total Maximum Coliform Monthly Fecal ဗ္က ω Maximum Coliform Monthly Total 62 ω S Month Jan Feb Mar Apr Jun Jul Sep Oct Nov Dec

MPN/100mL

Note #1:
The Method Detection Limits (MDL) for Total and Fecal Coliform are 2 MPN/100mL.

Note #2:

Coliform analyses performed by the District ELAP accredited Laboratory as of June 1, 2015.



85

76 88 89 97

98

97

8

97

97

Percent Removal Lowest

PERMIT LOWER LIMIT

Percent Removal

Lowest

NPDES

CBOD

%

Tabular Data for 2015 Summary Report

			INFLUENT	ENT						FIN	FINAL EFFLUENT	Į.		ĺ	
Monthly	_	Avg	Avg	Avg	Avg	Avg	Avg	Total	Total	Avg	Мах	Avg	Avg	Avg	Avg
Total Flow Inst Peak	_	nst Peak	Flow	TSS	TSS	CBODs	CBODs	Rain	Monthly Flow	Monthly Flow Inst Peak Flow	Flow	Flow	TSS	TSS	Monthly TSS
MG	_	MGD	MGD	mg/L	lbs/day	mg/L	lbs/day	Inches	MG	MGD	MGD	MGD	mg/L	lbs/day	% Removal
22.10	+	1.67	0.736	438	2689	190	1166	1.44	20.24	1.37	0.747	0.674	13.9	80	97
19.93		1.52	0.738	321	1976	196	1206	1.01	17.99	1.33	0.726	0.666	13.1	9/	96
21.25		1.45	90.70	323	1902	210	1236	0.24	18.05	1.22	0.732	0.600	12.3	64	96
18.83		1.44	0.652	562	3056	252	1370	0.21	16.18	1.15	0.607	0.558	12.3	59	86
19.16		1.42	0.638	470	2501	292	1554	0.28	16.43	1.05	0.585	0.547	7.2	33	86
19.65		1.42	0.655	442	2415	238	1300	0.72	16.98	1.10	0.663	0.566	13.1	63	97
21.08		1.39	0.680	365	2070	235	1333	0.35	18.00	1.09	0.624	0.581	10.6	53	97
21.02		1.45	0.678	413	2335	232	1312	0.00	17.97	1.15	0.609	0.580	9.2	44	86
20.61	1	1.38	0.687	426	2441	300	1719	0.07	17.49	1.13	0.638	0.583	9.0	45	86
20.62	1	1.35	0.665	378	2096	244	1353	0.34	18.05	1.16	0.616	0.582	12.1	59	97
19.68	1	1.41	0.656	365	1997	261	1428	0.10	17.64	1.18	0.665	0.588	16.2	79	96
20.21	1	1.39	0.652	440	2393	280	1523	0.35	18.38	1.15	0.692	0.593	12.2	61	97
20.34		1.44	0.679	412	2322	244	1375		17.78	1.17	0.659	0.593	17	09	97
244.1								5.11	213.4						
	١														

Tabular Data for 2015 Summary Report

_	_			-1	_	_	1		\neg		-1		-1	_	_		
	Max Fecal	Coliform	MPN	17	2	30	11	2	17	2	∞	2	2	2	7	∞	
	Max Total	Coliform	Median MPN	7	11	2	∞	11	12	2	2	2	2	2	2	2	
	Max Total	Coliform	MPN	80	300	20	80	17	79	11	∞	2	2	∞	2	54	
	Max	Тетр	4	71	70	72	73	74	76	80	80	80	79	73	70	75	
	Avg Cl ₂	Total	lbs/day	259	239	200	233	202	253	249	247	241	255	264	193	236	
	Avg Cl ₂ mg/L	Before	Dechlor	40.9	35.8	23.0	35.4	29.5	24.2	26.3	29.0	29.1	31.4	32.8	27.4	30.4	
	Max	Final	Cl2 ug/L	0	120	0	0	0	0	0	0	0	0	4,300	0	368.3	
IN	Hd	Low	S	69.9	6.71	6.75	99.9	69.9	6.35	6.65	6.30	6.43	6.44	6.49	6.63	6.57	
FINAL EFFLUENT	Hd	High	SO	7.09	7.24	7.29	86.9	7.15	7.05	7.04	7.09	7.19	7.25	7.14	7.07	7.13	
FINAI	Avg	Turb	DI	3.8	3.4	2.6	3.3	1.7	3.7	3.5	2.6	2.2	4.0	5.9	5.3	3.5	
		0 & G	lbs/day	0	22.7	24.4	0	0	18.4	17.7	0	0	0	0	19.6	6	
		0 & 6	mg/L	0	4	4	0	0	4	3.4	0	0	0	0	4	2	
		NH3-N	Sq	0	0	0	0	0	0	1	1	0	0	0	0	۰	
		NH3-N	ng/L	0	0	0	0	0	0	144	200	0	0	0	0	29	
		CBODs	% Removal	96	96	96	86	86	96	76	96	86	97	97	86	-6	
	Avg	CBODs	sq	43	43	39	23	26	42	39	46	33	41	37	32	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
	Avg	CBODs	mg/L	7.5	7.5	7.6	4.8	5.6	8.7	7.8	9.6	6.7	8.4	7.6	6.4	7.4	

Collection System Maintenance and Renovation Program 2015

OBJECTIVE

To reduce Sanitary Sewer Overflows (SSO's), increase system reliability, optimize service life of all collection system components and plan for facility replacement.

GOALS – SHORT AND LONG TERM

Short Term:

- 1. Rehabilitate pipe sections that have been identified as needing repair/replacement.
- Continue a systematic maintenance program based on past years data to indentify lines that need to be cleaned and evaluated by Closed Circuit Television (CCTV) using the NASSCO pipe rating system.
- 3. Continue a systematic CCTV program based on the maintenance line 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.
- 4. 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.
- 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.
- 6. Continue to prioritize and make repairs on collection system piping as it is found during regular CCTV'ing activities.
- 7. Continue to promote and fund a program which 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 2015-16 funding for this program is \$40,000.
- 8. Continue to train staff and perform the lift station maintenance program consisting of de-ragging pumps, exercising valves, generators and setting up emergency by-pass pumps at each of the four lift stations.

Long Term:

- 1. Continue to investigate the Inflow & Infiltration issues that may still exist within the District.
- Continue to clean and CCTV the entire collection system for the inspection and recordation of the system with the closed circuit television truck.
 Complete a condition assessment of the system using the NASSCO pipe rating system for each line segment.
- 3. Continue with the pipeline rehabilitation and relining projects.
- 4. Rehabilitate and replace manholes as determined necessary.

ACTIONS COMPLETED IN 2015

- 1. Performed closed circuit video inspection of approximately 15.5 miles of collection system piping.
- 2. Cleaned approximately 64.2 miles of collection system piping.
- 3. Promoted and provided financial incentive for the rehabilitation/replacement of private sewer laterals. In 2015, thirteen property owners participated in this program and replaced/repaired their deteriorated laterals. The District issued rebates for a total of \$24,682 to property owners for these repairs.
- 4. Identified and raised/rehabilitated 12 manholes and 6 cleanouts in various locations throughout the District for a total cost \$52,055.
- 5. Performed 1 emergency sewer main point repair to replace 15' of 8" sewer main for a total of \$9,885.
- 6. Continuation of the Sewer Rehabilitation Project in 2015. Insituform Technologies has completed approximately 7.1 miles of sewer relining and rehabilitation for the District totaling \$1.4 million. This project is on-going.
- 7. On September 28, 2015 District Board of Directors approved additional funding for the on-going Sewer Main Rehabilitation Project to design and construct an additional 5.6 miles of pipe that has been identified as needing rehabilitation.
- 8. On November 9, 2015 the District Board of Directors approved the purchase of a new Truck Mounted High Pressure Sewer Cleaner to assist the District in performing sewer cleaning work in easement areas, on narrow roadways and low tree limb areas for a total of \$179,578.

2015 SANITARY SEWER OVERFLOW (SSO) REPORT SUMMARY

PRIVATE

1. 02/10/15 – 505 Picacho Lane; Property line clean-out to a private sewer lateral overflowed resulting in a spill of approximately 15 gallons. The Collections Crew notified the property owner to stop using the water and immediately call a plumber to clear the blockage and disinfect the area. The District also gave the owner a written Notice to CCTV their private sewer lateral and provide a video inspection to the District to determine is repairs are required.

DISTRICT

1. 12/18/15 – <u>Category 3</u>: Manhole #1026-5B – Intersection of North Jameson Lane and Hixon Road. The spill traveled from the manhole alongside the roadway curb ending 132 ft. downstream from the manhole. It was identified that roots, grease and rags was the reason the manhole overflowed causing a sewer spill of approximately 660 gallons. The collections crew used the Vac-Con Combination truck to vacuum up the sewage and debris and then used a micro-septic disinfectant to clean the area.

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 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 issue, selecting a plant site, and establishing a District boundary.
- 1960: A \$900,000 bond issue 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 issue to incorporate new technology and expand the plant's capacity to 1.5 MGD.
- 1982-1999: During this time period 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 effluent 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.

- 2000 2006: During this time period 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, improving reliability and adding redundancy; 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 and the construction of a new 3,600 square foot maintenance building.
- 2007 2008: Board of Director's approved "mission critical" capital improvement projects totaling approximately \$11 million. The District then issued Certificates of Participation (COP's) to fund the capital program. The following projects were completed in 2007 and 2008: a new SCADA server with expandability for future was put on line for the influent pump station control; the waste activated sludge pump was replaced; the aeration air header made of deteriorated ductile iron pipe 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 redundant back up at pump stations was purchased; the Posilipo Lift Station (Lift Station No. 4) was completely 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: The District completed the following capital improvement projects: the influent channel grinders were replaced with two new units increasing flow volume from 3.5 mgd to 6.0 mgd; the secondary clarifiers (3 & 4) were refurbished and the effluent channel was refurbished.
- 2010: 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 of the treatment plant and associated facilities power requirements during main power outages. The total cost of these treatment plant electrical upgrades was \$540,000. The new laboratory building design and site grading was completed in the fall of 2010.
- 2011: The new laboratory building construction was completed in December 2011 and the District Board accepted the project as complete in January 2012. Also completed in 2011 were upgrades to the treatment plant SCADA monitoring system. Additional essential treatment plant equipment was added to the SCADA system.

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

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: 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 impellors and volutes and the Influent Variable Frequency Drive motors were replaced with new energy efficient units.
- 2013: Capital projects completed included the remodel of the former lab into an 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: Preventative maintenance was completed on the Secondary Treatment Clarifiers No. 2 and No. 3; the Aeration Basin Blower No.1 and the Belt Press.
- 2015: The Influent grinders at the wastewater treatment plant were replaced.

The Montecito 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: Current/Future Capital Improvement Projects include the following upgrades to the treatment plant:
 - o Aeration Basins-Air Header Replacement
 - DAFT Rehabilitation/Replacement
 - o Belt Press Electrical Controls Upgrade
 - Plant Pavement Repairs/Resurfacing