

NOVATO SANITARY DISTRICT

Meeting Date: January 21, 2014

The Wastewater Operations Committee of the Novato Sanitary District will hold a meeting at 2:00 PM, Tuesday, January 21, 2014 at the District offices, 500 Davidson Street, Novato.

AGENDA

1. AGENDA APPROVAL:

2. PUBLIC COMMENT (PLEASE OBSERVE A THREE-MINUTE TIME LIMIT):

This item is to allow anyone present to comment on any subject not on the agenda, or to request consideration to place an item on a future agenda. Individuals will be limited to a three-minute presentation. No action will be taken by the Committee at this time as a result of any public comments made.

3. CONSIDER APPROVAL OF MINUTES OF THE DECEMBER 16, 2013 MEETING

4. WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR DECEMBER 2013:

- a. Treatment Plant Performance Report
- b. Maintenance Report
- c. Safety and training
- d. Odor control, noise, and landscaping report
- e. Review Contract Service Agreement for Operation, Maintenance, and Management of Wastewater Treatment Facilities

5. COLLECTION SYSTEM OPERATION AND MAINTENANCE REPORT FOR DECEMBER 2013:

- a. Collection System Maintenance
- b. Pump Station Maintenance
- c. Collection System Performance
- d. Safety and Training

6. RECLAMATION FACILITY REPORT FOR DECEMBER 2013

- a. Ranch Operations
- b. Irrigation Parcels
- c. Irrigation Pump Station

7. ADJOURNMENT:

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the District at (415) 892-1694 at least 24 hours prior to the meeting. Notification prior to the meeting will enable the District to make reasonable accommodation to help ensure accessibility to this meeting.

Materials that are public records and that relate to an open session agenda item will be made available for public inspection at the District office, 500 Davidson Street, Novato, during normal business hours.

December 16, 2013

A regular meeting of the Wastewater Operations Committee of Novato Sanitary District was held at 2:00 p.m., Monday, December 16, 2013, at the District Office, 500 Davidson Street, Novato.

MEMBERS PRESENT: NSD Board Members William Long and Jerry Peters.

STAFF PRESENT: Beverly James, Manager-Engineer
Sandeep Karkal, Deputy Manager-Engineer
Steve Krauthem, Field Services Superintendent
Tim O'Connor, Collections System Supervisor
John Bailey, Project Manager, Veolia Water
Julie Swoboda, Administrative Secretary

ALSO PRESENT: John O'Hare, Veolia Water
Lynda Rodefer, Veolia Water:
Brant Miller, Board Member

AGENDA APPROVAL: The Manager requested that item 4e. be moved to follow item 6d. of the agenda. The agenda was approved as modified.

PUBLIC COMMENT: None.

APPROVAL OF MEETING MINUTES FOR DECEMBER 16, 2013: The December 16, 2013 minutes were approved as written.

WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR NOVEMBER 2013:

- Treatment Plant Performance Report, Maintenance Report and Safety & Training:
John Bailey, Plant Manager, Veolia Water, gave an overview of the treatment plant operations for the month of November. He stated there were no permit exceedances, violations or excursions and noted that the treatment facility and the recycled water facility continue to run very well. Mr. Bailey stated that the facility transitioned into Bay discharge in the month of November. He noted that even though November/December is considered a "wet season", flows continue to hold a "dry season" pattern.

Mr. Bailey stated that routine rounds, readings and maintenance were performed at the Novato Treatment Facility, the Ignacio Transfer Pump Station, the Recycled Water Plant and the Sludge Lagoons. He noted that the clearance was set on the bottom rake mechanism on the Primary Clarifier #2 while the clarifier was empty for repairs. Mr. Bailey stated that a floating boom was installed on Lagoon #3 to hold back sludge from the telescoping valves.

Mr. Bailey reported that Veolia employees have been accident free for a total of 1,277 days/57,465 hours. He stated that Jerome Meter (H₂S) readings continue to be taken within the treatment plant as well as in the Lea Drive neighborhood area. Mr. Bailey stated that no odor complaints were received during the month of November. He stated that construction has begun on the sound attenuation enclosure structure.

Mr. Bailey noted that 3.49 million gallons of recycled water was produced in November.

- Odor control, noise, and landscaping report: Deputy Manager-Engineer Sandeep Karkal stated that staff continues to work to address issues of concern relating to odor control, noise and landscaping. He stated that the Mr. McEwen of Brown and Caldwell carried out a liquid phase sulfide compound sampling in October. He noted that results of this sampling became available in November and stated that Mr. McEwen will be making final recommendations in December. The Deputy Manager-Engineer noted that implementation and testing of his recommendations will take place through January and February and that Mr. McEwen will issue a technical memorandum in March.

The Deputy Manager-Engineer stated that construction has begun on a permanent sound reducing enclosure and it is anticipated that the contractor will complete the work by December 2013.

COLLECTION SYSTEMS OPERATION AND MAINTENANCE REPORT FOR NOVEMBER 2013:

Collection Systems Supervisor Tim O'Connor discussed the Collection Systems Monthly Report for November 2013. He reported that the Collection Systems crew cleaned a total of 70,008 feet of sewer pipeline and that the department completed 331 maintenance work orders which were generated in November. He stated that the department's CCTV (closed caption televised) van was in the field for 15 working days and that 37,443 feet of main sewer line was televised. Mr. O'Connor noted that only 6 pump station maintenance work orders remained outstanding, not 16 as shown in the Report.

The Collection Systems Supervisor reviewed the Collection Systems monthly and Pump Station reports. He stated that there were no sanitary system overflows during the month of November. He stated that the Collections Department has been accident free for a total of 303 days.

Committee Member Long requested that the Collection Systems report include a detailed summary of sewer main deficiencies found during the CCTV work.

RECLAMATION FACILITY REPORT FOR NOVEMBER 2013:

Field Services Superintendent Steve Krautheim presented the Reclamation Facilities report for November. He stated that the Rancher has removed most cattle from the sites and that only a small herd is left on Site 3 and Site 7. He discussed the parcel

rehabilitations and noted that Parcels 38 and 78 are completed. He discussed the rehabilitation on Parcels 21, 24, 25 and 28.

The Field Services Superintendent stated that irrigation on all sites was turned off on November 4th. He stated that approximately 6.01 million gallons of recycled water was used for irrigation in November and that the average storage pond staff gauge depth was 3.3 feet at the end of November.

At 2:45 p.m. Collection Systems Supervisor Tim O'Connor and Field Services Superintendent Steve Krautheim were excused so the Board could review item 4e.

- Review Contract Service Agreement for Operation, Maintenance, and Management of Wastewater Treatment Facilities:

Manager-Engineer Beverly James provided the Draft Veolia Water Contract Service Agreement to the committee members. She reviewed the substantive changes, pointing out that the new start date for the Agreement has been changed to July 1, 2014 to coincide with the District's fiscal year and noted that verbiage had been changed/updated to address only the current facilities and equipment.

The Manager-Engineer stated that the draft Agreement will be discussed again at the January Wastewater Operations Committee meeting. She stated that she plans to bring the Agreement before the full board at the second regular January Board meeting or the first regular Board meeting in February. She stated that District Counsel Kent Alm is reviewing the Agreement and in an abundance of caution, will submit the document for CEQA findings.

ADJOURNMENT:

There being no further business to come before the Committee, the meeting adjourned at 3:46 p.m. The next Wastewater Operations Committee meeting will be held on Monday, January 20, 2014.

Respectfully submitted,

Beverly James
Manager-Engineer

Julie Swoboda, Recording



January 15, 2013

Ms. Beverly James
Manager - Engineer
Novato Sanitary District
500 Davidson Street
Novato, CA 94545

Subject: Veolia Water Operations Report – December 2013

Dear Ms. James:

We are pleased to provide this updated activity report for December 2013.

As always, please give me a call at 707-208-4491 should you have any questions.

Regards,

A handwritten signature in black ink, appearing to read "John Bailey". The signature is written in a cursive style with a large, circular initial "J".

John Bailey
Project Manager

**MONTHLY OPERATIONS REPORT
December 2013**

Prepared for

**NOVATO SANITARY DISTRICT (NSD)
WASTEWATER TREATMENT PLANT
500 Davidson Street
Novato, CA 94545**

Prepared by

Veolia Water West Operating Services, Inc. (VWWOS)

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TREATMENT PLANT PERFORMANCE SUMMARY: December 2013:

Bay Discharge – NPDES Limits

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	3.81	4.40	N/A	N/A
Max Peak Hour, MGD – Daily (Dry Weather)	N/A	N/A	N/A	N/A
Influent BOD ₅ , lb/day (month ave/max)	9,102	11,926	N/A	N/A
Influent TSS, lb/day (monthly ave/max)	13,917	33,390	N/A	N/A
Effluent BOD ₅ , mg/L (monthly ave/weekly max)	13	15	30	45
Effluent TSS, mg/L (monthly ave/weekly max)	4	5	30	45
Effluent BOD ₅ - % Removal, Minimum	95	N/A	85	N/A
Effluent TSS - % Removal, Minimum	99	N/A	85	N/A
Ammonia, mg/L – (monthly ave/daily max)	2.80	3.52	6	21
pH, su (min / max)	6.9	7.0	6.5	8.5
Enterococcus, mpn (30 day geo mean)	3.3	N/A	35	N/A
Fecal Coliform, mpn (30 day median)	4	N/A	140	N/A
Fecal Coliform, mpn (90 th percentile)	50	N/A	430	N/A
Total Permit Exceedances (NPDES)	0			

NA – Not Applicable

Discussion of Violations / Excursions: NONE

Title 22 - Recycled Water Production and Quality

Description	Units	Value	Limit
Volume Produced	Million Gallons	0.82	N/A
Average Turbidity	NTU	1.1	2.0
Turbidity > 5 NTU (in 24 hour)	Minutes	0	72
Minimum CT (disinfection)	ml-min/L	> 450	> 450
Minimum Dissolved Oxygen (DO)	mg/L	8.72	> 1.0
Maximum Total Coliform	mpn/100 ml	<2	2

Total Rainfall – 0.62 inches

OPERATIONS & MAINTENANCE STATUS / REVIEW:**Key events for the period:****Novato**

- Routine rounds, readings and maintenance
- Troubleshoot Headworks Gate actuator – in for repair
- Cleaned out Digested Sludge Sump – outside contractor
- MLR Pump #4 returned and reinstalled
- Troubleshoot VFD on Blowers #1 & #3 – outside contractor
- Replaced fan and circuit board in Blower #3 – outside contractor
- Replaced power module in Blower #1 – outside contractor
- Operations Truck – Electrical Problem – replaced cluster – outside contractor
- Replaced flow meter glass tubes – freeze damage
- Replaced flow regulators on Dry Weather Pumps 4 & 5 – freeze damage
- Replaced seal water tubing on numerous pieces of equipment due to freeze
- Installed freeze cover on backflow prevention device located in back of plant.
- Cleared heat exchanger – resealed gasket
- Replaced strainer element on UV Transmittance Meter
- Replaced PLC batteries on IPS/AB, Effluent Pump Station and Headworks.
- Replaced TWAS Pump #2 Drive Unit
- Installed new sludge recirculation line – outside contractor
- Replaced failed HMI (Remote Work Station / SCADA) power supply
- Replaced Head Casing on Influent Gate actuator

Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement

- GBT Odor Fan #1 OOS - replace bearings/belts

Ignacio Transfer Pump Station

- Routine rounds, readings and maintenance
- Replaced Oxygen Sensor – Influent Station

Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement

- Odor Bed OOS

Recycled Water Plant

- Performed plant rounds and maintenance
- Produced 0.82 million gallons of recycled water in December

Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement

- None

Sludge Lagoons

- Performed routine rounds and inspection
- Valve repaired at Lagoon #1 – outside contractor
- Started bringing back decant from sludge lagoons

Construction on Sound Enclosure – Odor Control Fans at Primary Clarifier #2

- Construction completed on sound enclosure structure

ADMINISTRATION:

- November Electronic Self Monitoring Report submitted on December 27, 2013.
- November DMR submitted on ??
- Contract Negotiations with Teamsters completed, contract ratified by employees.

SAFETY AND TRAINING:

- Monthly plant safety inspections for Novato WWTP and Ignacio Pump Station completed
- Five Minute Tailgate training is held daily with the O&M staff.
- No safety incidents for the month of December 2013
- Accident Free: 6/1/10 – 12/31/13: 1,308 days / 58,860 Hours
- Thermography Training – Maintenance Staff

ODORS:

- Jerome Meter (H2S) readings performed in neighborhood and within treatment plant.
- Met with neighbors

MISCELLANEOUS

- Process Control Management Plan (PCMP) meetings held weekly.
- Hach/WIMS Support – Bill Thompson onsite for update/review

Veolia Support Staff On/Off Site (Various Times)

John O'Hare	Technical Support
Chris McAuliffe	District Manager
Sachin Chawala	Northern California Area Manager
Bill Thompson	Technical Direction Group Manager
Jeremiah Danielson	Environmental, Health, and Safety
Mel Demsky	Regional Director of Asset Management
Dan Brown	Asset Manager

Decembers Hard Freeze – 12 Straight Days Below Freezing.



Top Left – Example of frozen walkways and driveways

Top Right – Frozen eyewash station

Bottom Left – New sludge recirculation line installed

Bottom Right – Broken back flow prevention device

Novato Sanitary District
BOD/TSS Report



December, 2013

Date	Flow MGD	Influent				Effluent				BOD % Removal	TSS % Removal
		BOD		TSS		BOD		TSS		PERCENT	PERCENT
		mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d		
12/01/13	4.24										
12/02/13	4.13	346	11,918	410	14,122	6	207	4	138	98.3	99.0
12/03/13	4.15										
12/04/13	3.67	255	7,805	358	10,958	<5	<153	4	122	98.0	98.9
12/05/13	3.59										
12/06/13	4.40	325	11,926	403	14,788	7	257	3	110	97.8	99.3
12/07/13	4.21										
12/08/13	4.17										
12/09/13	3.93										
12/10/13	3.57	322	9,587	405	12,058	9	268	4	119	97.2	99.0
12/11/13	3.78	315	9,930	338	10,656	13	410	4	126	95.9	98.8
12/12/13	3.96										
12/13/13	3.37	196	5,509	409	11,495	13	365	3	84	93.4	99.3
12/14/13	3.90										
12/15/13	4.04										
12/16/13	3.63	281	8,507	366	11,080	8	242	4	121	97.2	98.9
12/17/13	3.59										
12/18/13	3.79	305	9,641	353	11,158	17	537	5	158	94.4	98.6
12/19/13	3.73										
12/20/13	3.55	227	6,721	333	9,859	21	622	5	148	90.7	98.5
12/21/13	3.70										
12/22/13	3.73										
12/23/13	3.69	263	8,094	1,085	33,390	10	308	3	92	96.2	99.7
12/24/13	3.87										
12/25/13	3.56										
12/26/13	3.79	367	11,600	431	13,623	20	632	3	95	94.6	99.3
12/27/13	3.62	342	10,325	728	21,979	15	453	3	91	95.6	99.6
12/28/13	3.63										
12/29/13	3.64	263	7,984	432	13,114	18	546	3	91	93.2	99.3
12/30/13	3.53	270	7,949	332	9,774	9	265	3	88	96.7	99.1
12/31/13	3.84	282	9,031	334	10,697	21	673	4	128	92.6	98.8
Weekly Averages											
12/07/13	Week 1	309	4,785	390	6,028	6	93	4	56		
12/14/13	Week 2	278	3,784	384	5,172	12	158	4	50		
12/21/13	Week 3	271	3,760	351	4,853	15	212	5	65		
12/28/13	Week 4	324	4,539	748	10,432	15	211	3	42		
	Week 5										
Monthly											
Minimum	3.37	196	5,509	332	9,774	<5	<69	3	38	91	98
Maximum	4.40	367	11,926	1,085	33,390	21	305	5	72	98	100
Total	118.00										
Average	3.81	291	9,102	448	13,917	<13	<180	4	52	95	99

Novato Plant : Bacterial Results

EFFLUENT: E-002 Station

Dec-13

Fecal Coliform		Enterococcus
(1) 30-Day Median not to exceed 140 MPN/100 mL	(2) 90th Percentile not to exceed 430 MPN/100 mL	30-Day Geometric mean not to exceed 35 MPN/100 mL

December 1, 2013		
December 2, 2013	80	
December 3, 2013		
December 4, 2013	2	
December 5, 2013		
December 6, 2013	2	
December 7, 2013		
December 8, 2013		
December 9, 2013		
December 10, 2013	4	
December 11, 2013	50	
December 12, 2013		
December 13, 2013	4	
December 14, 2013		
December 15, 2013		
December 16, 2013	2	
December 17, 2013		
December 18, 2013	8	
December 19, 2013		
December 20, 2013	4	
December 21, 2013		
December 22, 2013		
December 23, 2013	4	
December 24, 2013		
December 25, 2013		
December 26, 2013	8	
December 27, 2013	< 2	
December 28, 2013		
December 29, 2013	2	
December 30, 2013	4	
December 31, 2013	8	

90th Percentile Ranking

Sample #1	< 2
Sample #2	2
Sample #3	2
Sample #4	2
Sample #5	2
Sample #6	4
Sample #7	4
Sample #8	4
Sample #9	4
Sample #10	4
Sample #11	8
Sample #12	8
Sample #13	8
Sample #14	50
Sample #15	80
Sample #16	

December 1, 2013		
December 2, 2013	2.0	
December 3, 2013		
December 4, 2013	3.1	
December 5, 2013		
December 6, 2013	3.0	
December 7, 2013		
December 8, 2013		
December 9, 2013		
December 10, 2013	2.0	
December 11, 2013	5.2	
December 12, 2013		
December 13, 2013	59.1	
December 14, 2013		
December 15, 2013		
December 16, 2013	< 1.0	
December 17, 2013		
December 18, 2013	7.4	
December 19, 2013		
December 20, 2013	< 1.0	
December 21, 2013		
December 22, 2013		
December 23, 2013	2.0	
December 24, 2013		
December 25, 2013		
December 26, 2013	2.0	
December 27, 2013	17.3	
December 28, 2013		
December 29, 2013	2.0	
December 30, 2013	1.0	
December 31, 2013	5.2	

Max	80
Min	2.0
Avg	12.27
30-Day Median	4

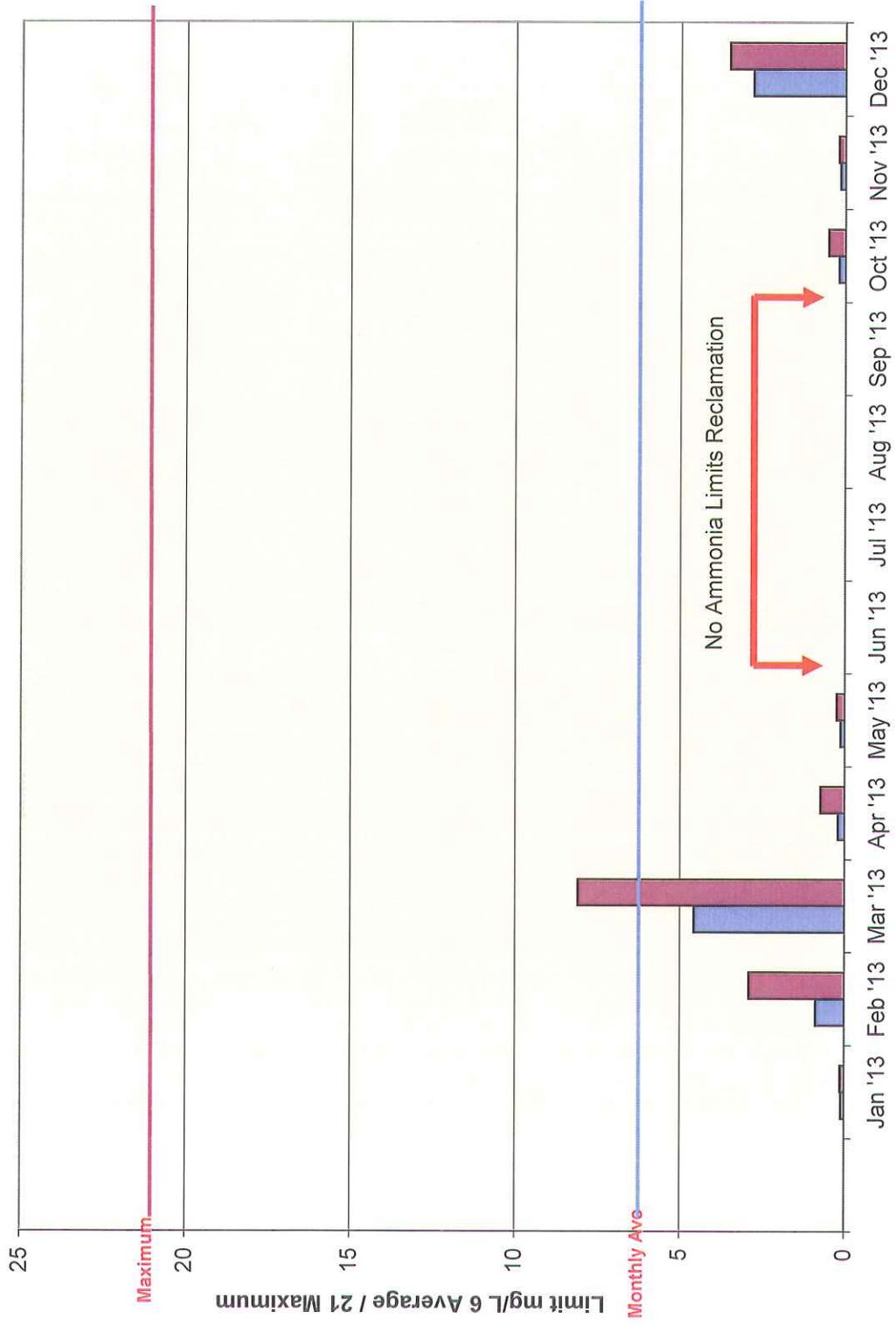
90th Percentile Value **50**

Max	59.1
Min	1.0
Avg	7.6
30 Day Geo. Mean	3.3

¹ = indicates that more than ONE UV channel was in operation at sample time; All UV channels in operation were sampled.

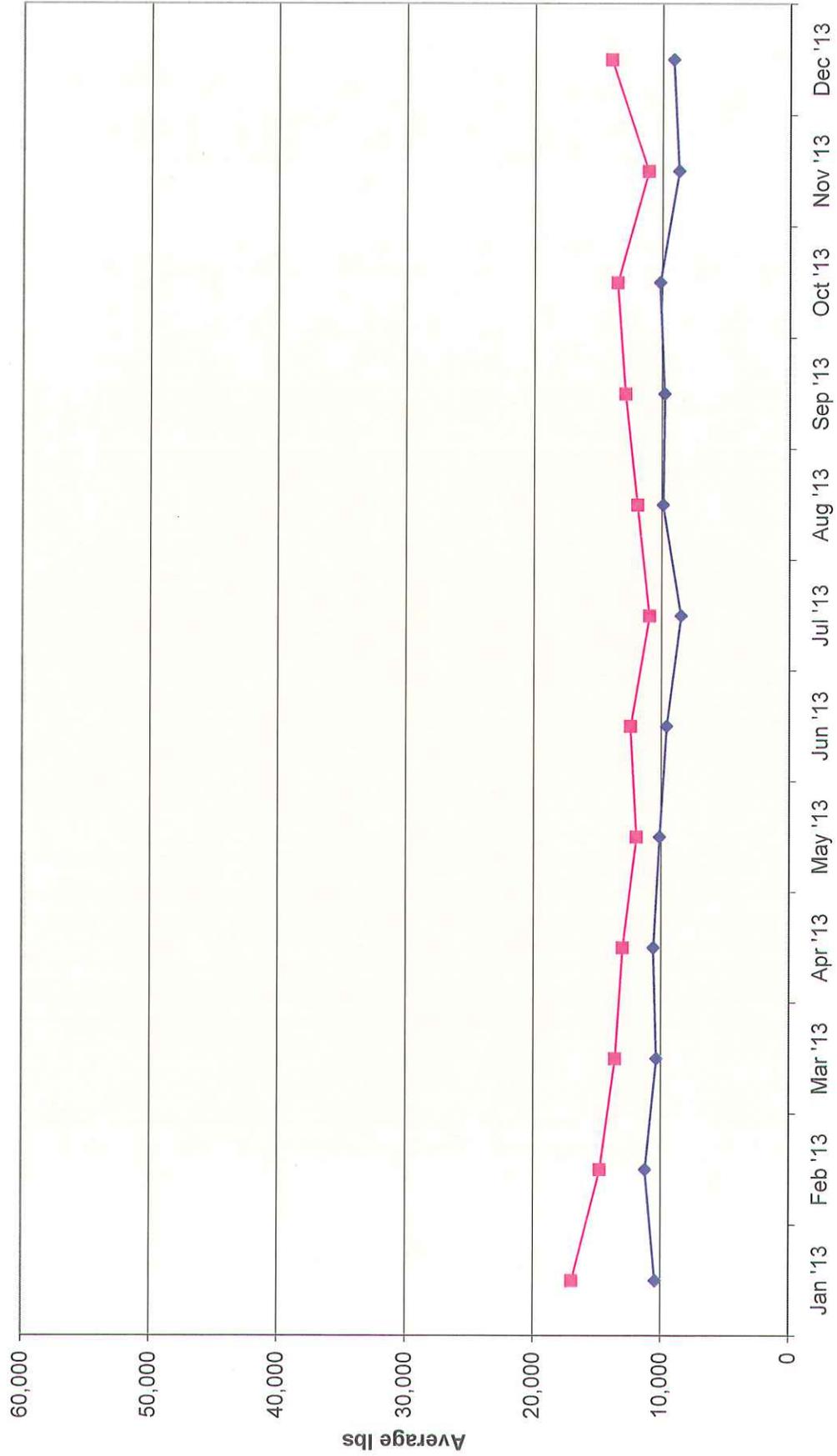
90th Percentile	15.00	0.9	13.5
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Effluent Ammonia



Influent Load BOD / TSS lbs

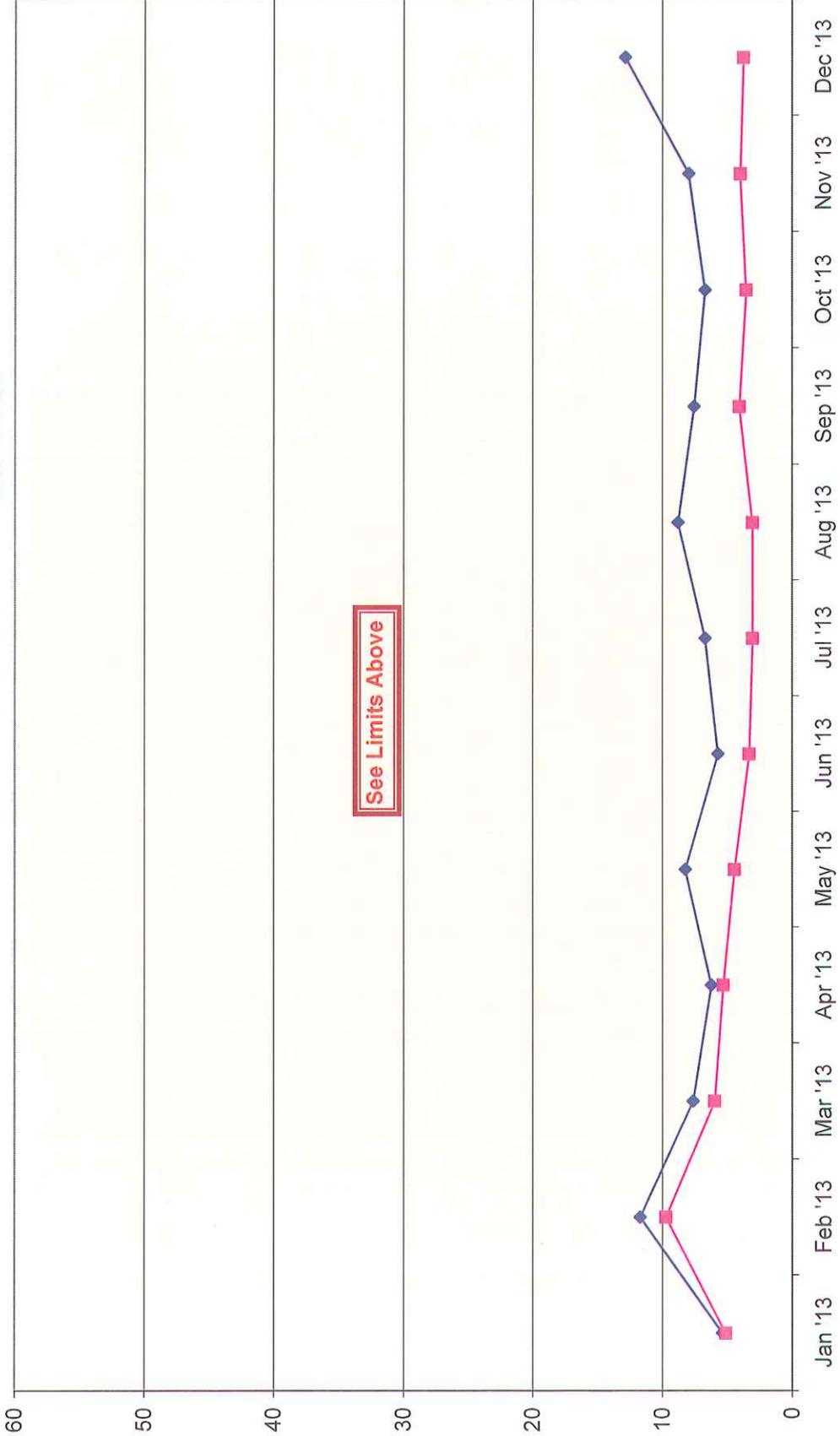
—◆— BOD lbs —■— TSS lbs



Effluent BOD / TSS Concentration

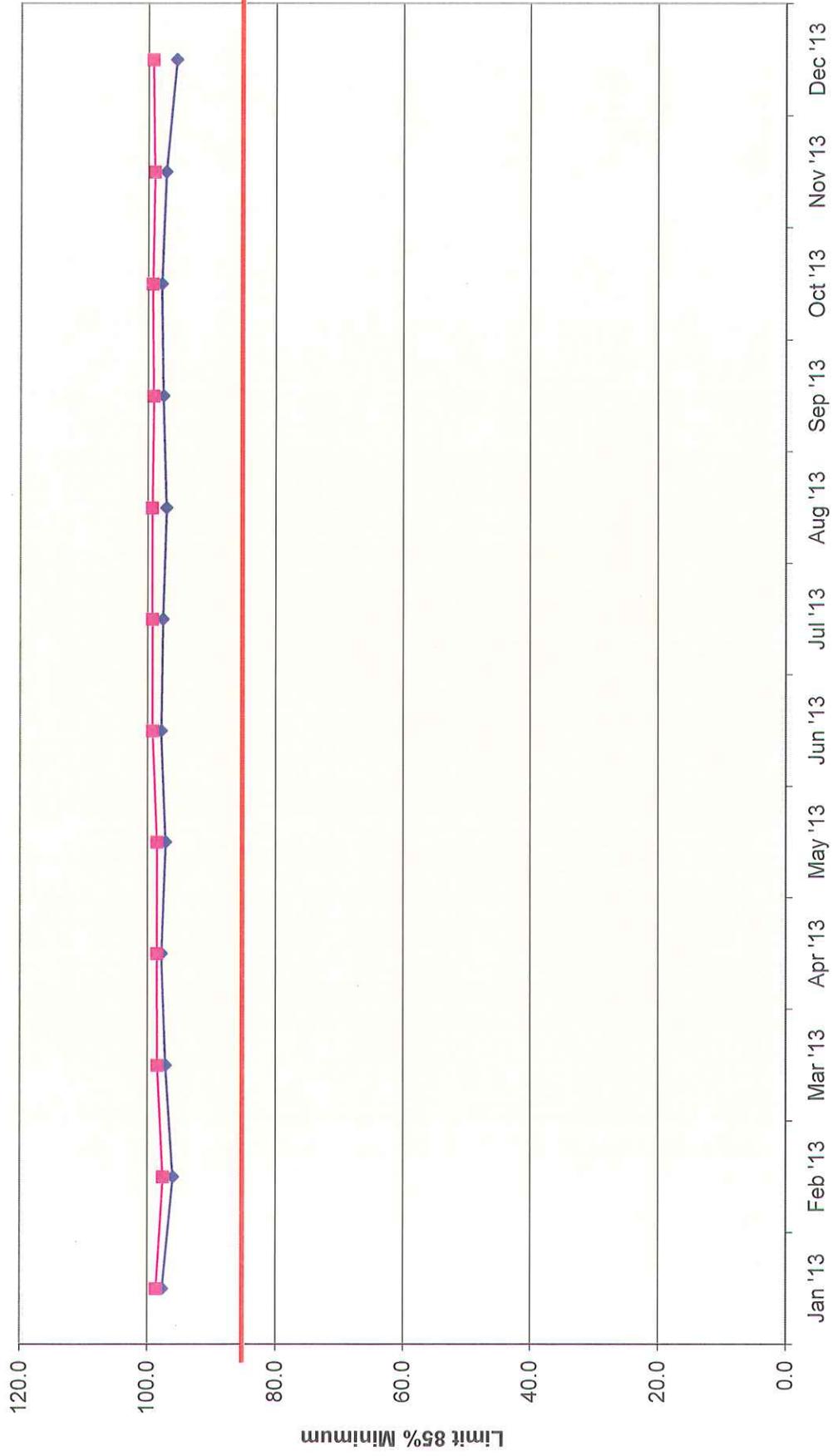
NPDES LIMITS WET SEASON
BOD & TSS - 30 mg/L Monthly Ave, 45 mg/L Weekly Ave
NPDES LIMITS DRY SEASON
BOD - 15 mg/L Monthly Ave, 30 mg/L Weekly Ave
TSS - 10 mg/L Monthly Ave, 20 mg/L Weekly Ave
WDR (Waste Discharge Requirements) RECLAMATION
BOD - 40 mg/L

—◆— BOD —■— TSS



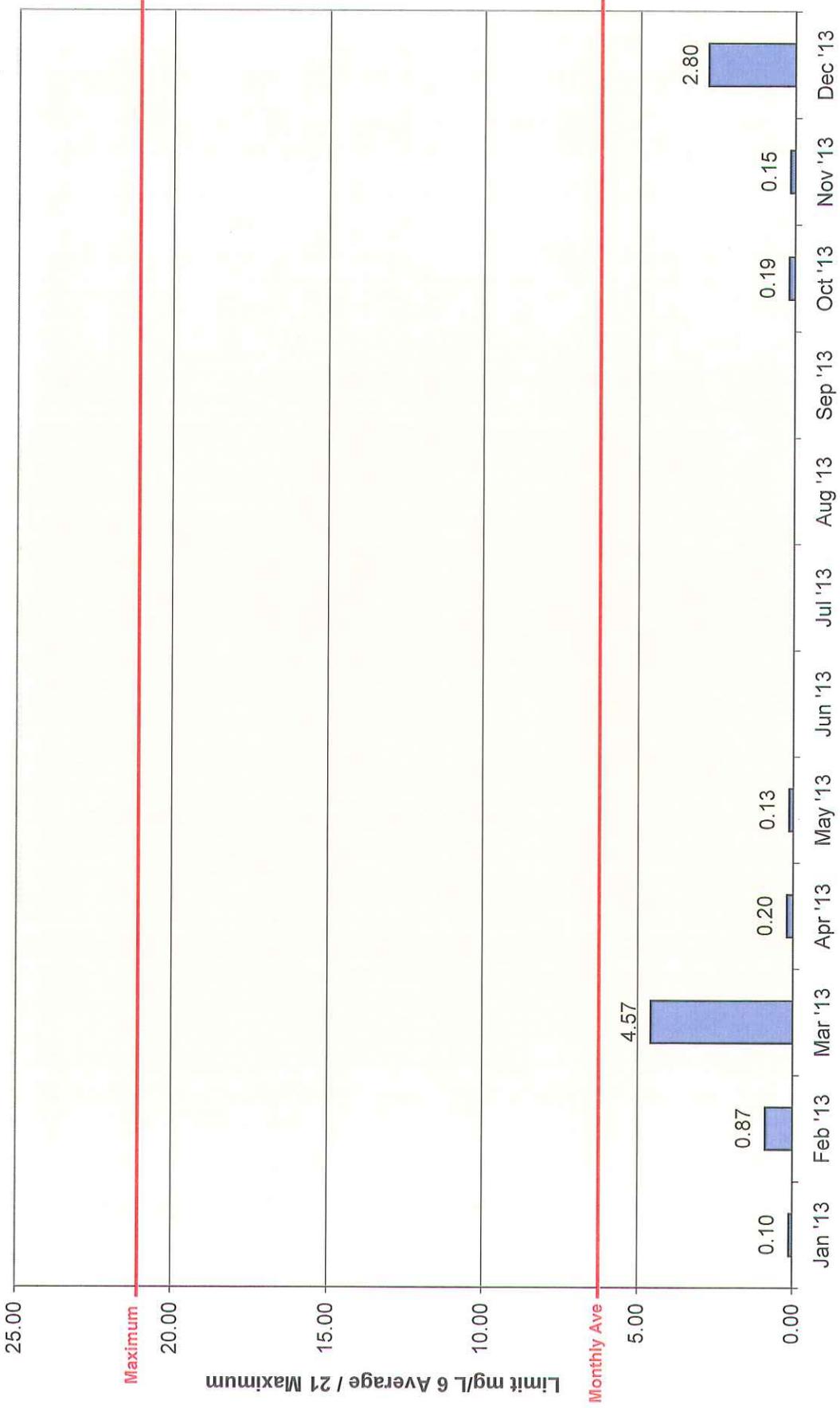
BOD / TSS Percent Removal

—◆— BOD —■— TSS



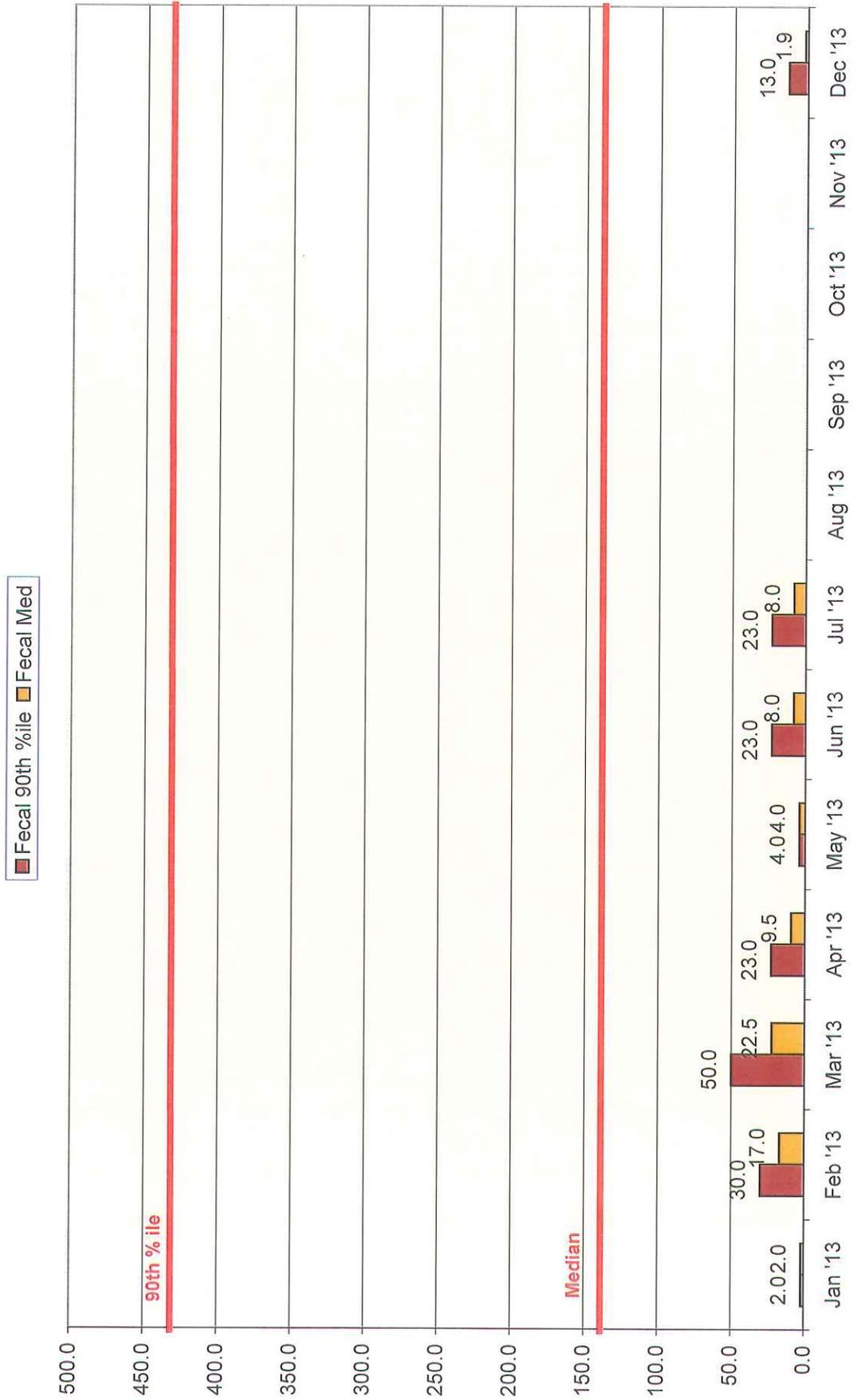
Effluent Ammonia

No Ammonia Limits During Reclamation, Jun - Sep



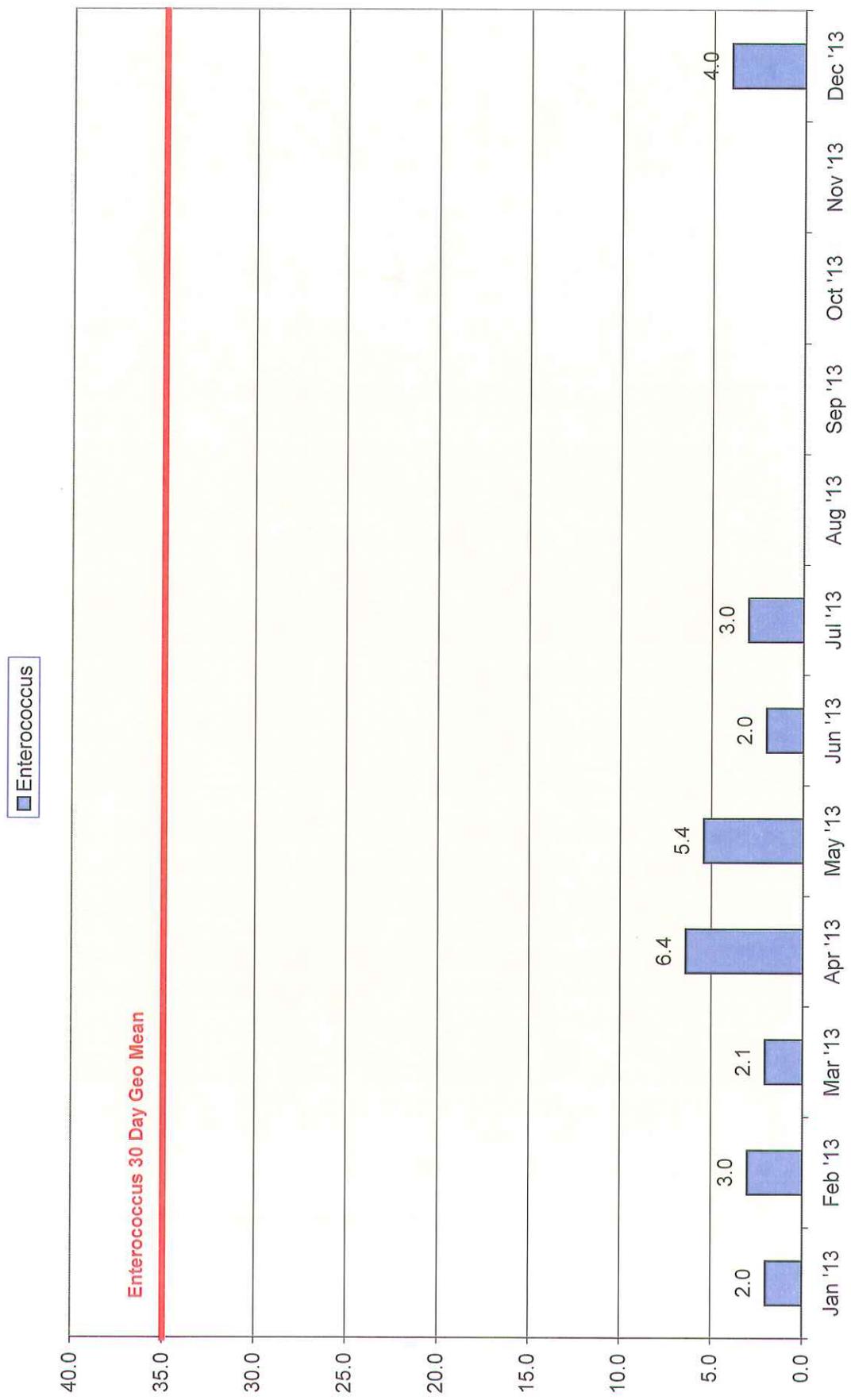
Disinfection

LIMITS - NPDES
 Fecal 140 mpn monthly median
 Fecal 430 mpn 90th percentile 30 day

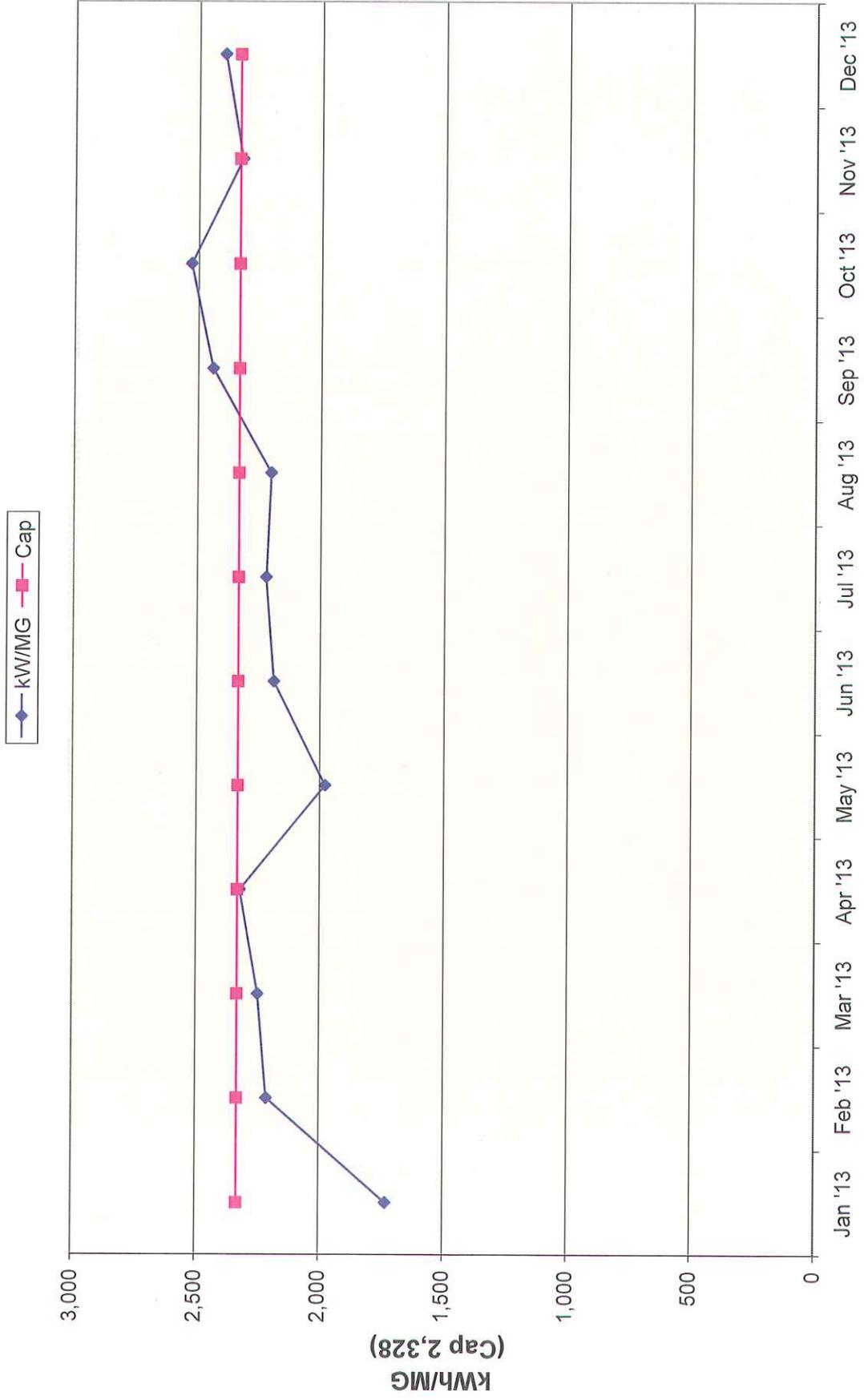


LIMITS - NPDES
Entero 30 day geo mean 35 mpn /100ml

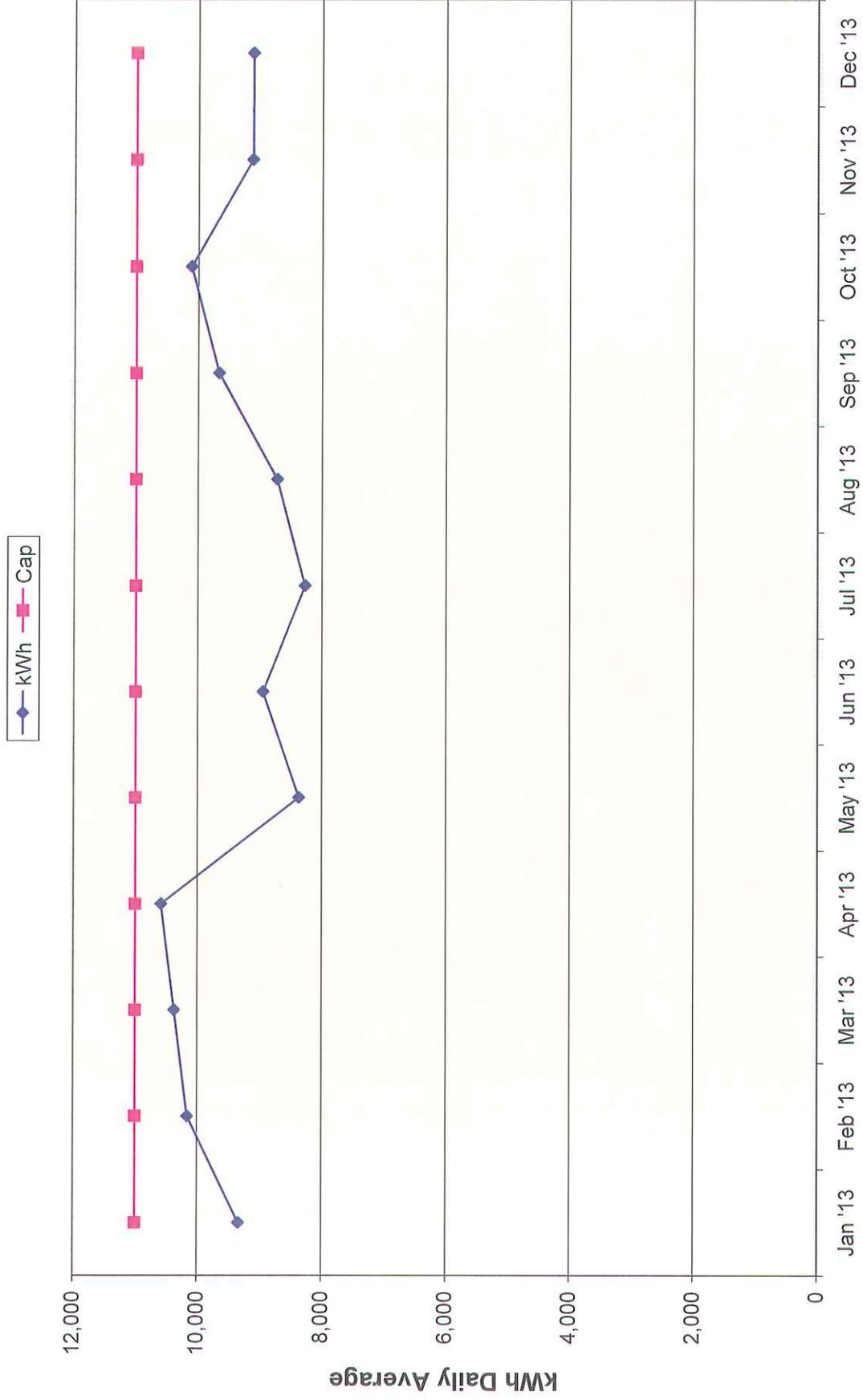
Disinfection



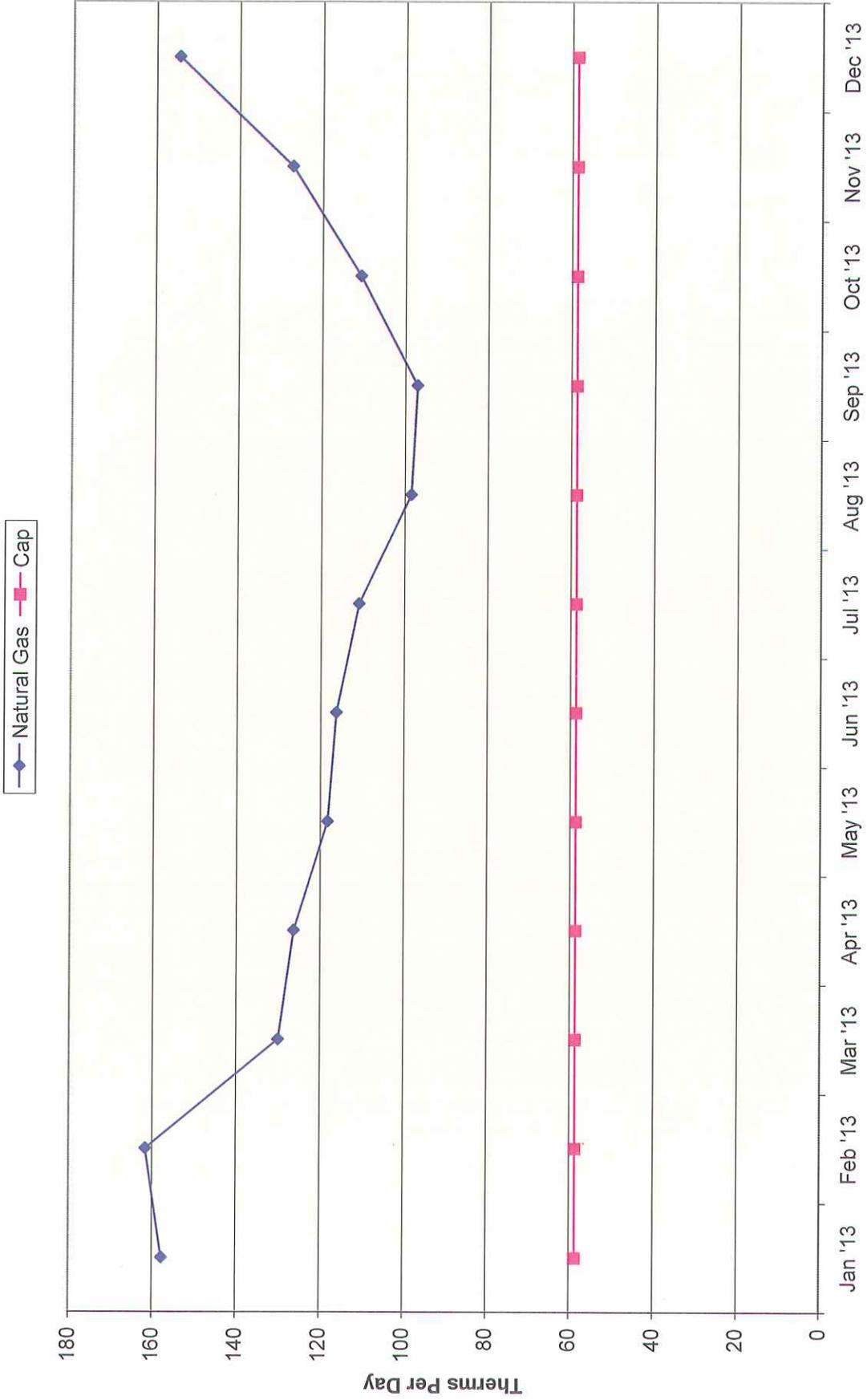
Energy kWh/MG



Energy kWh

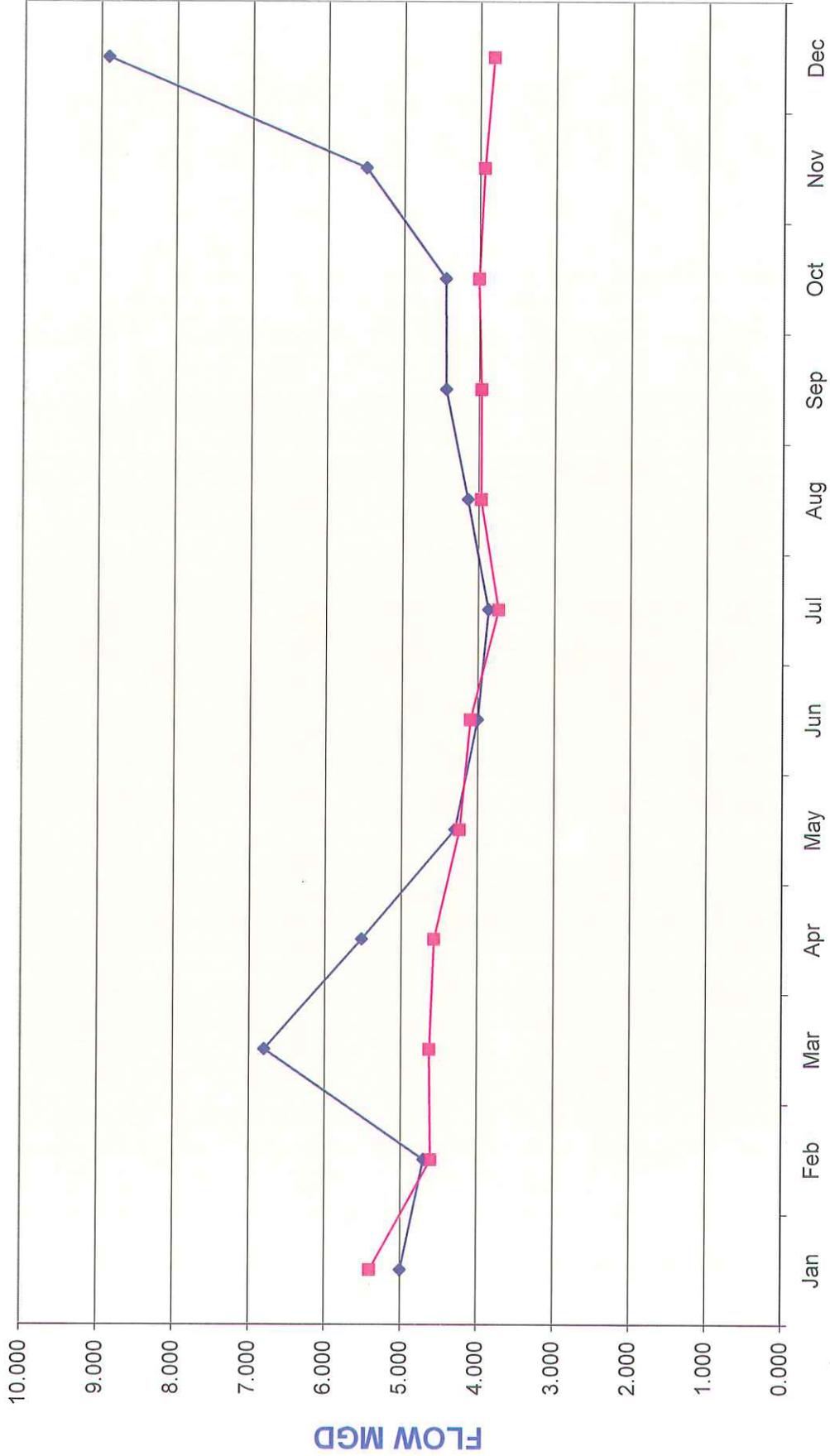


Natural Gas Use

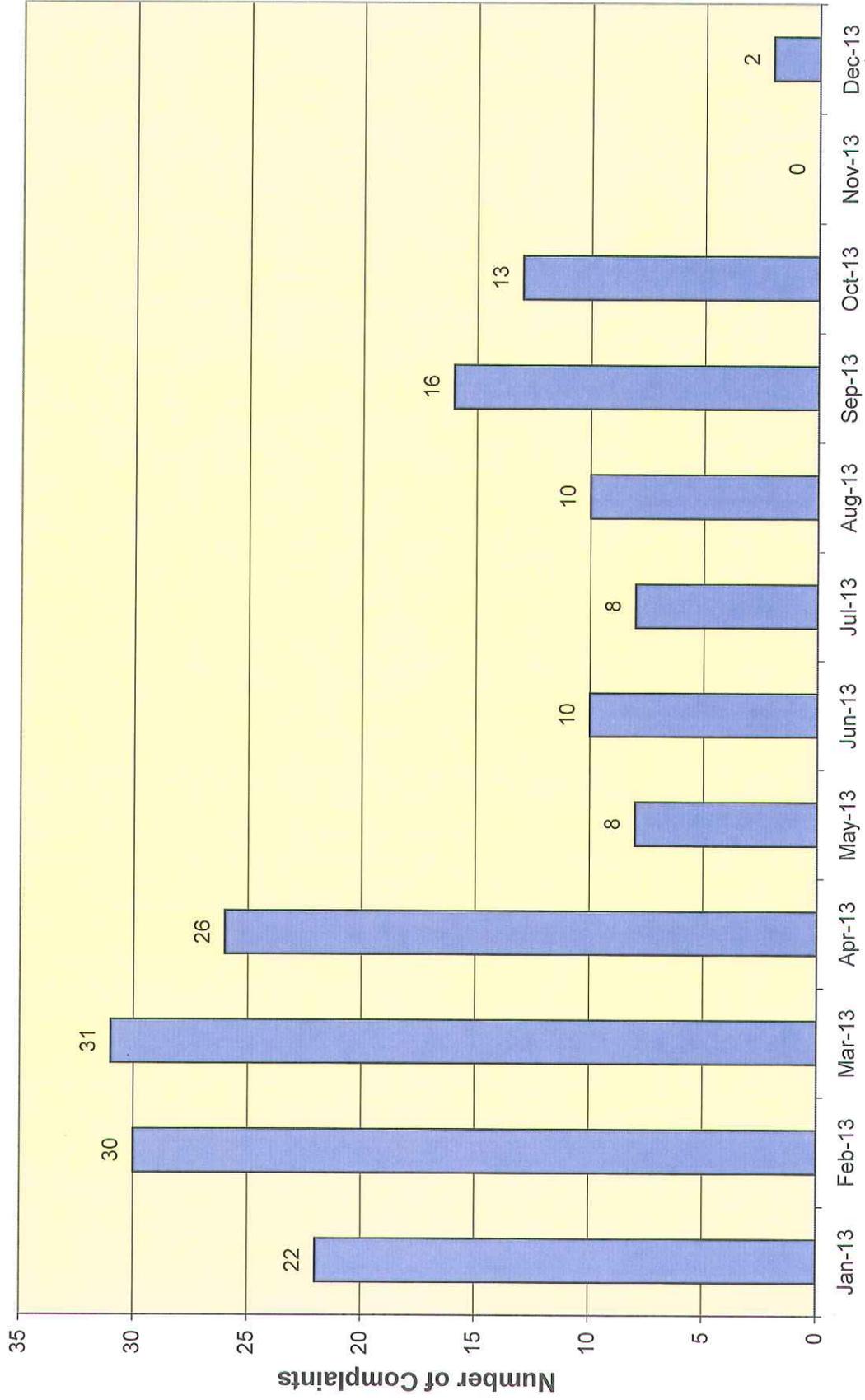


FLOW COMPARISON

—◆— 2012 —■— 2013



Complaints Received



WORK ORDER STATISTICS

December 1, 2013 - December 31, 2013

	Open Work Orders Due Prior to 12/1/13	Open Work Orders 12/1/13 - 12/31/13	Total Open Work Orders
Preventative	0	348	348
Corrective	0	25	25
Total	0	373	373

	Closed Work Orders 12/1/13 - 12/31/13
Preventative	262
Corrective	23
Total	285

Total Outstanding Work Orders as of January 1, 2014	88
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NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Odor Control, Noise, and Landscaping Report
December 2013

Summary:

Staff continues to work to address issues of concern relating to odor control, noise, and landscaping, specifically from the Lea Drive neighborhood, and in the northeast corner of the Novato Treatment Plant (NTP) site.

As explained in earlier reports, and to demonstrate its commitment, the District has already expended significant amounts beyond the substantial investment for odor control, noise, and landscaping included in the original WWTP Upgrade, Contract B - Novato Treatment Plant (NTP), Project No. 72609. These additional costs have included operational changes and measures related to further noise abatement, visual screening, wind shielding, and daily monitoring. The District has also retained Brown and Caldwell (B&C) and their project manager, Mr. Dave McEwen to study the issue of potential odor emissions from the aeration basins.

A summary of activities since the last Wastewater Operations Committee meeting is provided below.

Odor control:

The District's odor control consultant, Mr. Dave McEwen of Brown and Caldwell (B&C) issued some preliminary recommendations for odor control at the aeration basins in December. Staff started feeding sodium hypochlorite to the influent, but it is anticipated that implementation and testing of Mr. McEwen's recommendations will occur more fully in January and February, and that he will issue a technical memorandum in March.

Noise:

In December, staff continued to address the low level noise concerns of some Lea Drive neighbors, from the fans for the main odor control biofilter in the northeast corner of the Novato plant. Construction was completed on a permanent sound reducing enclosure for these fans which up to this point had resided inside a temporary insulated enclosure, and it is anticipated that these concerns will abate.

Landscaping:

Staff continued to work with the District's landscaping contractor Cagwin and Dorward (C&D), on the landscaping installed at the District's fence-line on Lea Drive at the northeast corner area of the NTP. C&D will continue to provide services on an as-needed and as-requested basis by the District to care for the landscaping in this area through the winter, and the scope of their services will be re-evaluated in the spring.

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
December 2013**

General:

The breakdown of Collection System department staff time for December 2013, in terms of equivalent full-time employee (FTE) hours utilized, works out approximately as follows:

- 2.1 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.5 FTE field workers for Pump Station Maintenance
- 1.0 FTE field workers for CCTV work
- 1.6 FTE field workers for time spent on data input, training, service calls, overflow response, or any other activity that does not directly relate to main line cleaning, CCTV work or pump station maintenance, and
- 1.9 FTE field workers Vacation/Sick Leave/Holiday.

Collection System Maintenance:

Performance metrics for the department are presented in the attached graphs showing the length of line cleaned/month, footage cleaned/hour worked, overflows/month, and the CCTV footage achieved.

A total of 61,944 feet of sewer pipelines were cleaned for the month by District staff. Staff completed 325 maintenance work orders generated by the ICOM3 CMMS system, with 50 outstanding work orders. The need to clean in front of the CCTV camera crew and staffing issues due to the holiday season were the cause of the outstanding work orders. A discrepancy between the footage listed in the ICOM3 system and that listed on the District maps have been identified, therefore the footage listed in the Collection System reports is based off of footage obtained by the field crews during cleaning operations. The field crews are measuring line segment lengths using a measuring wheel whenever they note a line segment length discrepancy of more than ten feet between the work order and District maps.

The District's CCTV van was in the field for a total of 15 working days and televised 142 line segments; the CCTV production was 26,910 ft. for the month. There was no push camera work performed during December.

Pump Station Maintenance:

The Collection System Department conducted 277 lift station inspections for the month with 153 of the inspection visits generated through the JobCal Plus CMMS system*. There are 10 outstanding work orders for the month of December. Three work orders are related to Reclamation maintenance, and the remaining 7 work orders are for pump station maintenance activities that were not completed in December.

The breakdown of the lift station inspections is as follows: 27 Flygt submersible pump stations, 1 time per month, 6 Gorman/Rupp dry well/wet well stations, 1 entry per month, and 4 main stations that are visited daily.

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Collection System Operations Report
December 2013**

A Collection Systems (Pump Stations) Work Order Statistics summary is attached.

At Marin Village pump station, pump #1 was taken out of service and sent in for repair due to failed bearings, and returned to service. Staff worked with Control Systems West to repair wet well floats at BMK 5 and 7. Staff also worked with Industrial Electric to repair emergency generators at Marin Village and E. Hamilton pump stations.

***Note:** The JobCal Plus program is not only used for scheduling and tracking pump station related maintenance work orders, it is also used for ladder inspections, reclamation maintenance work orders, SCADA backup scheduling, and vehicle maintenance scheduling.

Pump Station Rehabilitation:

Currently, there is no pump station under construction as part of the District's continuing multi-year Pump Station Rehabilitation Project (Capital Improvement Project No. 72403. The next phase, (Unit 5), includes rehabilitation/reconstruction of the Los Robles and Digital Drive pump stations and will likely begin construction in early 2014.

Safety and Training:

General: The Collection System crew attended five safety tailgate meetings.

Specialized training: Collection System staff attended Hazardous Chemical Communication training during the month of December.

Safety performance: There were no lost time accidents this month for a total of 334 accident-free days.

Standard Operating Procedures (SOPs):

Department staff continues to work on generating new SOPs; assisting DFK Solutions in updating the Emergency Overflow Response Plan and working towards finalizing earlier draft SOPs. No (0) SOPs were issued in December.

Sanitary Sewer Overflows (SSOs):

For the month of December, there was one (1) SSO, as discussed below.

No.	Date	Location	Amount, gal	Cause
1	12/14/2013	6 Fleetwood Ct	6,000	Roots

1. SSO at 6 Fleetwood Ct.: This SSO was a Category I event with the discharge volume of approximately 6,000 gallons going to a storm drain and Vineyard Creek.

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There was partial recovery (3%) for this discharge due to the fact that part the discharge was retrieved from a storm drain catch basin and the gutter pan.

This discharge was determined to be the result of a partial root blockage in the main line. Volume estimation using the San Diego Picture Method times duration, winter water usage rates times duration, volumetric calculation of the water in the gutter pan, and reporting party/local resident interviews were all used to estimate the duration, volume, and recovery for this event.

The District initially received this report at 10:01. Marin County Dispatch/Armando Alegria of Marin County Environmental Health Services (MCEHS) was notified of this event at 11:24 and CAL-EMA was notified at 11:31 meeting the 2 hour reporting requirements for a Category I event.

Under the direction of Armando Alegria and Rebecca Ng, MCEHS, Vineyard Creek was posted with 5 warning signs on the day of the event. Due to the possible impact of this discharge on Vineyard Creek, the District's sampling protocol was implemented on Monday, 12/16/2013, and samples were taken 50 feet upstream of Point of Entry (POE), at POE, and at 100 feet downstream of POE, as required by MCEHS. Water sampling results were found to be acceptable by MCEHS and sampling was halted on December 24, 2013. Public Notification signage remained in place until December 30, 2013 when they were removed with the approval of Armando Alegria, MCEHS.

The overflow line segment had been chemically root treated on 6/22/2013 due to root intrusion as part of the District's Chemical Root Abatement Program. It was last cleaned using the hydro-flusher on 9/20/2013 and is on a 12 month cleaning frequency for the hydroflusher. The line segment has been added to the rodder schedule, also on a 12 month frequency coordinated 6 months apart so that the line is cleaned twice a year.

This event was reported into the CIWQS database on 12/18/2013 as a Category I event, SSO Event ID #801856 and was certified in CIWQS on 12/20/2013, Certification ID # 710085.

Novato Sanitary District
Collection System Monthly Report For December 2013 (as of December 31, 2013)

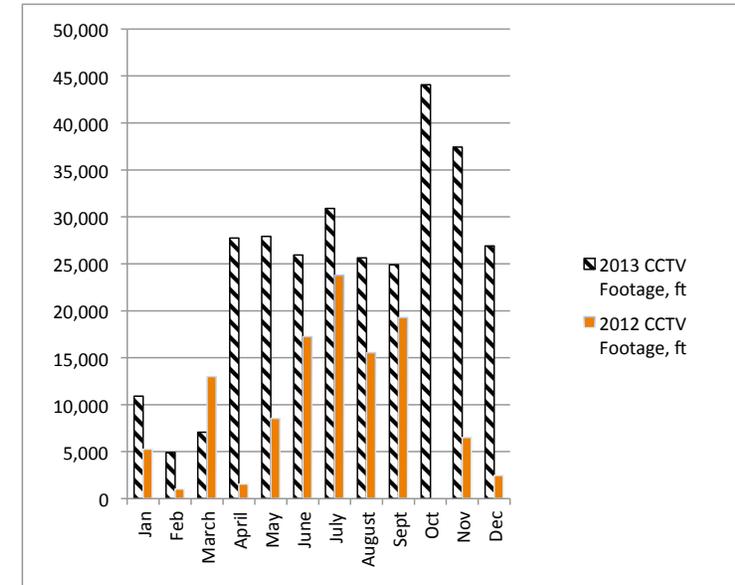
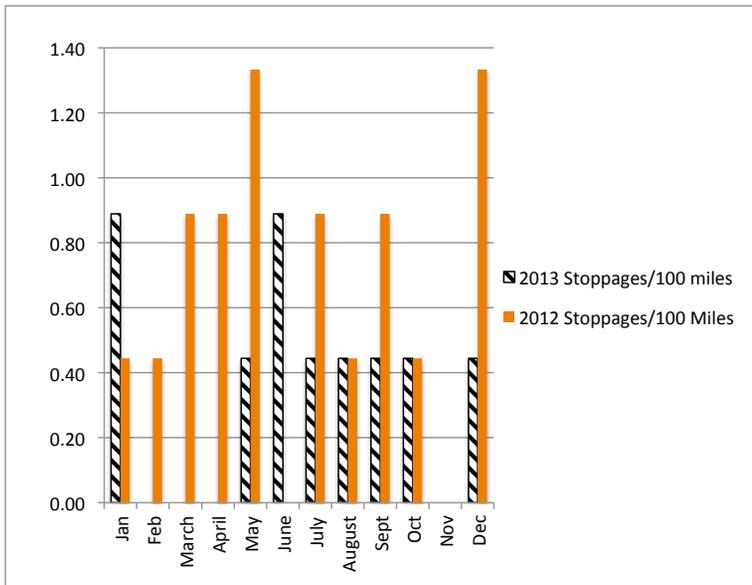
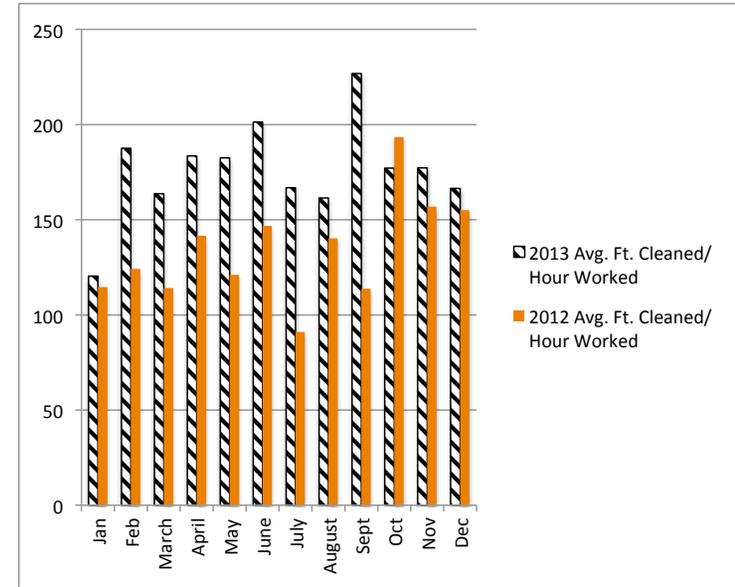
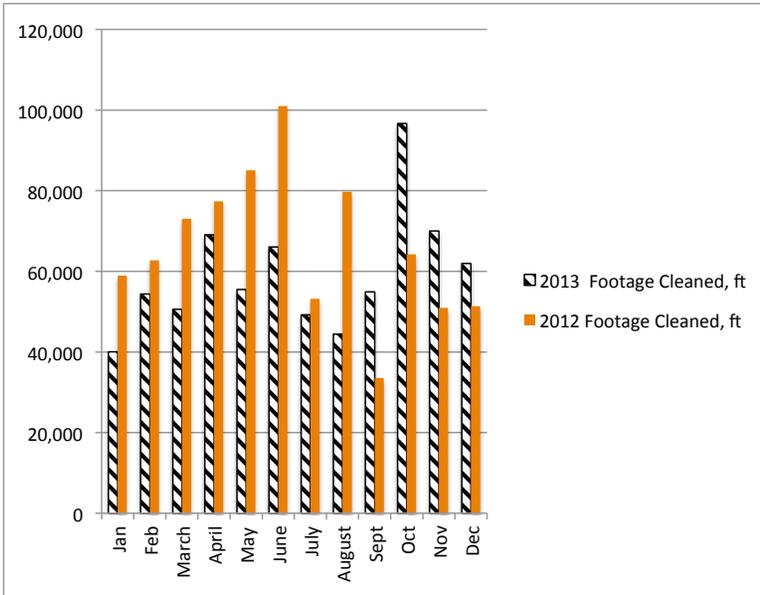
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
A. Employee Hours Worked														
Number of FTEs (main line cleaning), hrs.	1.9	1.7	1.8	2.2	1.8	1.9	1.7	1.6	1.4	3.1	2.3	2.1	NA	2.0
Number of FTEs (other)	1.9	1.4	2.4	1.5	1.8	1.2	1.8	1.4	2.1	2.1	1.5	1.6	NA	1.7
Number of FTEs (CCTV)	0.1	0.3	0.5	1.7	1.1	1.2	1.5	1.3	1.2	1.2	1.1	1.0	NA	1.0
Total, FTEs	3.9	3.4	4.7	5.4	4.6	4.3	4.9	4.2	4.7	6.4	4.9	4.7	NA	4.7
Regular Time Worked, (main line cleaning), hrs	333	290	309	377	304	328	295	275	242	546	395	372	4,065	339
Regular Time Worked on Other, hrs ⁽¹⁾	326	249	415	259	308	216	304	235	363	369	264	275	3,581	298
Regular Time Worked on CCTV ⁽²⁾	20	46	85	300	192	200	258	221	206	203	191	174	2,094	175
Total Regular time, worked, hrs	678	585	809	935	804	744	857	731	811	1,118	849	821	9,740	812
Total Vacation/Sick Leave/Holiday, hrs	204	77	101	114	239	62	191	238	174	128	307	336	2,170	181
Vacation/Sick Leave/Holiday, FTEs	1.2	0.4	0.6	0.7	1.4	0.4	1.1	1.4	1.0	0.7	1.8	1.9	12.5	1.0
Overtime Worked on Coll. Sys., hrs	6	45	5	47	5	1	24	24	33	31	4	4	228	19
Overtime Worked on Other, hrs ⁽¹⁾	3	19	5	28	12	6	16	17	27	50	28	19	229	19
Overtime Worked on CCTV ⁽²⁾	1	3	0	0	0	0	2	1	2	3	0	0	12	1
Total Overtime, hrs	10	67	10	75	17	7	42	42	62	83	31	23	469	39
B. Productivity														
1. Line Cleaning														
Rodder Work Orders generated	14	0	24	31	83	66	51	51	51	121	74	38	604	50
Rodder 3203 ft. cleaned	3,138	0	3,856	5,490	678	4,371	760	1,842	1,214	10,325	12,709	2,802	47,185	3,932
Rodder - outside services, ft cleaned	0	0	0	0	0	0	0	0	0	8,333	0	0	8,333	694
Flusher Work Orders generated	187	252	290	385	438	361	277	256	340	440	294	337	3,857	321
Truck 3205V ft. cleaned	2,782	5,146	2,755	13,698	15,477	10,186	0	12,537	0	14,307	8,000	18,679	103,567	8,631
Truck 3206V ft. cleaned	34,114	49,225	43,954	49,898	39,332	51,468	48,444	30,024	53,692	72,072	49,299	40,463	561,985	46,832
Flusher - outside services, ft. cleaned	0	0	0	0	0	0	0	0	0	3,260	0	0	3,260	0
Total Footage cleaned ⁽³⁾	40,034	54,371	50,565	69,086	55,487	66,025	49,204	44,403	54,906	96,704	70,008	61,944	712,737	59,395
Work Orders completed	201	252	286	374	314	267	239	222	281	548	331	325	3,640	303
Work Orders backlog	6	0	28	42	207	160	89	85	110	13	37	50	827	69
2. Closed Circuit Television (CCTV)														
Camera Work Orders generated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CCTV Truck 3126T, ft. videoed	10,905	4,912	7,075	27,756	27,913	25,938	30,910	25,628	24,900	37,429	31,620	26,910	281,896	23,491
CCTV (hand cam), ft. videoed	0	0	0	0	0	0	0	0	0	6,654	5,823	0	12,477	0
CCTV Inspection - outside services, ft. videoed	0	0	0	0	0	0	0	0	0	3,260	0	0	3,260	0
Total CCTV footage ⁽³⁾	10,905	4,912	7,075	27,756	27,913	25,938	30,910	25,628	24,900	44,083	37,443	26,910	294,373	23,491
C. Sanitary Sewer Overflows (SSOs)														
Minor (Category III)	2	0	0	0	1	2	1	1	1	1	0	1	10	NA
Major (Category II)	0	0	0	0	0	0	0	0	0	0	0	0	0	NA
Major (Category I)	2	0	0	0	0	1	0	0	1	1	0	1	6	NA
Overflow Gallons	2,200	0	0	0	158	1,111	10	50	312	1,474	0	6,000	11,315	NA
Volume Recovered	880	0	0	0	158	100	0	0	117	673	0	173	2,101	NA
Percent Recovered	40%	NA	NA	NA	100%	9%	0%	0%	38%	46%	NA	3%	19%	NA
D. Service Calls (non-SSO related)														
Service calls, normal hours, #	7	5	7	12	6	6	8	5	8	9	8	7	88	7
Normal hours S.C. response time, mins (avg.)	12	15	14	18	17	22	19	13	23	15	18	14	200	17
Service Callouts, aftr hours, #	1	0	0	1	1	0	1	2	1	3	0	3	13	1
After Hours S.C. response time, mins (avg.)	23	NA	NA	20	30	0	27	34	30	28	0	25	217	22
E. Benchmarks														
Average Ft. Cleaned/Hour Worked	120	187	164	183	183	201	167	161	227	177	177	167	NA	176
Total Stoppages/100 Miles	0.9	0.0	0.0	0.0	0.4	0.9	0.4	0.4	0.4	0.4	0.0	0.4	4.4	NA
Average spill response time (mins)	18	0	0	0	15	19	15	27	7	41	0	34	NA	15
Callouts/100 Miles	0.4	0.0	0.0	0.4	0.4	0.0	0.4	0.9	0.4	1.3	0.0	1.3	5.8	0.5
Overtime hours/100 Miles	3	20	2	21	2	0	11	11	15	14	2	2	101	8
Overflow Gallons/100 Miles	978	0	0	0	70	494	4	22	139	655	0	2667	5029	419

⁽¹⁾This category includes time spent on: Data input, Training, Service Calls, Overflow Response, as well as any other activity that does not directly relate to main line cleaning or CCTV work.

⁽²⁾This category separates time spent on CCTV from other Collection System maintenance activities.

⁽³⁾ Does not include outside services (tracked separately)

Collection System 2012-13 Graphs



Novato Sanitary District

Pump Station Monthly Report For December 2013 (as of December 31, 2013)

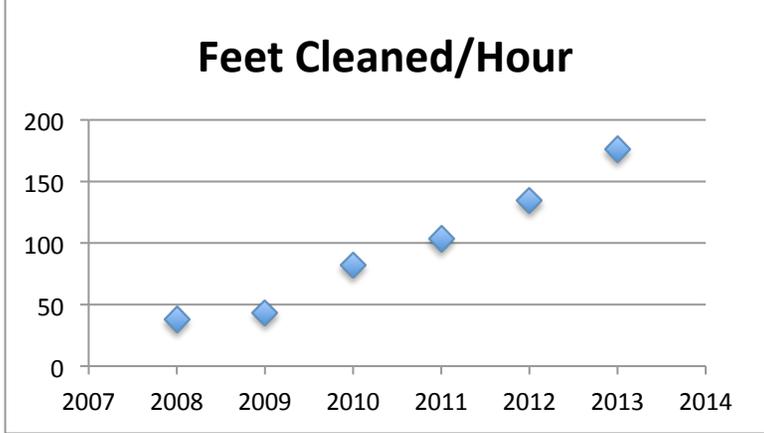
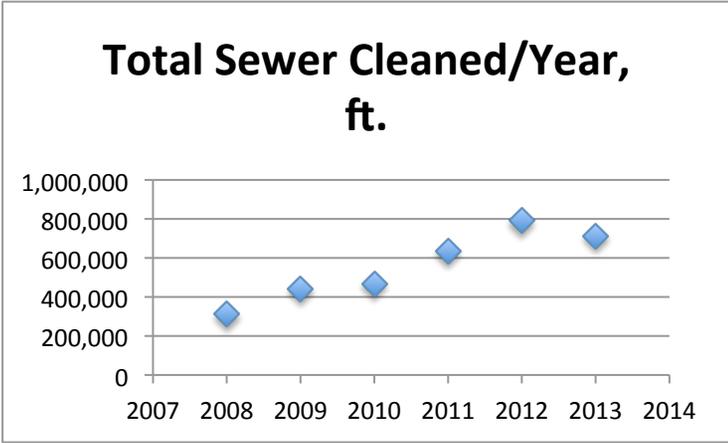
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
Employee Hours Worked	253	224	313	226	256	249	320	301	236	266	205	284	3,133	
Number of Employees	1.4	1.3	1.8	1.3	1.4	1.4	1.8	1.4	1.2	1.4	0.9	1.4		1.4
Regular Time Worked on Pump Sta	185	189	223	182	227	201	273	239	201	246	161	245	2,571	
Overtime Worked on Pump Sta	69	35	90	44	29	48	47	62	35	20	45	39	562	
After Hours Callouts	4	3	1	8	1	0	5	5	2	0	9	3	41	
Average Callout response time (mins)	24	35	20	30	0	0	26	35	30	0	35	30	265	22
Work Orders														
Number generated in month	107	112	116	124	110	125	134	107	126	122	128	163	1474	
Number closed in month	104	110	116	124	110	123	134	106	126	122	101	153		
Backlog	3	2	0	0	0	2	0	1	0	0	27	10		

**COLLECTION SYSTEM (Pump Stations)
WORK ORDER STATISTICS
December 1, 2013 - December 31, 2013**

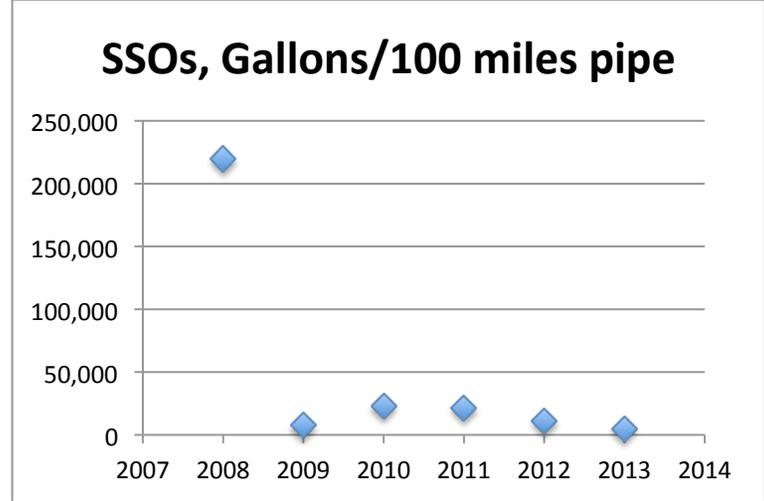
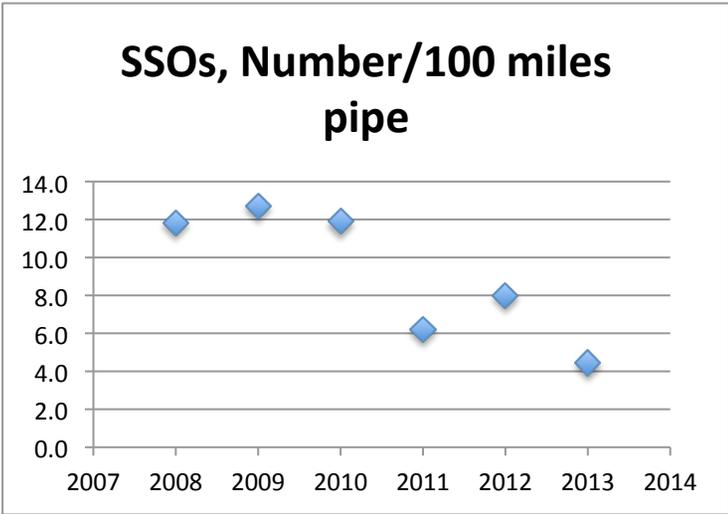
	Open Work Orders Due Prior to 12/1/2013	Open Work Orders 12/1/2013 - 12/31/2013	Total Open Work Orders
Preventive	6	157	159
Corrective	0	0	0
Total	6	157	163

	Closed Work Orders 12/1/2013 - 12/31/2013
Preventive	153
Corrective	0
Total	153

Total Outstanding Work Orders as of 12/31/2013	10
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Collection System Multi-year Trends 2008-2013

NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Reclamation Facilities Report
December 2013

Summary:

The rancher completed removing cows from all Sites. Parcel rehabilitation was completed on all affected Parcels. There were no irrigation or sludge disposal activities this month.

Ranch Operations:

The rancher completed removing cattle off of all Sites. The rancher began cutting thistles and spraying weeds on Site 7.

Parcel rehabilitation was completed on all Parcels under rehabilitation for the season. The contractor was successful in finishing all Parcels under the contract and work was completed within budget.

In October, Mosquito Abatement found a sinkhole in Parcel 27. The sinkhole appears to be over one of the large irrigation mains. Staff has issued a Work Order to a local contractor for repair. This work was not completed in December so Parcel rehabilitation work could be completed. This leak will be repaired in January, weather permitting.

A potential leak was identified by the Rancher in Site 3 on Parcel 5. The location was over one of the large irrigation mains. The irrigation main was exposed, the main pressurized but no leak was found.

Irrigation Parcels:

As previously reported, the valve actuators for some irrigation zones within the parcels will not fully open or close and some motors have failed. The District's electrical engineering consultant is investigating options to address this issue. There was some correspondence between the consultant and a valve representative this month.

Fresh water was turned off on Site 2, 3 & 7 at the beginning of the month to limit pipe breakage due to the unusual cold spell.

Irrigation Pump Station:

There was no irrigation performed this month. The average storage pond staff gauge depth at the beginning of December was 3.3 feet and remained at that level throughout the month due to the lack of rainfall.

Sludge Handling & Disposal:

There were no sludge handling and disposal activities this month.
