

NOVATO SANITARY DISTRICT

Meeting Date: March 2, 2015*

NOTE REVISED DATE

The Wastewater Operations Committee of the Novato Sanitary District will hold a meeting at 2:00 PM, Monday, MARCH 2, 2015* at the District offices, 500 Davidson Street, Novato.

*Date revised from regularly scheduled date of 3rd Monday of the month; February 16, 2015 is President's Day, a District holiday.

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. APPROVE MINUTES OF JANUARY 20, 2015 MEETING

4. WASTEWATER TREATMENT FACILITIES REPORT FOR JANUARY 2015:

- a. Treatment Plant Performance Report
- b. Maintenance Report
- c. Safety and training
- d. Odor control and landscaping report

5. COLLECTION SYSTEM REPORT FOR JANUARY 2015:

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

6. RECLAMATION FACILITY REPORT FOR JANUARY 2015

- a. Ranch Operations
- b. Irrigation Parcels
- c. Irrigation Pump Station
- d. Sludge Handling and Disposal

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.

January 20, 2015

A regular meeting of the Wastewater Operations Committee of Novato Sanitary District was held at 9:00 a.m., Tuesday, January 20, 2015, at the District Office, 500 Davidson Street, Novato.

MEMBERS PRESENT: Committee Members Jerry Peters and Brant Miller.

STAFF PRESENT: Sandeep Karkal, Manager-Engineer
Steve Krautheim, Field Services Manager
Tim O'Connor, Collections System Superintendent
John Bailey, Project Manager, Veolia
Julie Swoboda, Administrative Secretary

OTHERS PRESENT: Lynda Farmery, Veolia
Brian Exberger, Assistant Project Manager, Veolia

AGENDA APPROVAL: Approved as presented.

PUBLIC COMMENT: None.

APPROVAL OF MEETING MINUTES FOR DECEMBER 15, 2014: The Manager-Engineer noted a correction to the December 15 minutes, page 2, paragraph 3: *He stated that as of November 30, ~~2015~~ 2014, the Collections Department and the District have worked accident free for a total of ~~1,625~~ 1,356 days.* The December 15, 2014 meeting minutes were approved as corrected.

WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR DECEMBER 2014:

- Treatment Plant Performance Report, Maintenance Report and Safety & Training:
Manager Engineer Sandeep Karkal introduced Veolia Project Manager John Bailey who provided an overview of treatment plant operations for the month of December. He stated that the December rainfall data recorded at the District facility was 16.68 inches and noted that a total flow of 35 million gallons was recorded on December 11th. The Project Manager discussed the December 10th and 11th wet weather events and the treatment facilities operation during this period. He stated that there were no permit exceedances, violations or excursions in the month of December.

The Project Manager discussed the key operations and maintenance events at the Novato facility, the Ignacio Transfer Pump Station, the Recycled Water Plant, and the Sludge Lagoons. He discussed training events completed in December and stated that as of December 31st, Veolia employees have been accident free for a total of 1,672 days / 76,243 hours. He discussed the training Veolia employees participated in during December. He reviewed the operations and maintenance report and stated that 0.78 million gallons of recycled water were produced.

The Project Manager stated that Jerome Meter (H₂S) readings continue to be taken within the treatment plant as well as in the Lea Drive neighborhood area and no odor notifications were received in December. He reviewed a diagram which illustrated where odor samples are taken within the treatment facility and within the Lea Drive neighborhood.

- Odor control, noise, and landscaping report: The Manager-Engineer stated that odor control activities were limited primarily due to the wet weather experienced during December. He stated that the media in the large odor control bed between primary clarifiers #1 and #2 was topped off in November and appears to be performing satisfactorily.

The Manager-Engineer stated that landscaping activity was light in December due to wet weather conditions. He stated that the bid to relocate the redwood trees currently in planter boxes along the eastern fence line of the plant site to the northeast corner of the plant site has been awarded, and the work should occur in January or early February.

COLLECTION SYSTEMS OPERATION AND MAINTENANCE REPORT FOR DECEMBER 2014:

The Collections System Superintendent gave the Collection Systems Monthly Report for December 2014. He reported that the Collection Systems crew cleaned a total of 64,100 feet of sewer pipeline and that the department completed 330 maintenance work orders which were generated in November. He stated that the District's CCTV van (Closed Circuit TV) televised 12 line segments for 2,329 feet of production and he outlined the areas identified as needing repairs or further evaluation. He stated that the CCTV production was low due to two major storm events necessitating a significant time commitment of staff to respond to storm related issues as well as staff availability for maintenance activities. He reported on the current Collection System Projects and outlined the specialized training that his department completed.

The Collections System Superintendent stated that as of December 31, 2014, the Collections Department and the District have worked accident free for a total of 1,387 days. He discussed the Collection System minor projects completed in December.

The Field Services Manager made a Powerpoint presentation of events that took place during the heavy rainfall events in December. He discussed in detail the six overflow events which took place between December 3rd and December 25th.

The Manager-Engineer and the Field Services Manager discussed contingency planning that occurred prior to the rain events and then was successfully executed. The Manager-Engineer and the Field Services Manager stated that an Emergency Operations Center (EOC) was set up at the District on December 11th, and they provided details of activities that took place. They noted that lessons learned from the contingency planning activities and EOC operations would be incorporated into Standard Operating Procedures (SOPs) for future reference.

RECLAMATION FACILITY REPORT FOR DECEMBER 2014:

The Field Services Manager presented the Reclamation Facilities report for December. He stated that the rancher completed moving all cattle off of Site 7. He stated that the two significant rain storms in December affected all areas of the Reclamation Facilities and noted that there were no irrigation or sludge handling activities this month.

Director Peters commended the staff for their efforts during the wet weather events that took place in December.

ADJOURNMENT: There being no further business to come before the Committee, the meeting adjourned at 10:20 a.m. The next Wastewater Operations Committee meeting will be rescheduled as Monday, February 16th is a District holiday (President's Day).

Respectfully submitted,

Sandeep Karkal
Manager-Engineer

Julie Swoboda, Recording



February 11, 2015

Mr. Sandeep Karkal
Manager - Engineer
Novato Sanitary District
500 Davidson Street
Novato, CA 94545

Subject: Veolia Water Operations Report – January 2015

Dear Mr. Karkal:

I am pleased to provide the Monthly Operation Report for January 2015.

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

Best regards,

A handwritten signature in black ink, appearing to read "John Bailey".

John Bailey
Project Manager, Veolia



**MONTHLY OPERATIONS REPORT
January 2015**

Prepared for

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

Prepared by

Veolia Water West Operating Services, Inc. (VWWOS)

TABLE OF CONTENTS

TREATMENT PLANT PERFORMANCE SUMMARY	1
SAFETY AND TRAINING	2
OPERATIONS AND MAINTENANCE STATUS / REVIEW	2-3
ADMINISTRATION	3
ODORS	3
MISCELLANEOUS	3
ATTACHMENTS	
• Photos	
○ NSD Board of Directors Site Walk	
○ Troubleshooting Sludge Line Leak	
○ Troubleshooting UV Disinfection & Recycled Water Turbidity Meter	
• Laboratory Data	
• Recycled Water Report	
• Annual Performance Graphs	
• Process Control Data / Graphs	
• Customer Notifications (Odor)	

TREATMENT PLANT PERFORMANCE SUMMARY: January 2015:

Bay Discharge – NPDES Limits

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	4.38	4.86	N/A	N/A
Max Peak Hour, MGD – 1/13/2015, 0900 Hours	N/A	~ 8	N/A	N/A
Influent BOD ₅ , lb/day (month ave/max)	10,438	13,668	N/A	N/A
Influent TSS, lb/day (monthly ave/max)	15,240	27,375	N/A	N/A
Effluent BOD ₅ , mg/L (monthly ave/weekly max)	12	17	30	45
Effluent TSS, mg/L (monthly ave/weekly max)	5	6	30	45
Effluent BOD ₅ - % Removal, Minimum	96	N/A	85	N/A
Effluent TSS - % Removal, Minimum	99	N/A	85	N/A
Ammonia, mg/L – (monthly ave/daily max)	2.05	4.90	6	21
pH, su (min / max)	6.9	7.1	6.5	8.5
Enterococcus, mpn (30 day geo mean)	11.8	N/A	35	N/A
Fecal Coliform, mpn (30 day median)	23	N/A	140	N/A
Fecal Coliform, mpn (90 th percentile)	80	N/A	430	N/A
Total Coliform, mpn (5 Sample Median / Max)	N/A	N/A	240	10,000
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	0.28	N/A
Average Turbidity	NTU	N/A	2.0
Turbidity > 5 NTU (in 24 hour)	Minutes	N/A	72
Minimum CT (disinfection)	mg-min/L	N/A	450
Minimum Dissolved Oxygen (DO)	mg/L	N/A	1.0
Maximum Total Coliform	mpn/100 ml	<2	2

Total Rainfall. – 0.01 inches

Daily Max 1/22/15 – 0.01 inches

Note: Rainfall data from weather station readings at 500 Davidson St (WWTP)

SAFETY AND TRAINING:

- Monthly plant safety inspections for Novato WWTP and Ignacio Pump Station completed
- Five Minute Tailgate training is held daily with all staff.
- No safety incidents for the month of January.
- Accident Free: 6/1/10 – 1/31/15: 1,703 days / 77,656 hours
- Monthly Safety Topic and Training – Hazard Communication (SDS)

OPERATIONS & MAINTENANCE STATUS / REVIEW:

Key events for the period:

Dry weather returned in January, average flow for the month was 4.38 mgd

Novato

- Routine rounds, readings and maintenance
- Replaced tubing on ferric pumps
- Removed Aeration Basin #2 from service
- Removed Primary Clarifier #1 from service
- Cleaned Digested Sludge transfer box
- Removed Secondary Clarifier #2 from service
- Replaced cooling fans on all UV Modules
- Replaced sample tubing on all samplers

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

- Aeration Basin #1 & #2 (not needed at current flows)

Ignacio Transfer Pump Station

- Routine rounds, readings and maintenance

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

- None

Recycled Water Plant (RWP)

- Performed plant rounds and maintenance
- Replaced photo cell in Turbidity Analyzer
- Ordered parts for installation of filter waste line

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

- None

Sludge Lagoons

- Performed routine rounds and inspection
- Flushed lines

ADMINISTRATION:

- December Electronic Self Monitoring Report submitted on January 30, 2014
- December Electronic DMR Report submitted on January 30, 2014

ODORS:

- Jerome Meter (H₂S) readings performed in neighborhood and within treatment plant.
- One odor complaint 1/5, Lea Drive – musty odors
- One noise complaint 1/18, Lea Drive – background noise, believed to be primary clarifier #1, water cascading over weir.

MISCELLANEOUS

- Process Control Management Plan (PCMP) meetings held weekly.
- Novato Sanitary District Board of Directors Site Walk / Tour, (January 26th)
- Veolia Safety Council, Western Region) Tour of Novato WWTP, (January 27th)

Veolia Support Staff On/Off Site (Various Times)

John O'Hare

Technical Support

JANUARY 26TH BOARD OF DIRECTORS - SITE WALK

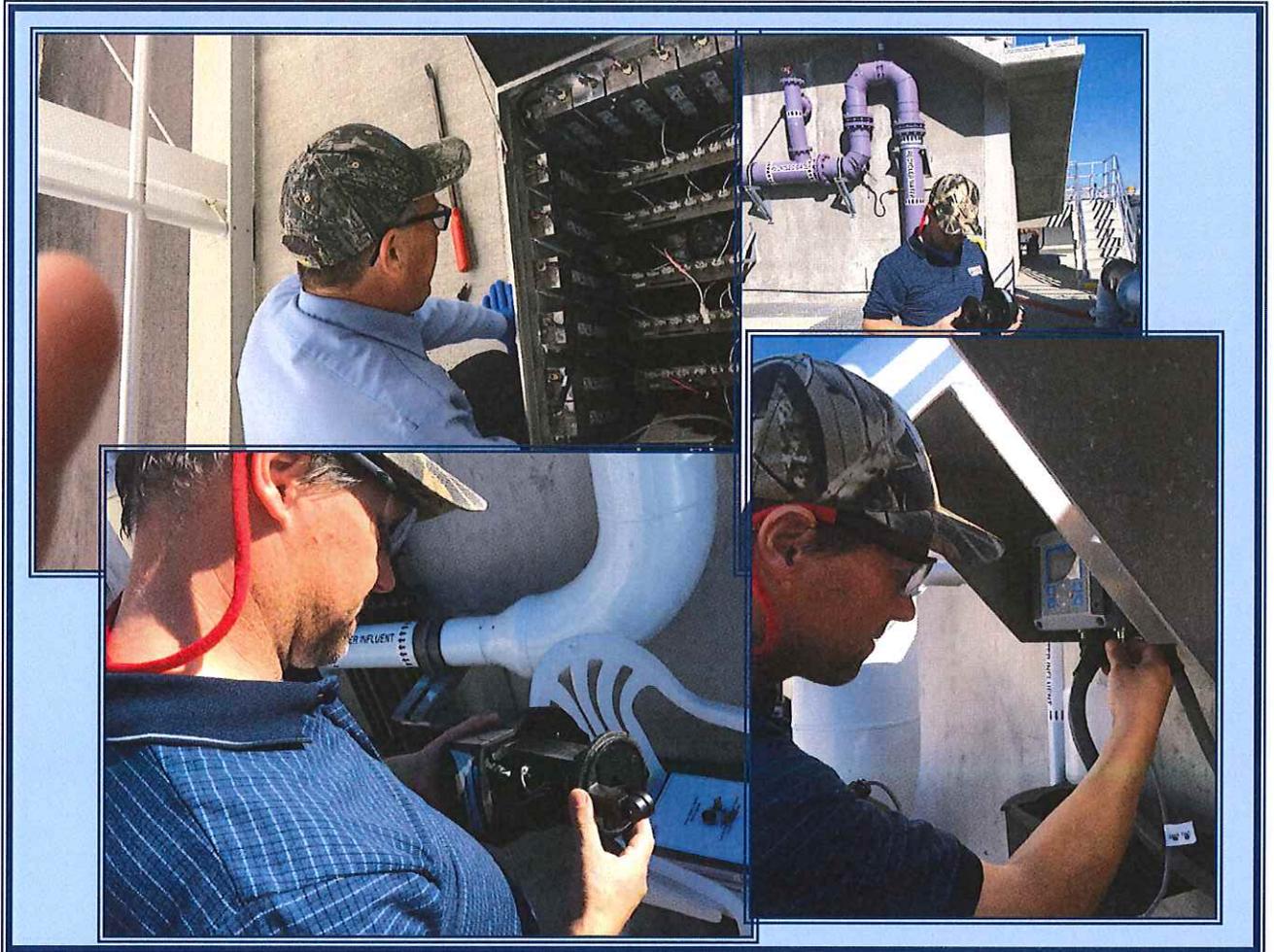


JANUARY 2015
REPAIRS TROUBLESHOOTING



Top Left – Damaged Flange, Raw Sludge Line
Top Right & Bottom Left – Brian Exberger Inspecting Sludge Line Connections
Bottom Right – Insulated Seal Water Rotometer

JANUARY 2015
REPAIRS TROUBLESHOOTING



Top Left – Preston Ingram Troubleshooting UV Disinfection System
Top Right, Bottom Left, & Bottom Right – Brian Exberger Working on Recycled
Water Turbidity Analyzer

Novato Plant : Bacterial Results

EFFLUENT: E-002 Station

Jan-15

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	

January 1, 2015		
January 2, 2015		
January 3, 2015		
January 4, 2015		
January 5, 2015	50	
January 6, 2015		
January 7, 2015	13	
January 8, 2015		
January 9, 2015	110	
January 10, 2015		
January 11, 2015	50	
January 12, 2015		
January 13, 2015	80	
January 14, 2015		
January 15, 2015	11	
January 16, 2015		
January 17, 2015		
January 18, 2015		
January 19, 2015		
January 20, 2015	< 2	
January 21, 2015	4	
January 22, 2015		
January 23, 2015		
January 24, 2015		
January 25, 2015		
January 26, 2015	30	
January 27, 2015		
January 28, 2015	13	
January 29, 2015		
January 30, 2015	23	
January 31, 2015		

90th Percentile Ranking		
Sample #1	2	
Sample #2	4	
Sample #3	11	
Sample #4	13	
Sample #5	13	
Sample #6	23	
Sample #7	30	
Sample #8	50	
Sample #9	50	
Sample #10	80	
Sample #11	110	
Sample #12		
Sample #13		
Sample #14		
Sample #15		
Sample #16		
Sample #17		
Sample #18		
Sample #19		
Sample #20		
Sample #21		

January 1, 2015		
January 2, 2015		
January 3, 2015		
January 4, 2015		
January 5, 2015	40.8	
January 6, 2015		
January 7, 2015	14.6	
January 8, 2015		
January 9, 2015	30.9	
January 10, 2015		
January 11, 2015	39.5	
January 12, 2015		
January 13, 2015	9.8	
January 14, 2015		
January 15, 2015	22.8	
January 16, 2015		
January 17, 2015		
January 18, 2015		
January 19, 2015		
January 20, 2015	9.7	
January 21, 2015	6.3	
January 22, 2015		
January 23, 2015	< 1.0	
January 24, 2015		
January 25, 2015		
January 26, 2015	8.6	
January 27, 2015		
January 28, 2015	13.4	
January 29, 2015		
January 30, 2015	6.3	
January 31, 2015		

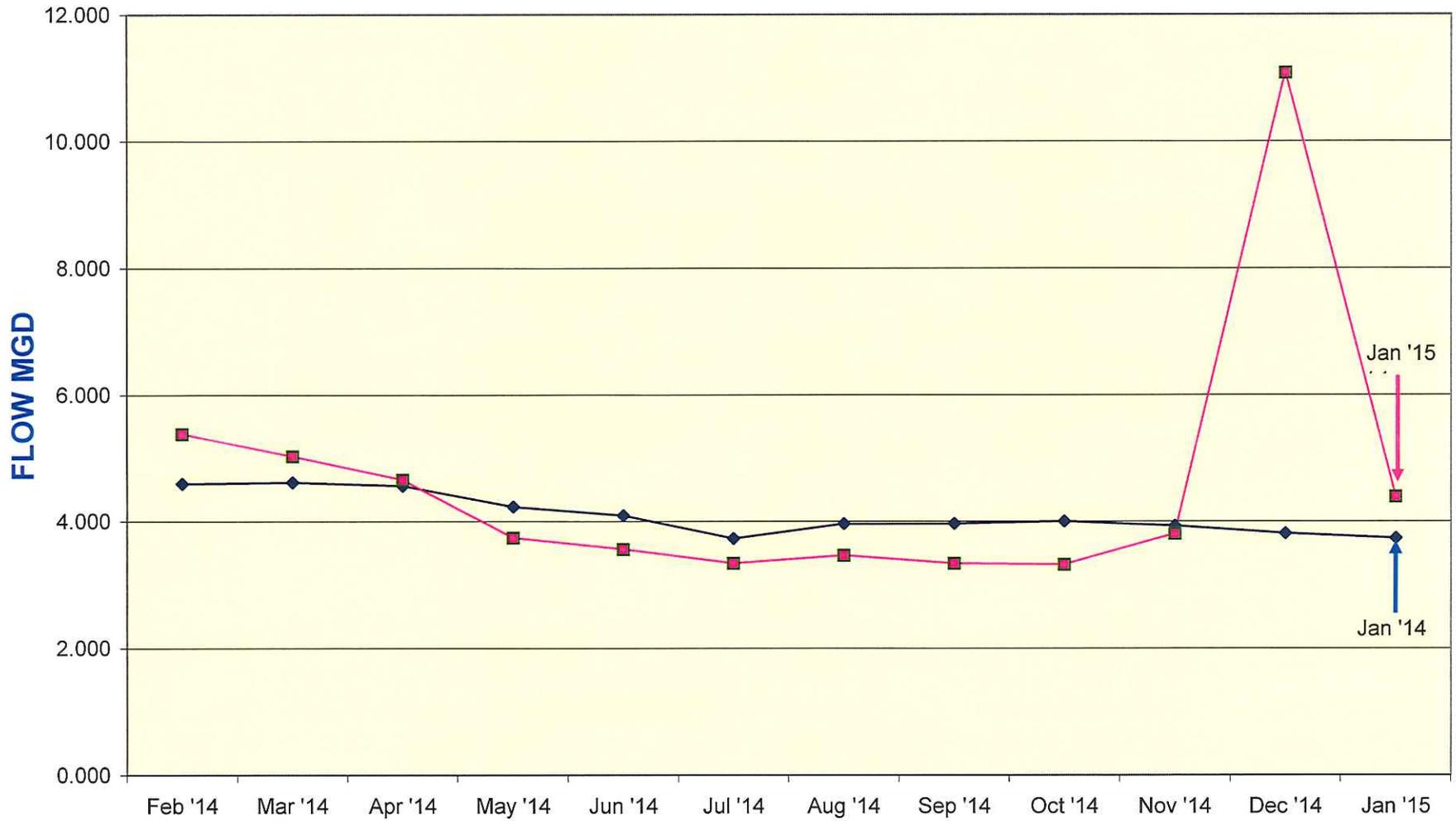
Max	110
Min	2.0
Avg	35.09
30-Day Median	23

90th Percentile Value **80**

Max	40.8
Min	1.0
Avg	17.0
30 Day Geo. Mean	11.8

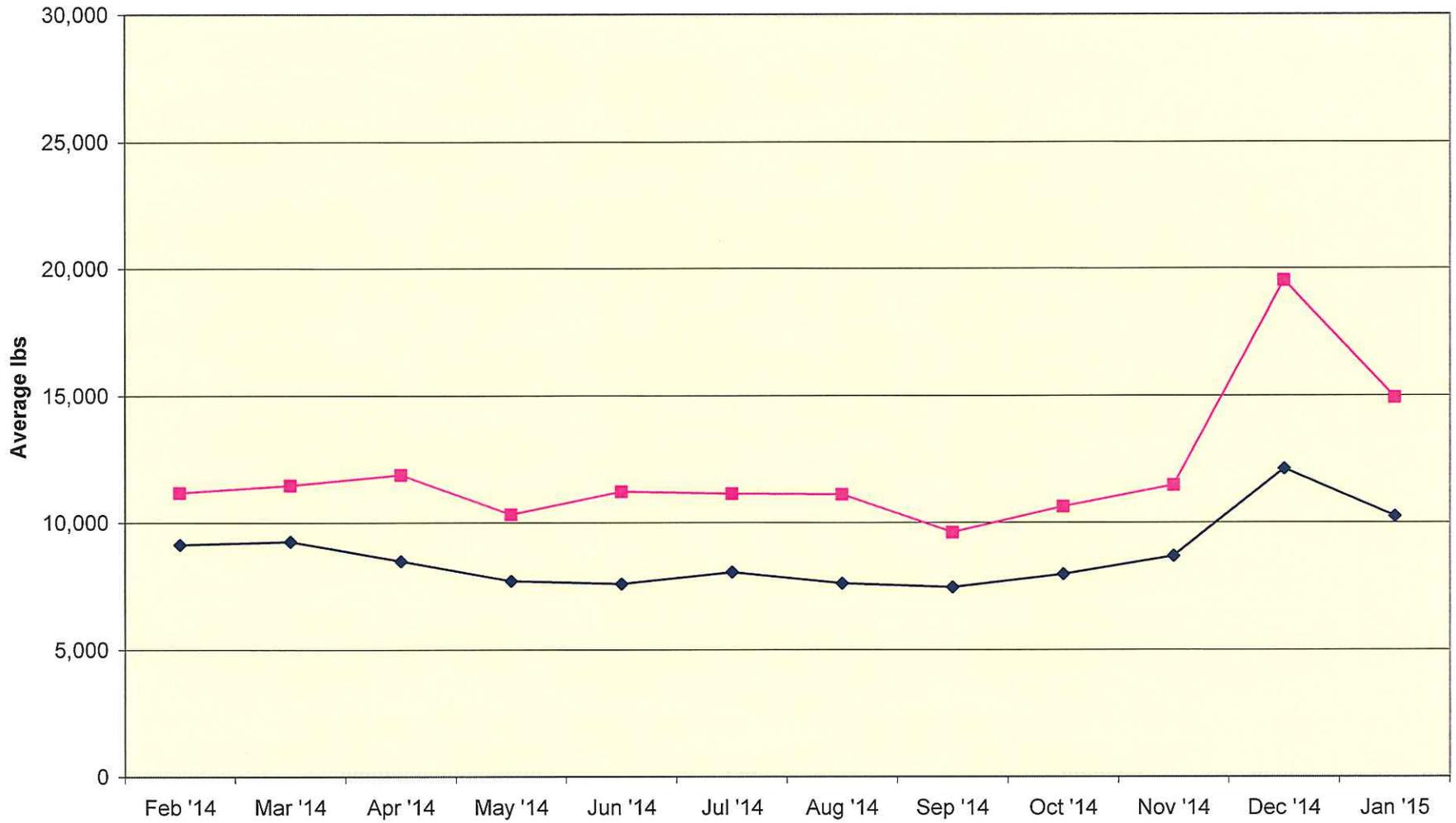
FLOW COMPARISON

◆ 2013 / 14 ■ 2014 / 15



Influent Load BOD / TSS lbs

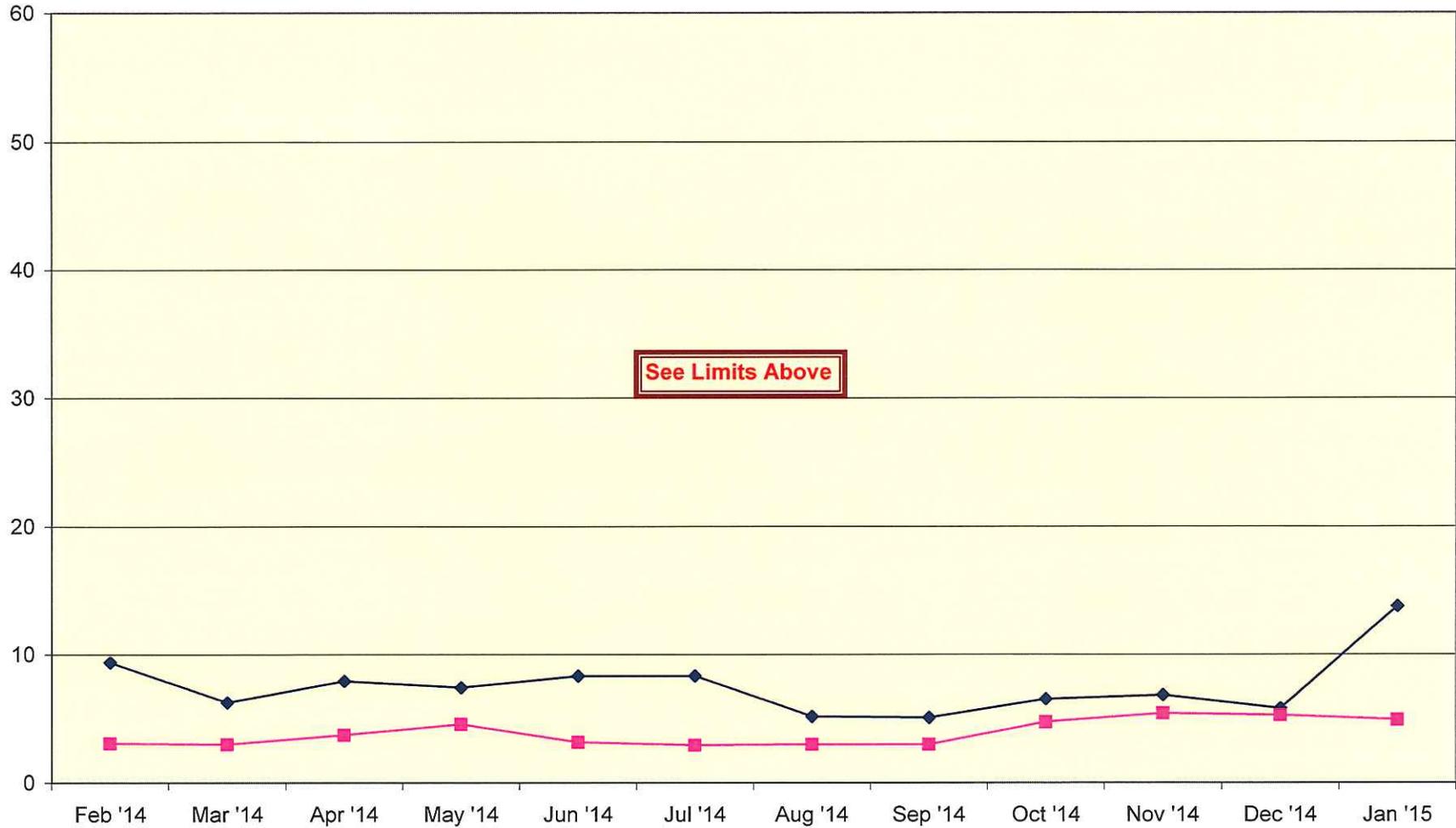
◆ BOD lbs ■ TSS lbs



Effluent BOD / TSS Concentration

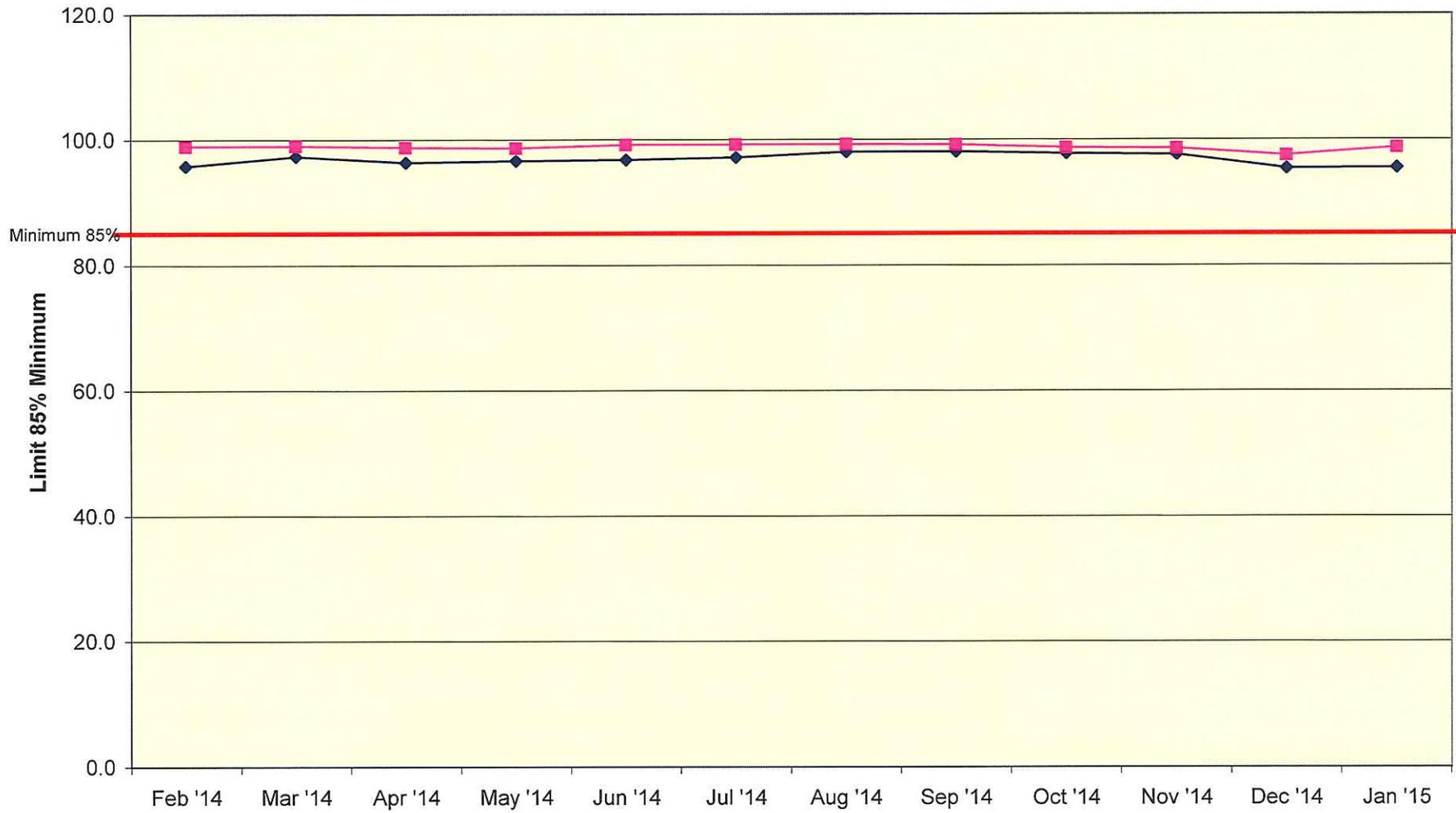
NPDES LIMITS WET SEASON
BOD & TSS - 30 mg/L Monthly Ave, 45 mg/L Weekly Ave
NPDES LIMITS DRY SEASON
BOD - 15 mg/L Monthly Ave, 30 mg/L Weekly Ave
TSS - 10 mg/L Monthly Ave, 20 mg/L Weekly Ave
WDR (Waste Discharge Requirements) RECLAMATION
BOD - 40 mg/L

◆ BOD ■ TSS



BOD / TSS Percent Removal

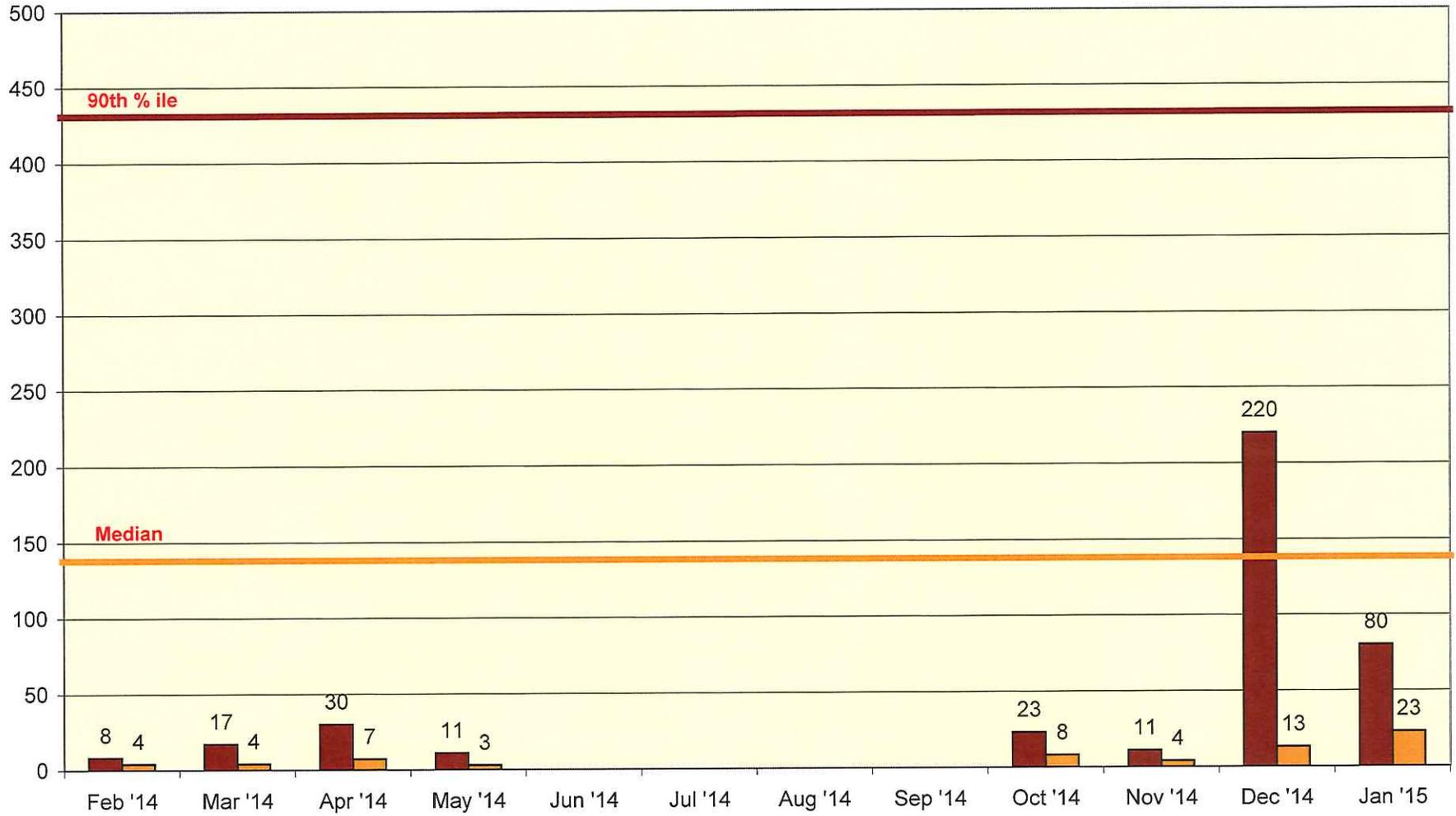
—◆— BOD —■— TSS



Disinfection - Fecal Coliform

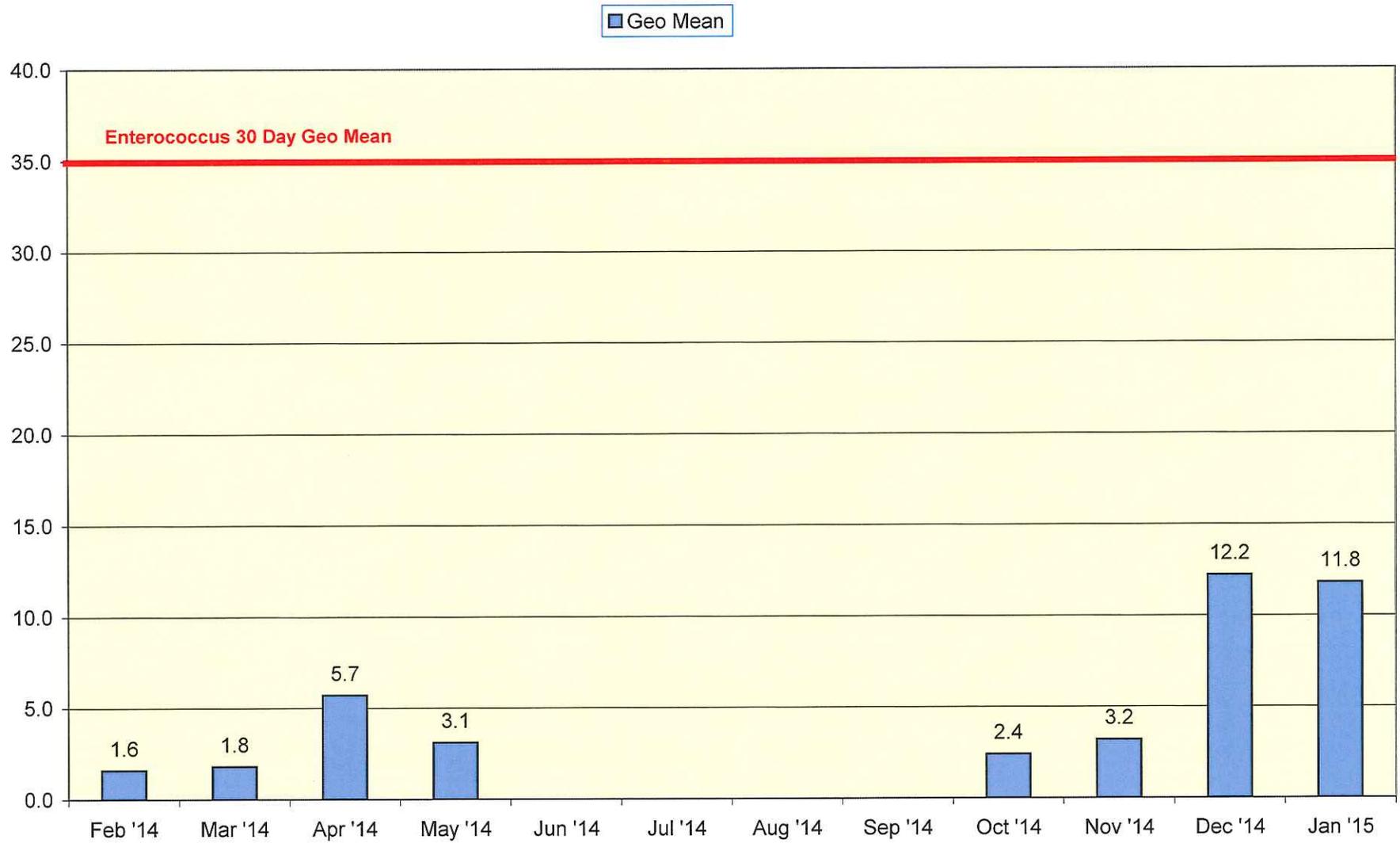
LIMITS - NPDES
Fecal 140 mpn monthly median
Fecal 430 mpn 90th percentile 30 day

90th % ile 30 day med



Disinfection - Enterococcus

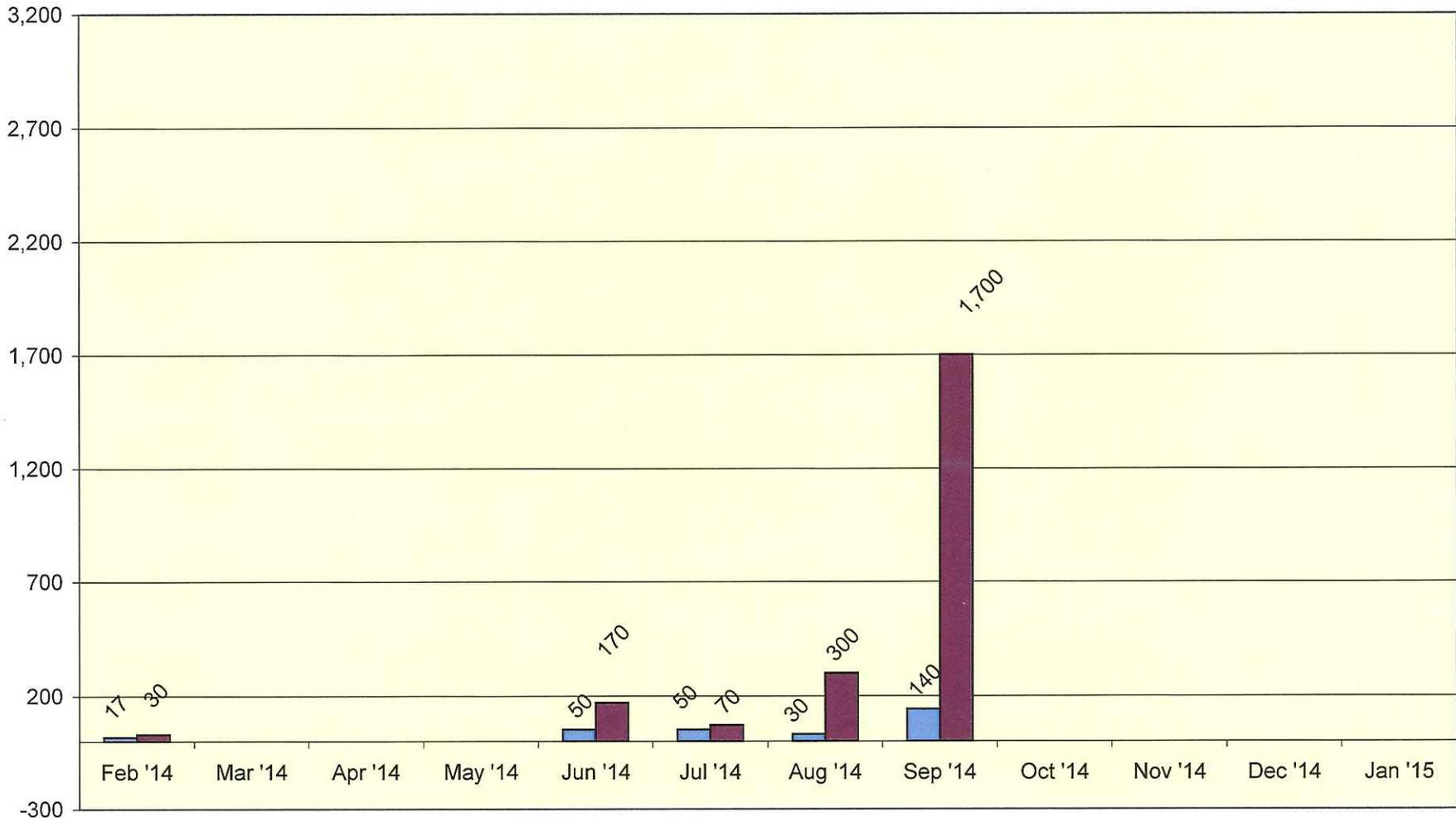
LIMITS - NPDES
Enterococcus 30 day geo mean 35 mpn /100ml



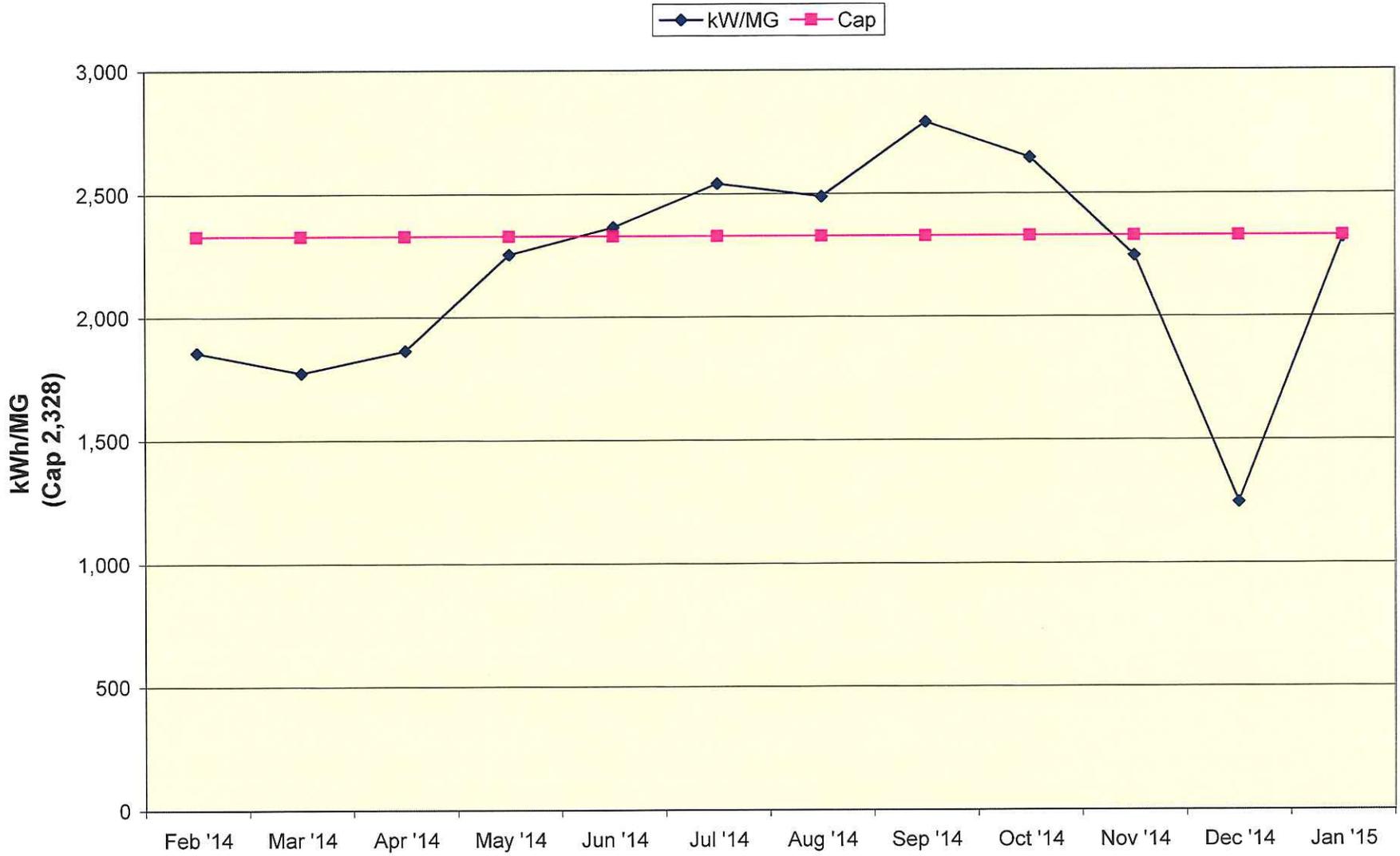
Disinfection - Total Coliform

TOTAL COLIFORM LIMITS - WDR
5 Sample Median - 240 mpn /100 ml
Maximum - 10,000 mpn/100 ml

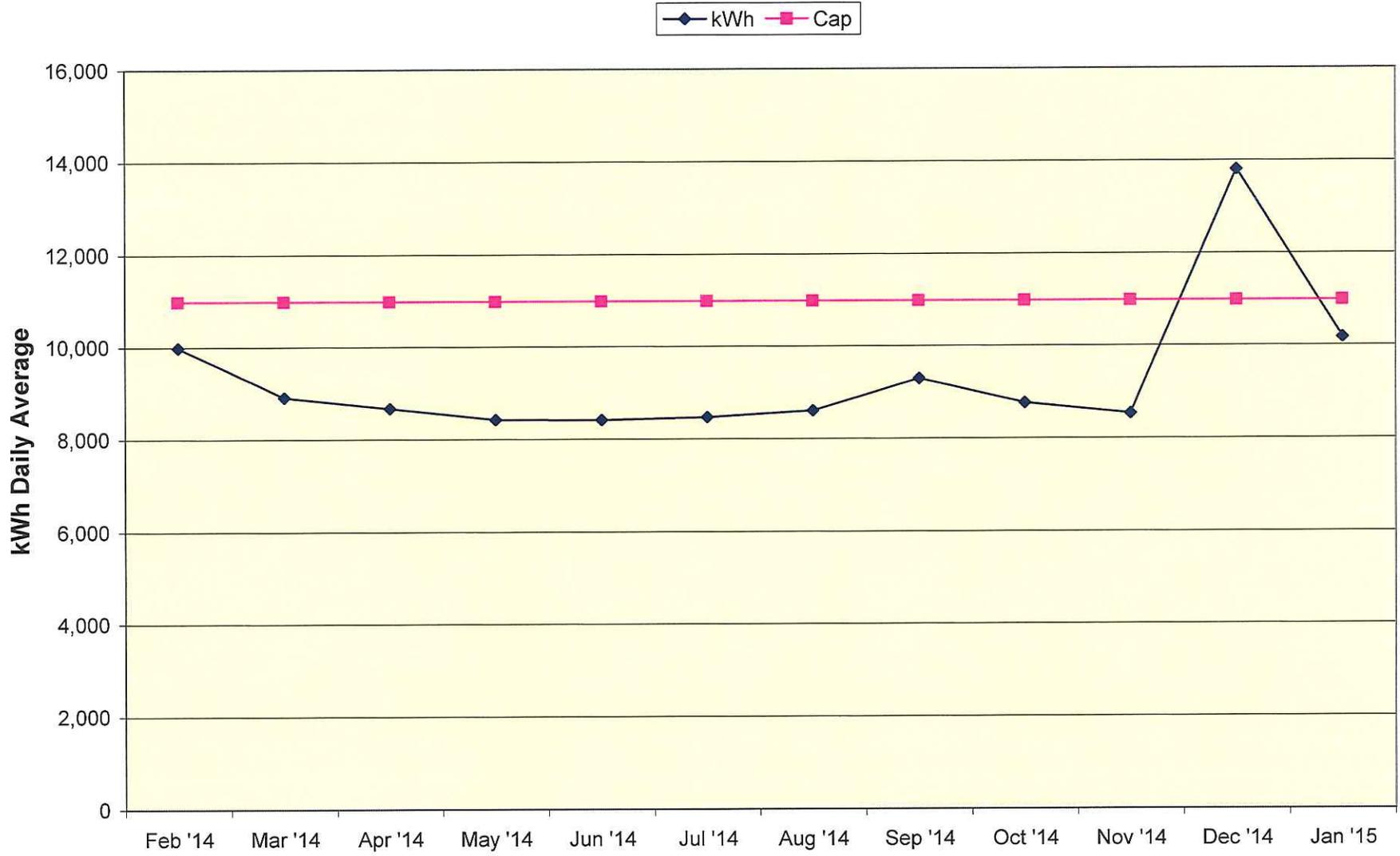
5 Sampl Med Monthly Max



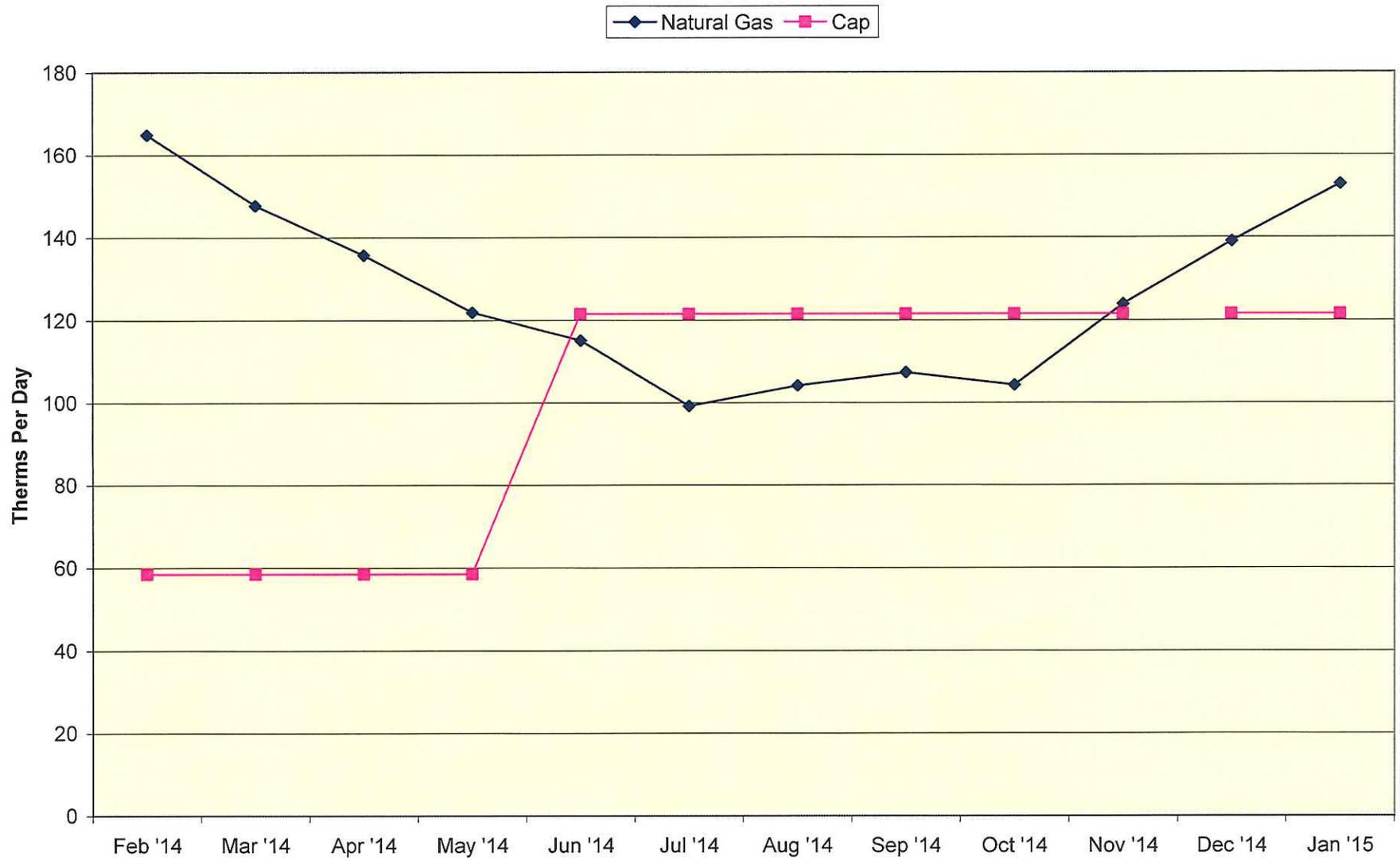
Energy kWh/MG



Energy kWh



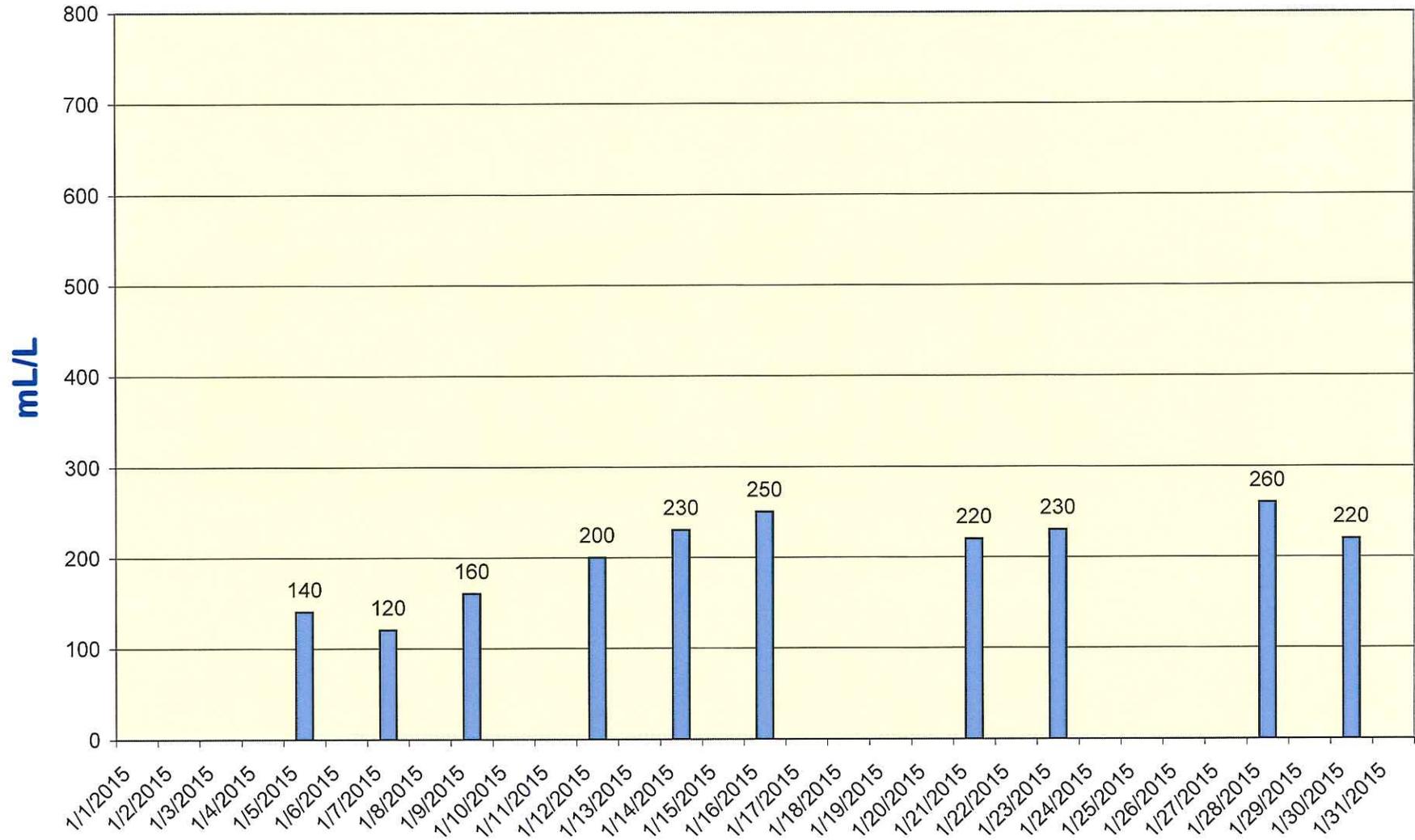
Natural Gas Use



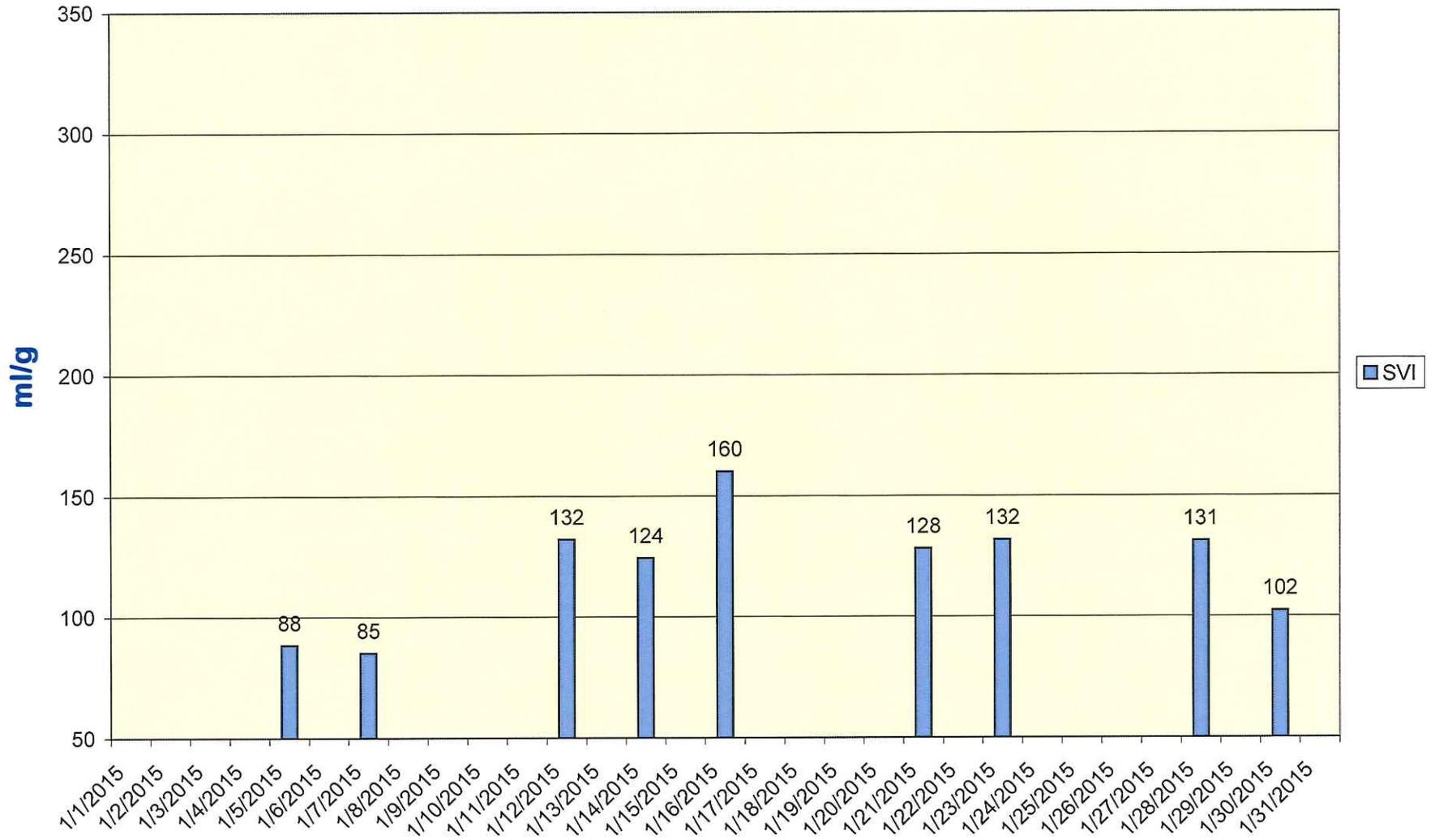
Process Control Data

	Influent Flow	Settleability	MLSS Concentration	MLSS Inventory	F:M Ratio	MCRT	SVI
1/1/2015	4.53						
1/2/2015	4.72						
1/3/2015	4.63						
1/4/2015	4.68						
1/5/2015	4.82	140	1,592	42,540	0.12	7.7	88
1/6/2015	4.68						
1/7/2015	4.71	120	1,418	37,891	0.10	7.5	85
1/8/2015	4.68						
1/9/2015	4.54	160					
1/10/2015	4.68						
1/11/2015	4.86						
1/12/2015	4.32	200	1,524	27,140		4.5	132
1/13/2015	4.71						
1/14/2015	4.18	230	1,852	32,983		7.1	124
1/15/2015	4.06						
1/16/2015	4.02	250	1,566	27,897		5.6	160
1/17/2015	4.10						
1/18/2015	3.99						
1/19/2015	4.66						
1/20/2015	4.53						
1/21/2015	4.18	220	1,725	30,730		7.1	128
1/22/2015	4.59						
1/23/2015	4.43	230	1,747	31,121		6.4	132
1/24/2015	4.43						
1/25/2015	4.59						
1/26/2015	4.36						
1/27/2015	3.97						
1/28/2015	3.87	260	1,981	35,290		7.5	131
1/29/2015	3.72						
1/30/2015	3.78	220	2,180	38,835		9.8	102
1/31/2015	3.88						
Minimum	3.72	120.00	1,418.00	27,140	0.10	4.5	85
Maximum	4.86	260	1,981	42,540	0.12	7.7	160
Total	128.24	1,810	13,404	265,593	0.22	53.4	981
Average	4.42	201	1,676	33,199	0.11	6.7	123

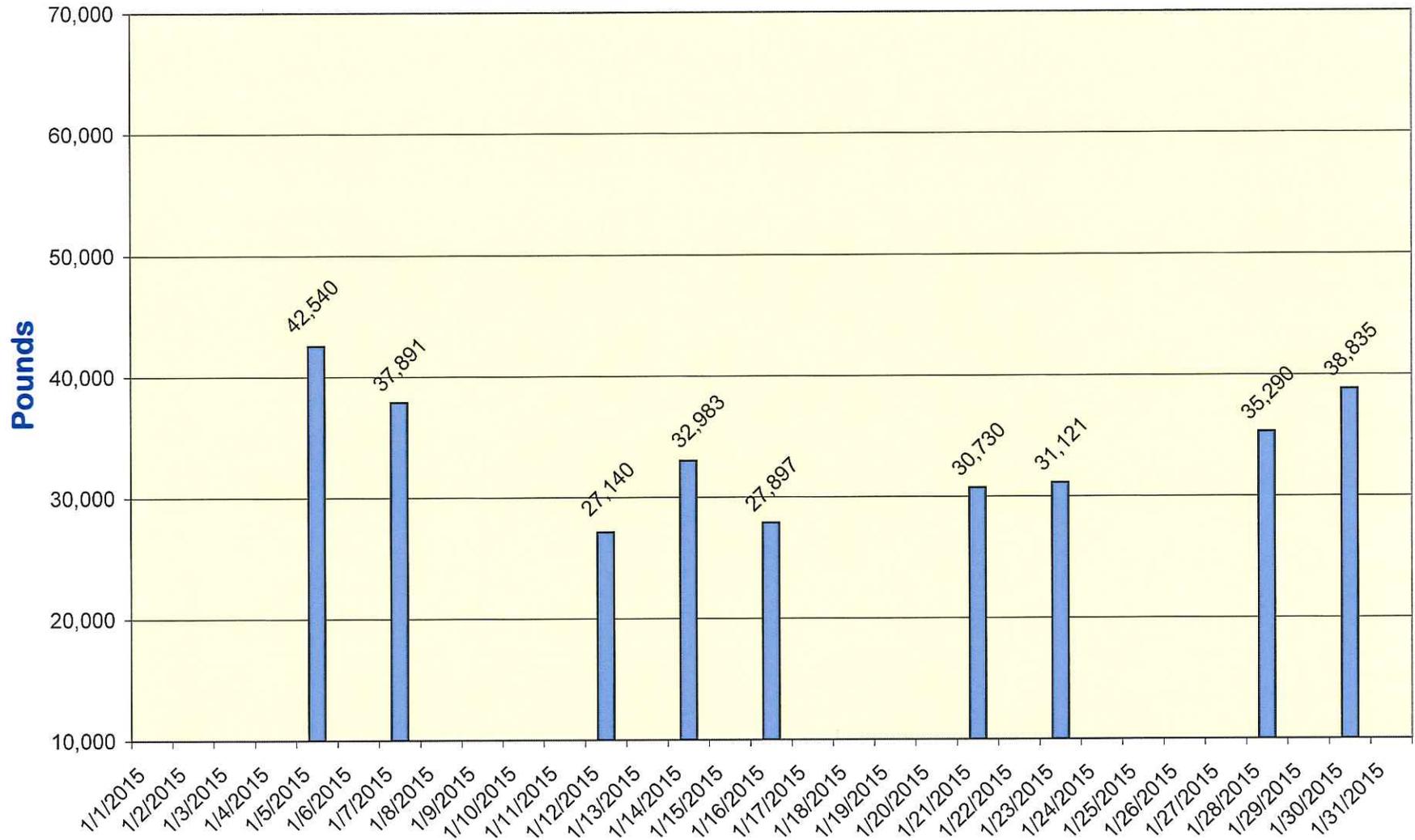
Settleability



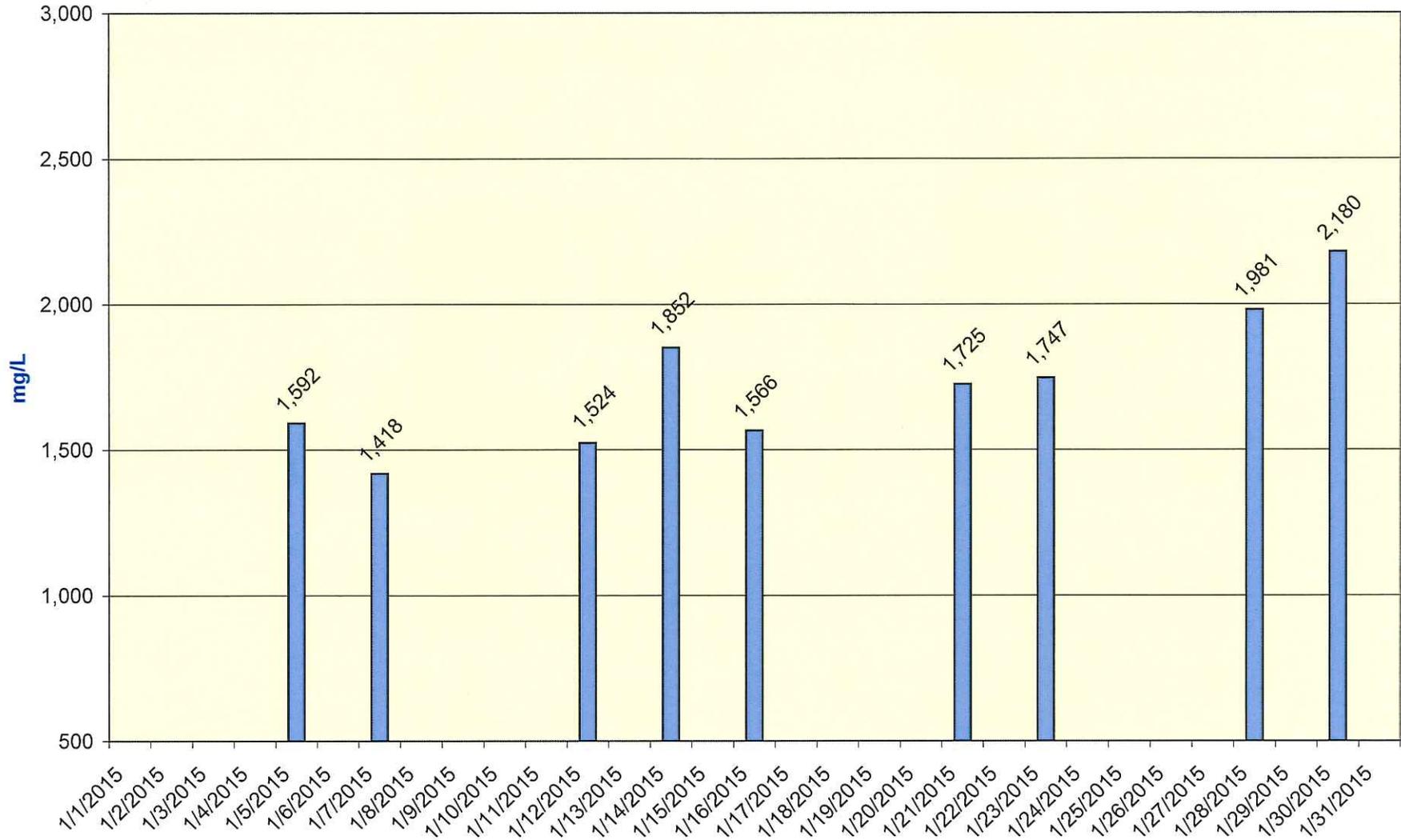
Sludge Volume Index



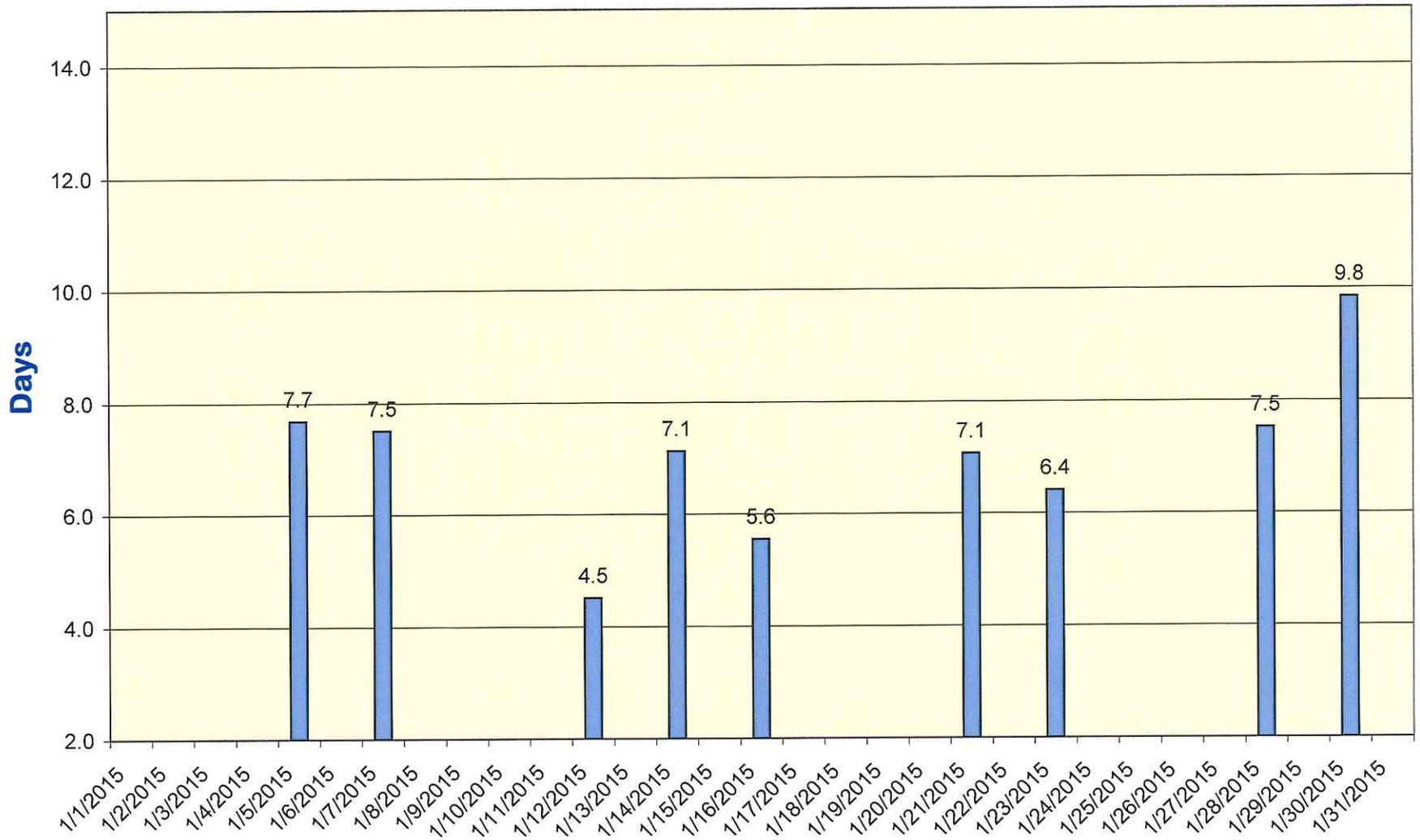
MLSS Inventory



MLSS Concentration

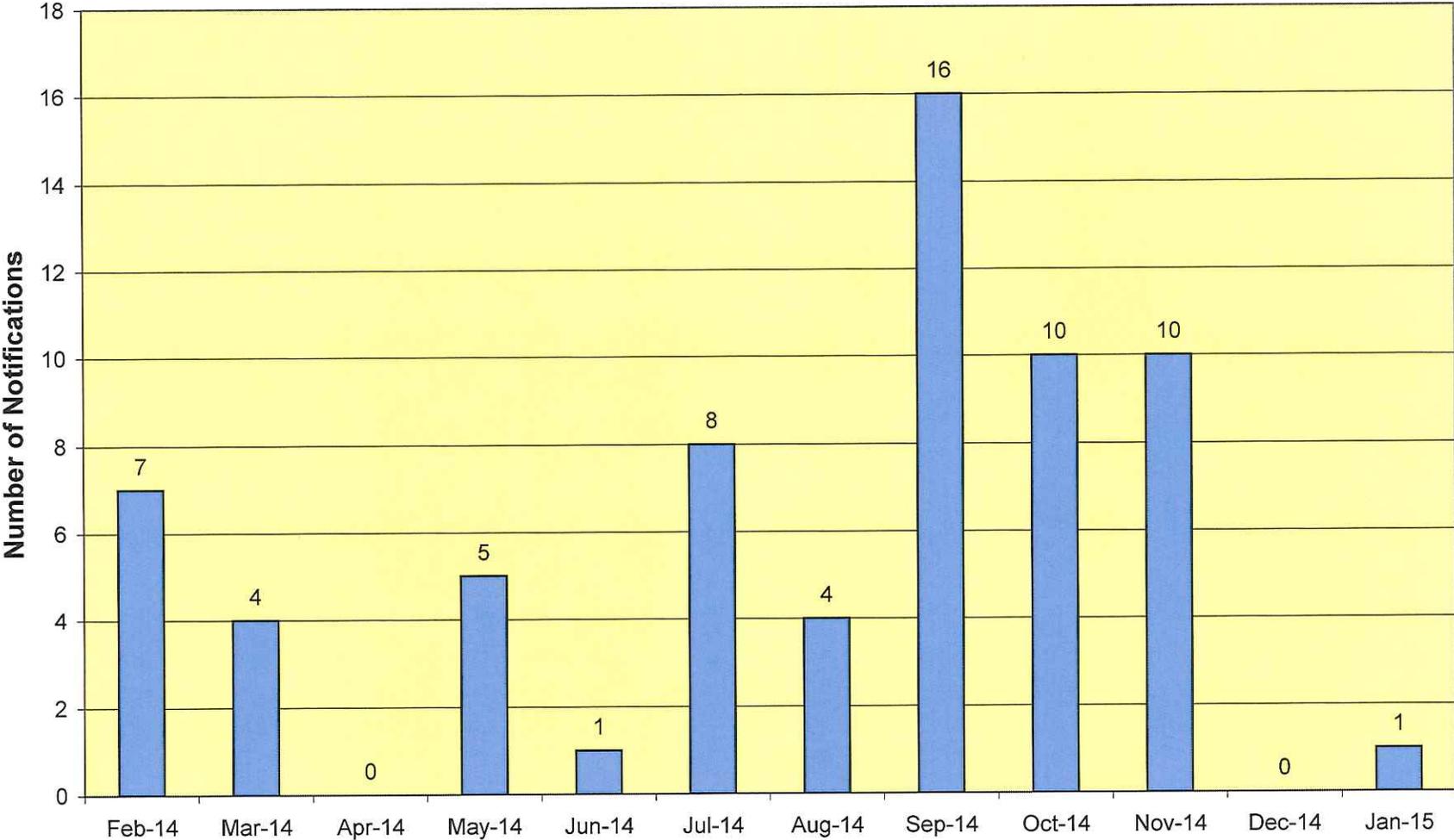


Mean Cell Residence Time



WORK ORDER STATISTICS						
January 1, 2015 - January 31, 2015						
	Open Work Orders Due Prior to 1/1/15	Open Work Orders 1/1/15 - 1/31/15	Total Open Work Orders			
Preventative	2	345	347			
Corrective	7	10	17			
Total	9	355	364			
	Closed Work Orders 1/1/15 - 1/31/15					
Preventative	240					
Corrective	8					
Total	248					
Total Outstanding Work Orders as of February 1, 2015	116					

Complaints / Contacts Received



NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Odor Control and Landscaping Report
January 2015

1.0 Background

The District continues to work on odor control and landscaping, specifically at the fence-line area next to the Lea Drive neighborhood, and at the northeast portion of the Novato Treatment Plant (NTP) site. As mentioned in prior reports, the District has already invested significant amounts beyond the substantial investment for odor control and landscaping from the original WWTP Upgrade Project. These additional costs have included operational changes, measures related to further odor control measures, noise abatement, visual screening, wind shielding, and daily monitoring.

2.0 Odor control

At their regular Board meeting of January 26, 2015, the District Board of Directors conducted a detailed tour of the entire wastewater treatment plant, with an emphasis on odor and odor control and management systems. The tour was facilitated by District and Veolia staff and included a review of the treatment processes in the plant and the various odor management techniques and systems.

Odor control related activities in January included:

- Trial installation of a new odor counteractant technique that broadcasts a water based non-toxic odor neutralizer (the Aqua-Fog system) in the vicinity of the aeration basins.
- Monitoring the performance of the media in the large odor control bed between primary clarifiers #1 & #2. The media was topped off in November, and appears to be performing very well.
- Operations staff continued to work to tweak the air flow input to the converted anoxic zones in the aeration basins, based on the prior testing by Dave McEwen of Brown and Caldwell (B&C), the District's odor consultant. The concept is to achieve optimum operating range(s) where odor causing compounds can be oxidized.
- Continued addition of an oxidizing agent, sodium hypochlorite, to the influent flow as needed with staff monitoring performance.

3.0 Landscaping

Staff continues to work with the District's landscaping contractor Cagwin and Dorward (C&D) on vegetation at the District's fence-line on Lea Drive and at the northeast corner area of the NTP. Staff also solicited bids to relocate the redwood trees in planter boxes along the eastern fence line of the plant site to the northeast corner of the plant site. Three bids were received and the contract was awarded to the low bidder Doughty Landscaping of Novato, CA in January. Depending on weather, the redwood re-plantings will occur in February.

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
January 2015**

1.0 General:

The breakdown of Collection System department staff time for January 2015, in terms of equivalent full-time employee (FTE) hours utilized, works out approximately as follows:

- 1.9 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.2 FTE field workers for Pump Station Maintenance
- 0.1 FTE field workers for Closed Circuit Television (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
- 2.3 FTE field workers Vacation/Sick Leave/Holiday

2.0 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 brief discussion is also provided below.

Line Cleaning Performance:

A total of 430 work orders were generated for January by the ICOM3 Computerized Maintenance Management System (CMMS). Staff completed 416 work orders leaving 14 work orders outstanding. The 416 maintenance work orders completed in December resulted in 78,863 feet of sewer pipelines cleaned by staff. The 14 outstanding work orders are all work orders for rodding which will be completed in February. Outside contractors also cleaned 1,349 feet of trunk sewer main line during the month.

For rodding work orders in easement areas, the crew inspected 32 line segments (6,378 feet) using the push camera in lieu of hand rodding, a more efficient, effective and less labor intensive method to insure that the sewer main is clear.

CCTV Performance:

The District's CCTV van was in the field for 2 working days, inspecting 24 line segments totaling 3,998 feet. Staff also televised 6,378 feet using the Push Cam. Outside contractors televised 1,349 feet of trunk sewer main line during the month.

CCTV production was low this month due to mechanical/electrical issues with the truck as well as staff availability for this activity.

CCTV Findings:

- Infrastructure related: The January CCTV work found one area (55 Frosty Lane) that will require repair. The repair work was completed in January.

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
January 2015**

- O&M related: The January CCTV work did not identify any areas that require a change in sewer line operations.

3.0 Pump Station Maintenance:

The Collection System Department conducted 249 lift station inspections this month. 121 of the inspection visits were generated through the District's JobsCal Plus CMMS system. There are 7 outstanding work orders for the month that will be completed in February.

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

4.0 Air Relief/Vacuum Valves (ARVs):

Staff completed maintenance inspections on 5 air relief/vacuum valves.

5.0 Safety and Training:

General: Collection System staff attended four safety tailgate meetings.

Specialized training: Collection System staff attended Crane and Rigging Safety training during the month of January

Safety performance: There were no lost time accidents this month for a total of 1,418 accident free days since the last lost time accident.

6.0 Minor Projects:

The District completed three repair projects under the informal contract provisions of the Uniform Public Construction Cost Accounting Act (UPCCAA), as follows:

14 Angelica Court: Replaced 12.5 feet of 6-inch sewer main in an easement in the backyard of 14 Angelica Court (Figure 1).



Figure 1- Tight working area at 14 Angelica Court

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
January 2015**

55 Frosty Lane: Placed a temporary repair on the 21” trunk sewer in an easement behind 55 Frosty Lane (Figure 2). As reported in January, on December 26th the District received a call reporting a sinkhole at the rear of 55 Frosty Lane. District staff inspected the site and determined that it was in close proximity to the District’s 21” trunk sewer serving the Ignacio area to the south. Staff also discovered that the trunk sewer was constructed of corrugated metal pipe (CMP). The District contracted with Roy’s Sewer Service to inspect the line by video camera without cleaning the line because cleaning might damage the CMP. The initial attempt to inspect the line by video camera was unsuccessful because the trunk sewer was full of rock and other debris (Figure 1), probably from the sinkhole. Since the sinkhole was in close proximity to the trunk sewer and the trunk sewer was full of rock and debris, staff scheduled an exploratory excavation and repair, if necessary, of the trunk sewer during the first week of January.

The District contracted with Maggiora & Ghilotti to excavate down to the trunk sewer and determine if there was a problem and if so, make the repair. Work commenced and after excavating down to the trunk sewer they found several large holes in the top of the trunk sewer. This section of trunk sewer was very brittle and the contractor and staff determined that it would be best to leave what remained of the pipe in place and fabricate a cover out of a piece of ribbed HDPE pipe to bridge over the brittle section (Figure 2). After securing the cover in place lightweight fill was placed over the repair.



Figure 2- Placing structural cover over trunk sewer

After the repair was complete, Roy’s Sewer Service came back to the site to gingerly clean and CCTV the entire 900 feet of corrugated metal pipe trunk sewer. Roy’s completed the work and ended up removing approximately 5 yards of debris from the trunk sewer including two volleyball size rocks. As a result of these findings, staff requested a proposal from Nute Engineering to prepare plans and specification to either pipeburst or replace the 900 feet of trunk sewer next summer.

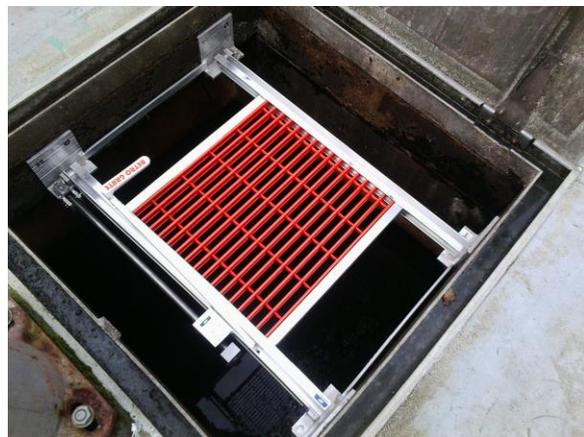


Figure 3 - Safety Grating in Wet Well Opening

Bahia Main Pump Station: Installed safety grating over the wet well opening at the Bahia Main Pump Station (Figure 3).

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
January 2015**

7.0 Standard Operating Procedures (SOPs):

Department staff generated two (2) SOPs during the month of January. In addition, a revised matrix tracking SOP development was created.

8.0 Sanitary Sewer Overflows (SSOs):

In January, there was one (1) SSO:

No.	Date	Location	Amount, gal	Cause/Probable Cause
1.	1/31/2015	5 Pivato Ct	126	Roots/Debris

1. SSO at 5 Pivato Ct.: This event was determined to be a Category III event since it was less than 1,000 gallons, fully contained, and did not reach a storm drain. As District staff did not observe this event, reporting party/local resident interviews and volumetric calculation were used to determine the volume and duration of this event. Total estimated discharge for this event is 126 gallons. District staff was not able to recover any of the discharge.

Staff concluded that the cause of this discharge was the result of root intrusion and debris in the line segment just below the discharge rodding inlet.

All reporting requirements were met for this event.

As part of the standard protocol for overflow events,



Figure 5- 5 Pivato Court Parking Lot

staff checked the records of the ICOMM CMMS Program to

determine when the last time the sewer mains were cleaned and the frequency of the cleaning. This line segment was last cleaned on schedule on July 5, 2012 using a hydro-flusher and was on a thirty-six (36) month cleaning frequency. The cleaning schedule has been changed to a 12 month cleaning frequency as a precautionary measure. CCTV inspection following the discharge event showed the line segment to have root intrusion at several points

in the line segment. The line segment will be added to the 2014/15 root abatement schedule.

This event was reported into the CIWQS database on February 10, 2015 as a Category III event, SSO Event ID # 813019 and was certified in CIWQS on February 10, 2015, Certification ID # 452039.

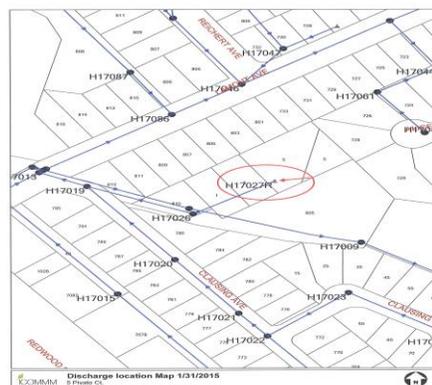


Figure 4 - 5 Pivato Court location map

Novato Sanitary District
Collection System Monthly Report For January 2015 (as of January 31, 2015)

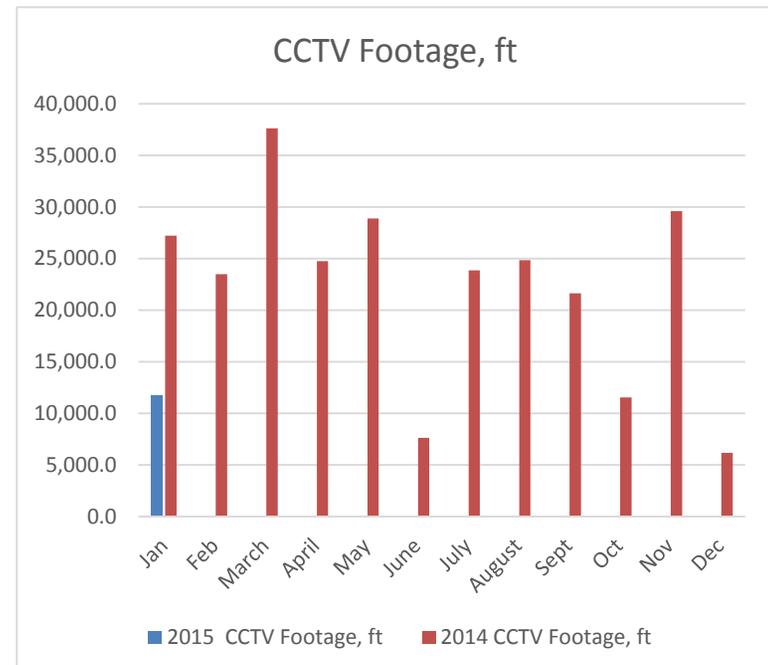
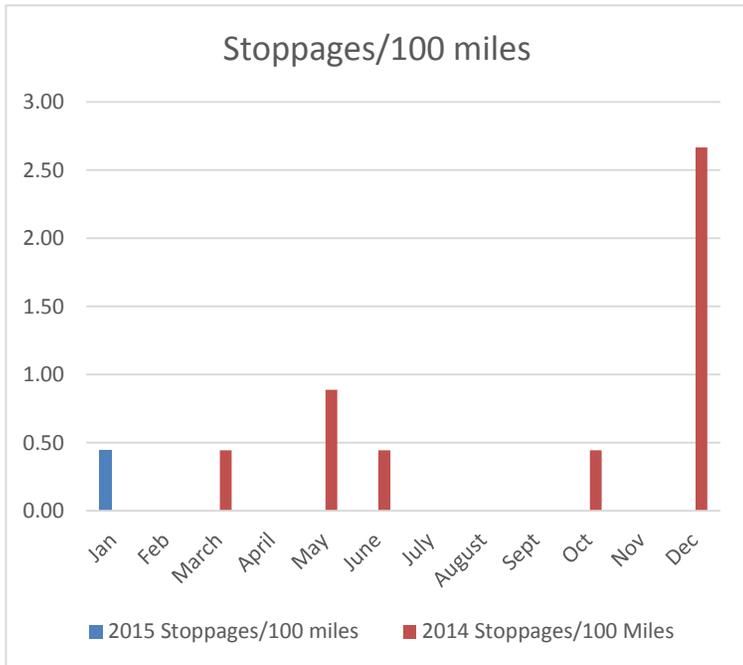
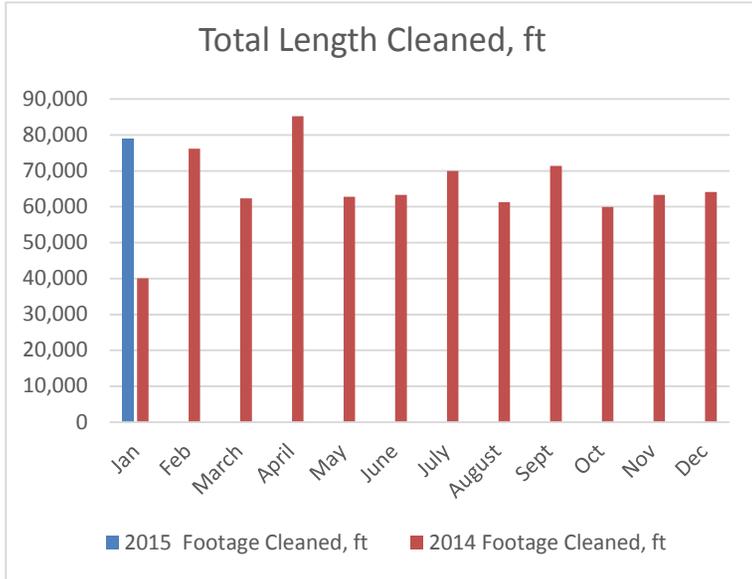
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
A. Employee Hours Worked														
Number of FTEs (main line cleaning), hrs.	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.2
Number of FTEs (other)	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.1
Number of FTEs (CCTV)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.0
Total, FTEs	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.3
Regular Time Worked, (main line cleaning), hrs	333													
Regular Time Worked on Other, hrs (1)	281													
Regular Time Worked on CCTV (2)	15													
Total Regular time, worked, hrs	628	0	0	0	0	0	0	0	0	0	0	0	628	52
Total Vacation/Sick Leave/Holiday, hrs	403												403	403
Vacation/Sick Leave/Holiday, FTEs	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.2
Overtime Worked on Coll. Sys., hrs	3												3	3
Overtime Worked on Other, hrs (1)	14												14	14
Overtime Worked on CCTV (2)	0												0	0
Total Overtime, hrs	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17	17
B. Productivity														
1. Line Cleaning														
Rodder Work Orders generated	90												90	90
Rodder 3208 ft. cleaned	15,611												15,611	15,611
Rodder - outside services, ft cleaned	0												0	0
Flusher Work Orders generated	340												340	340
Truck 3205V ft. cleaned	107												107	107
Truck 3206V ft. cleaned	63,145												63,145	63,145
Flusher - outside services, ft. cleaned	1,349												1,349	
Total Footage cleaned(3)	78,863	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	78,863	78,863
Work Orders completed	416												416	416
Work Orders backlog	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	14
2. Closed Circuit Television (CCTV)														
Camera Work Orders generated	0												0	
CCTV Truck 3126T, ft. videoed	3,998												3,998	3,998
CCTV (hand cam), ft. videoed	6,378												6,378	
CCTV Inspection - outside services, ft. videoed	1,349												1,349	
Total CCTV footage(3)	11,725	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11,725	
C. Sanitary Sewer Overflows (SSOs)														
Minor (Category III)	1												1	NA
Major (Category II)	0												0	NA
Major (Category I)	0												0	NA
Overflow Gallons	126												126	NA
Volume Recovered	0												0	NA
Percent Recovered	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0%	NA
D. Service Calls (non-SSO related)														
Service calls, normal hours, #	10												10	10
Normal hours S.C. response time, mins (avg.)	22												22	22
Service Callouts, after hours, #	1												1	1
After Hours S.C. response time, mins (avg.)	33												33	33
E. Benchmarks														
Average Ft. Cleaned/Hour Worked	237	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	237
Total Stoppages/100 Miles	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	NA
Average spill response time (mins)	28												NA	28
Callouts/100 Miles	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Overtime hours/100 Miles	1	0	0	0	0	0	0	0	0	0	0	0	1.11	0
Overflow Gallons/100 Miles	55	0	0	0	0	0	0	0	0	0	0	-	55	5

(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 2014-15 Graphs



**COLLECTION SYSTEM (Pump Stations)
WORK ORDER STATISTICS
January 1, 2015 - January 31, 2015**

	Open Work Orders Due Prior to 1/1/2015	Open Work Orders 1/1/2015 - 1/31/2015	Total Open Work Orders
Preventive	4	121	125
Corrective	0	0	0
Total	4	121	125

	Closed Work Orders 1/1/2015 - 1/31/2015
Preventive	121
Corrective	0
Total	121

Total Outstanding Work Orders as of 1/31/2015	4
--	----------

NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Reclamation Facilities Report
January 2015

1.0 Summary:

The rancher applied weed suppressant around sprinkler heads on some Parcels in the Reclamation area. The contractor for the Drainage Pump Station Improvement Project began on site work this month. There were no irrigation or sludge handling activities.

2.0 Ranch Operations:

The rancher applied weed suppressant around sprinkler heads on various Parcels throughout Reclamation. There were no other ranching activities.

3.0 Irrigation Parcels:

The remainder of rainwater from the December rain events that accumulated on the Parcels in Site 2 was pumped out of Reclamation. After the water levels subsided, staff



Figure 1. – Rain water pumping at Site 2



Figure 2 – Typical Pipe Support at Drainage Pump Stations

found a culvert which is either plugged or collapsed, and is causing rainwater to accumulate in the ditch along the line of eucalyptus trees on Site 2. This water was backing up and flowing across an access road and into Parcel 1. Staff set up a temporary portable pump to move the rain water around the culvert (Figure 1). The Drainage Pump Stations pumped approximately 179 MG of rainwater in January despite no rain in January.

The Drainage Pump Station Improvement Project contractor began on-site work and installed a majority of the structural steel for the new pipe supports (Figure 2). New flap gates and debris fencing around the pump wells at each station remain to be installed.

4.0 Irrigation Pump Station:

There was no irrigation activity this month.

5.0 Sludge Handling & Disposal:

There was no sludge handling activity this month.

NOVATO SANITARY DISTRICT
Reclamation Facility - Monthly Statistics for Calendar Year 2015, as of January 2015

	January	February	March	April	May	June	July	August	September	October	November	December	Total Year to Date	Annualized Monthly Average
Irrigation Pump Station														
Plant flow to ponds (MG)	0												-	0.00
Irrigation (MG)	0												-	0.00
Irrigation Pump 1 Hours													-	0.00
Irrigation Pump 2 Hours													-	0.00
Irrigation Pump 3 Hours													-	0.00
Washdown Water Pump Hours													-	0.00
Wildlife Feed Pump Hours													-	0.00
Water Circulated through Wildlife Pond (MG)	0	0	0	0	0	0	0	0	0	0	0	0	-	0.00
Strainer No. 1 Hours													-	0.00
Strainer No. 2 Hours													-	0.00
Pond 1 Gauge @ Beginning of Month	5.4													
Pond 1 Gauge @ End of Month	5.4													
Pond 1 Gallons Stored @ End of Month(MG)	39.2													
Pond 2 Gauge @ Beginning of Month	5.5													
Pond 2 Gauge @ End of Month	5.5													
Pond 2 Gallons Stored @ End of Month(MG)	52													
Total Irrigation Water Stored	91.2	0	0	0	0	0	0	0	0	0	0	0		
Drainage Pump Station No. 3														
Drainage Pump No. 1 Hours	0													
Drainage Pump No. 2 Hours	0													
Drainage Pump No. 3 Hours	100.3													
Total Gallons Stormwater Pumped (MG)	30.09	0	0	0	0	0	0	0	0	0	0	0	30.09	2.51
Drainage Pump Station No. 7														
Drainage Pump No. 1 Hours	331.6													
Drainage Pump No. 2 Hours	0													
Drainage Pump No. 3 Hours	0													
Total Gallons Stormwater Pumped (MG)	149.22	0	0	0	0	0	0	0	0	0	0	0	149.22	12.44