

## NOVATO SANITARY DISTRICT

Meeting Date: May 19, 2014

The Wastewater Operations Committee of the Novato Sanitary District will hold a meeting at 2:00 PM, Monday, May 19, 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 APRIL 21, 2014 MEETING**

**4. WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR APRIL 2014:**

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

**5. COLLECTION SYSTEM OPERATIONS AND MAINTENANCE REPORT FOR APRIL 2014:**

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

**6. RECLAMATION FACILITY REPORT FOR APRIL 2014**

- 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.***

April 21, 2014

A regular meeting of the Wastewater Operations Committee of Novato Sanitary District was held at 2:00 p.m., Monday, April 21, 2014, at the District Office, 500 Davidson Street, Novato.

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

**STAFF PRESENT:** Sandeep Karkal, Manager-Engineer  
Steve Krautheim, Field Services Superintendent  
John Bailey, Project Manager, Veolia Water  
Julie Swoboda, Administrative Secretary  
*(Tim O'Connor, Collections System Supervisor was absent.)*

**ALSO PRESENT:** Lynda Rodefer, Administrative Manager, Veolia Water  
Brian Exberger, Assistant Project Manager, Veolia Water  
*(arrived at 2:33PM)*

**AGENDA APPROVAL:** Approved as presented

**PUBLIC COMMENT:** None.

**APPROVAL OF MEETING MINUTES FOR MARCH 17, 2014:** The March 17, 2014 meeting minutes were approved as written.

**WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR MARCH 2014:**

**- 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 March. He stated there were no permit exceedances, violations or excursions for the month. He noted that the recycled water plant was off line in March and that no recycled water was produced. 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. Mr. Bailey reviewed the treatment facilities charts and graphs, and noted the inclusion of a new parameter chart on the peak wet weather flow.

Mr. Bailey reported that Veolia employees have been accident free for a total of 1,397 days/63,703 hours. He stated that Jerome Meter (H<sub>2</sub>S) readings continue to be taken within the treatment plant as well as in the Lea Drive neighborhood area. He stated that four odor notifications were received in March, all during a wet weather event.

**- Odor control, noise, and landscaping report:** Manager-Engineer Sandeep Karkal stated that noise complaints no longer appear to be an issue. Therefore the current (and

future) reports will not include any further reference to this issue, and it has been closed out. He stated that the earlier recommendation by Mr. McEwen (of Brown & Caldwell, the District's odor consultant) i.e. converting anoxic zones B and C at the aeration basins to aerobic zones, were implemented in February and that results thus far have been good. The Manager noted that testing and validation of Mr. McEwen's recommendations would be deferred until summer, since testing during warm weather conditions will present a more appropriate "worst-case" testing scenario.

The Manager reported that staff is considering an option where the remaining redwood trees that have been in boxes will be permanently placed near the Lea Drive fence-line to provide visual and odor screening as the trees mature.

### **COLLECTION SYSTEMS OPERATION AND MAINTENANCE REPORT FOR MARCH 2014:**

The Manager-Engineer discussed the Collection Systems Monthly Report for March 2014 on behalf of Tim O'Connor who was not present. He reported that the Collection Systems crew cleaned a total of 62,317 feet of sewer pipeline and that the department completed 393 maintenance work orders which were generated in March. The Manager stated that the District's CCTV van (Closed Circuit TV) televised 191 line segments for 31,116 feet of production and he reviewed the CCTV findings.

The Manager stated that one spot repair was completed on San Domingo Dr. as part of the ongoing Collection Systems repair projects. He stated that one sanitary sewer overflow occurred on March 30<sup>th</sup> on San Luis Ct. with an estimated volume of approximately 180 gallons. The discharge was determined to be the result of a partial root blockage in the main line.

The Manager noted that as of March 31<sup>st</sup>, the Collections Department and the District have worked accident free for a total of 1,112 days. He stated that departmental staff continues to work on generating Standard Operating Procedures (SOP's) and Emergency Operating Procedures (EOP's).

### **RECLAMATION FACILITY REPORT FOR MARCH 2014:**

Field Services Superintendent Steve Krautheim presented the Reclamation Facilities report for March. He stated that there were no rancher or irrigation activities during the month. Mr. Krautheim stated that the motor from Irrigation Pump No. 2 was installed and tested.

### **ADJOURNMENT:**

There being no further business to come before the Committee, the meeting adjourned at 2:50 p.m. The next Wastewater Operations Committee meeting will be held on Monday, May 19, 2014.

Respectfully submitted,

Sandeep Karkal  
Manager-Engineer

Julie Swoboda, Recording

DRAFT



May 14, 2014

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

**Subject: Veolia Water Operations Report – April 2014**

Dear Mr. Karkal:

I am pleased to provide this updated activity report for April 2014.

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". The signature is fluid and cursive, with a large loop at the end.

John Bailey  
Project Manager, Veolia

**MONTHLY OPERATIONS REPORT  
April 2014**

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: April 2014:**

**Bay Discharge – NPDES Limits**

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	4.65	7.87	N/A	N/A
Max Peak Hour, MGD – 4/1/14, 1800 Hours	N/A	10.6	N/A	N/A
Influent BOD <sub>5</sub> , lb/day (month ave/max)	8,718	14,660	N/A	N/A
Influent TSS, lb/day (monthly ave/max)	11,872	18,468	N/A	N/A
Effluent BOD <sub>5</sub> , mg/L (monthly ave/weekly max)	<8	13	30	45
Effluent TSS, mg/L (monthly ave/weekly max)	<4	4	30	45
Effluent BOD <sub>5</sub> - % 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)	1.05	4.77	6	21
pH, su (min / max)	6.8	7.1	6.5	8.5
Enterococcus, mpn (30 day geo mean)	5.7	N/A	35	N/A
Fecal Coliform, mpn (30 day median)	7	N/A	140	N/A
Fecal Coliform, mpn (90 <sup>th</sup> percentile)	30	N/A	430	N/A
Total Coliform, mpn (5 Sample Median / Max)	N/A	N/A	240	10,000
<b>Total Permit Exceedances (NPDES)</b>	0			

NA – Not Applicable

Discussion of Violations / Excursions: NONE

**Title 22 - Recycled Water Production and Quality (Off Line)**

Description	Units	Value	Limit
Volume Produced	Million Gallons	1.97	N/A
Average Turbidity	NTU	1.5	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	9.0	1.0
Maximum Total Coliform	mpn/100 ml	<2	2

Total Rainfall. – 1.16 inches

Daily Max 4/1 – 0.54 inches

**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 April 2014
- Accident Free: 6/1/10 – 4/30/13: 1,427 days / 64,215 hours
- Office Safety
- Confined Space Refresher
- Reviewed New SOP on Temporary Shut Down of RWP Filters

**OPERATIONS & MAINTENANCE STATUS / REVIEW:**

**Key events for the period:**

**Novato**

- Routine rounds, readings and maintenance
- Performed annual diesel fuel sampling and filtering
- Installed (3) breakers and GFI receptacles in Moisture Control Panel – Foul Air Biofilters
- Installed new irrigation system – Foul Air Biofilters
- Assisted NSD lab with ELAP inspection
- Installed digester sludge transfer pump flush line
- Replaced UV transmittance sample pump
- Issued Purchase order for SCADA system upgrade – WIN-911/Pro
- #3 Waterline repairs around treatment plant and in Aeration Basin #3
- Remounted Aeration Basin 3-B mixer
- Overhauled sludge recirculation pump – Digester #2
- Cleaned Heat Exchanger #2
- UV Disinfection system bulb maintenance completed

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

- Primary Clarifier #1 (not needed at current flows)
- Secondary Clarifier #1 (not needed at current flows)

**Ignacio Transfer Pump Station**

- Routine rounds, readings and maintenance
- Performed annual diesel fuel sampling and filtering
- Repair odor bed fan
- Began Bioxide feed.

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

- None

**Recycled Water Plant (RWP)**

- Contractor finished installation of baffles in chlorine contact tank
- Assisted Engineer with Dye Tracer Study – Chlorine Contact Tank
- Performed plant rounds and maintenance
- Plant start up April 14<sup>th</sup>

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

- None

**Sludge Lagoons**

- Performed routine rounds and inspection
- Installed rubber mats on walkways – eliminating slip hazards

**ADMINISTRATION:**

- March Electronic Self Monitoring Report submitted on April 30, 2014
- March DMR submitted on April 29, 2014

**ODORS:**

- Jerome Meter (H<sub>2</sub>S) readings performed in neighborhood and within treatment plant.
- Reviewed findings with neighbors

**MISCELLANEOUS**

- Process Control Management Plan (PCMP) meetings held weekly.

**Veolia Support Staff On/Off Site (Various Times)**

John O'Hare	Technical Support
Chris McAuliffe	District Manager
Dan Brown	Technical Manager Asset Management Group
Mel Demsky	Regional Director of Asset Management

Novato Sanitary District  
BOD/TSS Report



April, 2014

Date	Flow MGD	Influent				Effluent				BOD % Removal PERCENT	TSS % Removal PERCENT
		BOD		TSS		BOD		TSS			
		mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d		
04/01/14	7.87	174	11,421	209	13,718	6	394	5	328	96.6	97.6
04/02/14	6.69	181	10,099	331	18,468	7	391	5	279	96.1	98.5
04/03/14	6.18										
04/04/14	6.37										
04/05/14	5.87	145	7,099	203	9,938	<5	<245	<3	<147	96.6	98.5
04/06/14	5.52	181	8,333	228	10,496	<5	<230	3	138	97.2	98.7
04/07/14	4.83	163	6,566	243	9,789	<5	<201	4	161	96.9	98.4
04/08/14	4.88	222	9,035	356	14,489	<5	<203	<3	<122	97.7	99.2
04/09/14	4.63										
04/10/14	4.73										
04/11/14	4.17										
04/12/14	4.32										
04/13/14	4.18										
04/14/14	4.49	190	7,115	357	13,368	6	225	<3	<112	96.8	99.2
04/15/14	4.40	212	7,780	276	10,128	19	697	3	110	91.0	98.9
04/16/14	4.28			296	10,566			3	107		99.0
04/17/14	4.52										
04/18/14	3.83										
04/19/14	4.21										
04/20/14	4.28										
04/21/14	4.21										
04/22/14	3.85	197	6,325	321	10,307	<5	<161	4	128	97.5	98.8
04/23/14	3.74	470	14,660	393	12,258	10	312	4	125	97.9	99.0
04/24/14	3.61	308	9,273	358	10,778	10	301	4	120	96.8	98.9
04/25/14	3.93										
04/26/14	3.88										
04/27/14	4.00										
04/28/14	4.27	259	9,223	404	14,387	<5	<178	4	142	98.1	99.0
04/29/14	3.94	238	7,821	289	9,496	18	591	4	131	92.4	98.6
04/30/14	3.93	223	7,309	302	9,898	8	262	4	131	96.4	98.7
<b>Weekly Averages</b>											
04/05/14	Week 1	167	4,327	248	6,369	6	156	4	114		
04/12/14	Week 2	189	3,619	276	5,258	5	96	3	64		
04/19/14	Week 3	201	3,378	310	5,150	13	209	3	50		
04/26/14	Week 4	325	4,575	357	5,041	8	117	4	56		
	Week 5										
<b>Monthly</b>											
Minimum	3.61	145	6,325	203	9,496	<5	<73	<3	49	91	98
Maximum	7.87	470	14,660	404	18,468	19	316	5	149	98	99
Total	139.61										
Average	4.65	226	8,718	304	11,872	<8	<142	<4	<69	96	99

Novato Sanitary District  
Conventional Pollutants Report



April, 2014

Date	INFLUENT - A001			Effluent - E002							
	Flow Total	pH	Ammonia	Coliform / Bacteria			pH	Ammonia	Unionized Ammonia	Oil & Grease	Temp
				Fecal	Entero	Total					
	MGD	su	mg/L	MPN/100 mL			su	mg/L	mg/L		Deg C
04/01/14	7.87	7.1	24	8.0	5.1		6.8	2.54			18.3
04/02/14	6.69	6.7	20	<2.0	2.0		6.9	1.17			18.4
04/03/14	6.18	6.8					7.0	0.14			18.7
04/04/14	6.37	6.9	24	2.0	2.0		7.0	0.08			18.8
04/05/14	5.87		22					0.10		<1.4	
04/06/14	5.52		22					0.12			
04/07/14	4.83	6.8	24	4.0	3.0		7.0	0.14	0.00055		20.4
04/08/14	4.88	6.9	29	4.0	1.0		7.0	0.09			20.4
04/09/14	4.63	7.3		2.0	<1.0		7.0				19.9
04/10/14	4.73	7.1					7.0				20.1
04/11/14	4.17	7.0					7.0				20.1
04/12/14	4.32										
04/13/14	4.18										
04/14/14	4.49	7.4	29	7.0	17.3		7.0	0.46			20.0
04/15/14	4.40	7.0	28	30.0	12.1		7.0	0.40			19.9
04/16/14	4.28		25	50.0	45.7		7.0	0.14			20.7
04/17/14	4.52	6.8					7.0				21.0
04/18/14	3.83	7.3					7.0				21.0
04/19/14	4.21										
04/20/14	4.28										
04/21/14	4.21	6.8					7.0				20.7
04/22/14	3.85	7.0	28	23.0	7.5		7.1	0.41			20.2
04/23/14	3.74	7.6	31	13.0	5.2		7.0	0.31			20.5
04/24/14	3.61	7.4	33	23.0	23.3		7.0	1.30			20.5
04/25/14	3.93	6.8					7.0				20.8
04/26/14	3.88										
04/27/14	4.00										
04/28/14	4.27	7.4	37	<2.0	4.1		6.9	4.77			20.8
04/29/14	3.94	7.4	30	11.0	112.6		7.0	4.28			21.2
04/30/14	3.93	6.8	29	4.0	<1.0		7.0	1.42			21.9
<b>Monthly</b>											
Minimum	3.61	6.7	20	<2.0	<1.0		6.8	0.08			18.3
Maximum	7.87	7.6	37	50.0	112.6		7.1	4.77	0.00055	<1.4	21.9
Total	139.61										
Average	4.65	7.1	27				7.0	1.05	0.00055	<1.4	20.2

# Novato Plant : Bacterial Results

## EFFLUENT: E-002 Station

Apr-14

<b>Fecal Coliform</b>		<b>Enterococcus</b>	
(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

April 1, 2014		<b>8</b>	
April 2, 2014	<	<b>2</b>	
April 3, 2014			
April 4, 2014		<b>2</b>	
April 5, 2014			
April 6, 2014			
April 7, 2014		<b>4</b>	
April 8, 2014		<b>4</b>	
April 9, 2014		<b>2</b>	
April 10, 2014			
April 11, 2014			
April 12, 2014			
April 13, 2014			
April 14, 2014		<b>7</b>	
April 15, 2014		<b>30</b>	
April 16, 2014		<b>50</b>	
April 17, 2014			
April 18, 2014			
April 19, 2014			
April 20, 2014			
April 21, 2014			
April 22, 2014		<b>23</b>	
April 23, 2014		<b>13</b>	
April 24, 2014		<b>23</b>	
April 25, 2014			
April 26, 2014			
April 27, 2014			
April 28, 2014	<	<b>2</b>	
April 29, 2014		<b>11</b>	
April 30, 2014		<b>4</b>	

90th Percentile Ranking	
Sample #1	<b>&lt;2</b>
Sample #2	<b>&lt;2</b>
Sample #3	<b>2</b>
Sample #4	<b>2</b>
Sample #5	<b>4</b>
Sample #6	<b>4</b>
Sample #7	<b>4</b>
Sample #8	<b>7</b>
Sample #9	<b>8</b>
Sample #10	<b>11</b>
Sample #11	<b>13</b>
Sample #12	<b>23</b>
Sample #13	<b>23</b>
Sample #14	<b>30</b>
Sample #15	<b>50</b>
Sample #16	

April 1, 2014		<b>5.1</b>	
April 2, 2014		<b>2.0</b>	
April 3, 2014			
April 4, 2014		<b>2.0</b>	
April 5, 2014			
April 6, 2014			
April 7, 2014		<b>3.0</b>	
April 8, 2014		<b>1.0</b>	
April 9, 2014	<	<b>1.0</b>	
April 10, 2014			
April 11, 2014			
April 12, 2014			
April 13, 2014			
April 14, 2014		<b>17.3</b>	
April 15, 2014		<b>12.1</b>	
April 16, 2014		<b>45.7</b>	
April 17, 2014			
April 18, 2014			
April 19, 2014			
April 20, 2014			
April 21, 2014			
April 22, 2014		<b>7.5</b>	
April 23, 2014		<b>5.2</b>	
April 24, 2014		<b>23.3</b>	
April 25, 2014			
April 26, 2014			
April 27, 2014			
April 28, 2014		<b>4.1</b>	
April 29, 2014		<b>112.6</b>	
April 30, 2014	<	<b>1.0</b>	

<b>Max</b>	<b>50</b>
<b>Min</b>	<b>2.0</b>
<b>Avg</b>	<b>12.33</b>
<b>30-Day Median</b>	<b>7</b>

90th Percentile Value **30**

<b>Max</b>	<b>112.6</b>
<b>Min</b>	<b>1.0</b>
<b>Avg</b>	<b>16.2</b>
<b>30 Day Geo. Mean</b>	<b>5.7</b>

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

<b>90th Percentile</b>	<b>15.00</b>	<b>0.9</b>	<b>13.5</b>
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**NOVATO SANITARY DISTRICT  
WATER RECLAMATION 2014  
COMPLIANCE SUMMARY REPORT**

April	Fil Inf Q	Million Gallons Delivered			Influent Turbidity		Effluent Turbidity		DO	Coliform	CT
		Rec	Bank	Pot	Max	Ave	Min +5	Ave	mg/L	mpn	Min
April 1				0.00							
April 2				0.00							
April 3				0.01							
April 4				0.00							
April 5				0.29							
April 6				0.00							
April 7				0.12							
April 8				0.04							
April 9				0.17							
April 10				0.19							
April 11				0.00							
April 12				0.19							
April 13				0.00							
April 14	0.860	0.080					0	1.7	9.3	< 2	< 450
April 15	0.860	0.254					0	1.3	9.14	< 2	< 450
April 16	0.280	0.112					0	1.5	9.06	< 2	< 450
April 17	0.200	0.095					0	1.6		< 2	< 450
April 18	0.610	0.115					0	1.6		< 2	< 450
April 19	0.170		0.091								
April 20	0.300		0.069								
April 21	0.290		0.109								
April 22	0.460	0.120					0	1.4	9.22	< 2	< 450
April 23	0.290		0.112								
April 24	0.390	0.037					0	1.3	8.98	< 2	< 450
April 25	0.480	0.145					0	1.5	8.96	< 2	< 450
April 26	0.000		0.070								
April 27	0.000		0.003								
April 28	0.290		0.053								
April 29	0.470		0.121								
April 30	1.300		0.379								
Total	7.25	0.96	1.01	1.01		NA					
Min	0.00	0.04	0.00	0.00		NA	< 0.0	< 1.3	9.0	< 2	> 450
Max	1.30	0.25	0.38	0.29		NA	< 0.0	< 1.7	9.3	< 2	> 450
Ave	0.43	0.12	0.11	0.08		NA	< 0.0	< 1.5	9.1	< 2	> 450
Count	17	8	9	13		NA	8	8		8	8

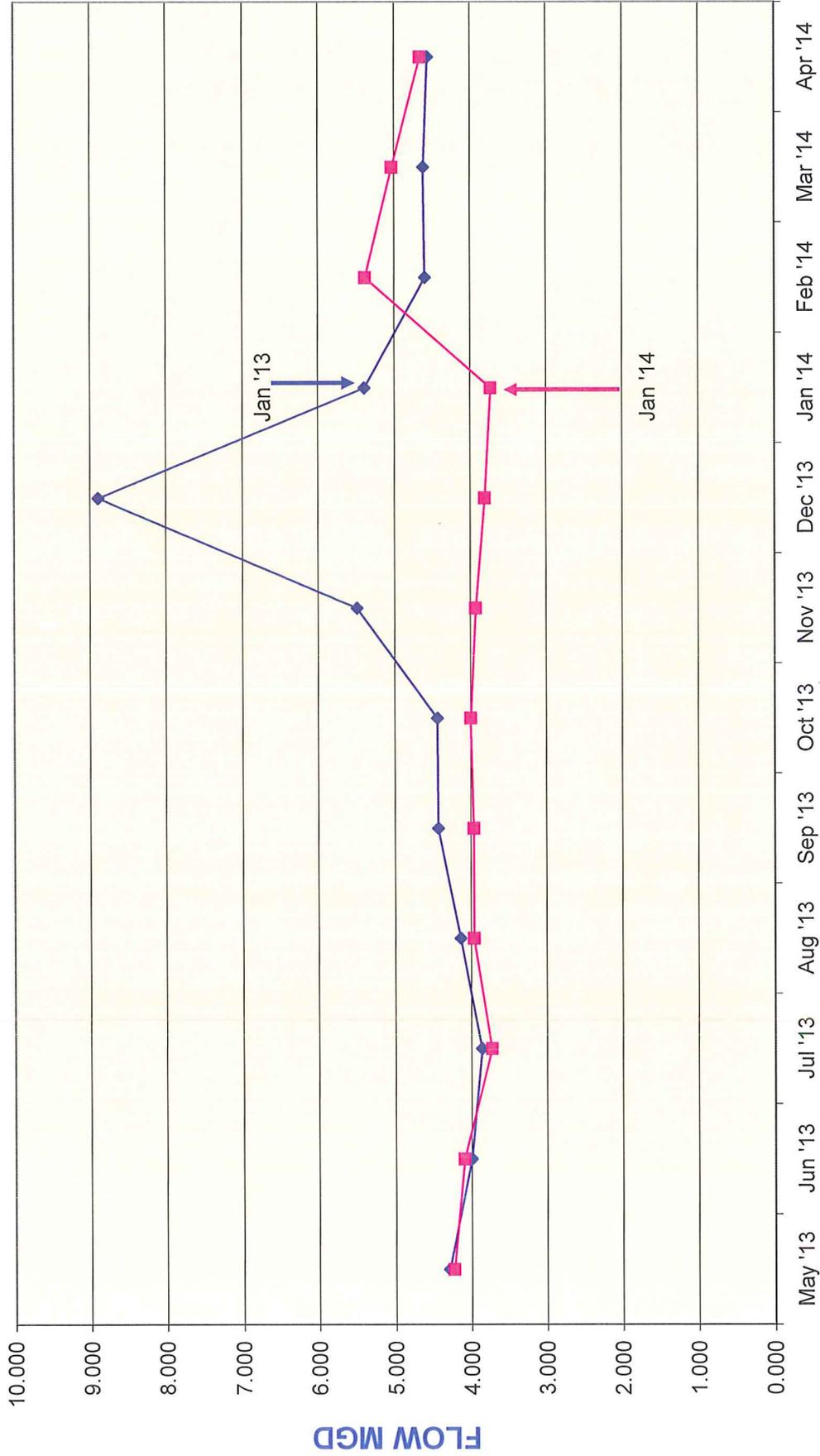
**NOTES:**

Recycled Water Plant 2014 Start up April 14th

Total Banked + Title 22      1.97

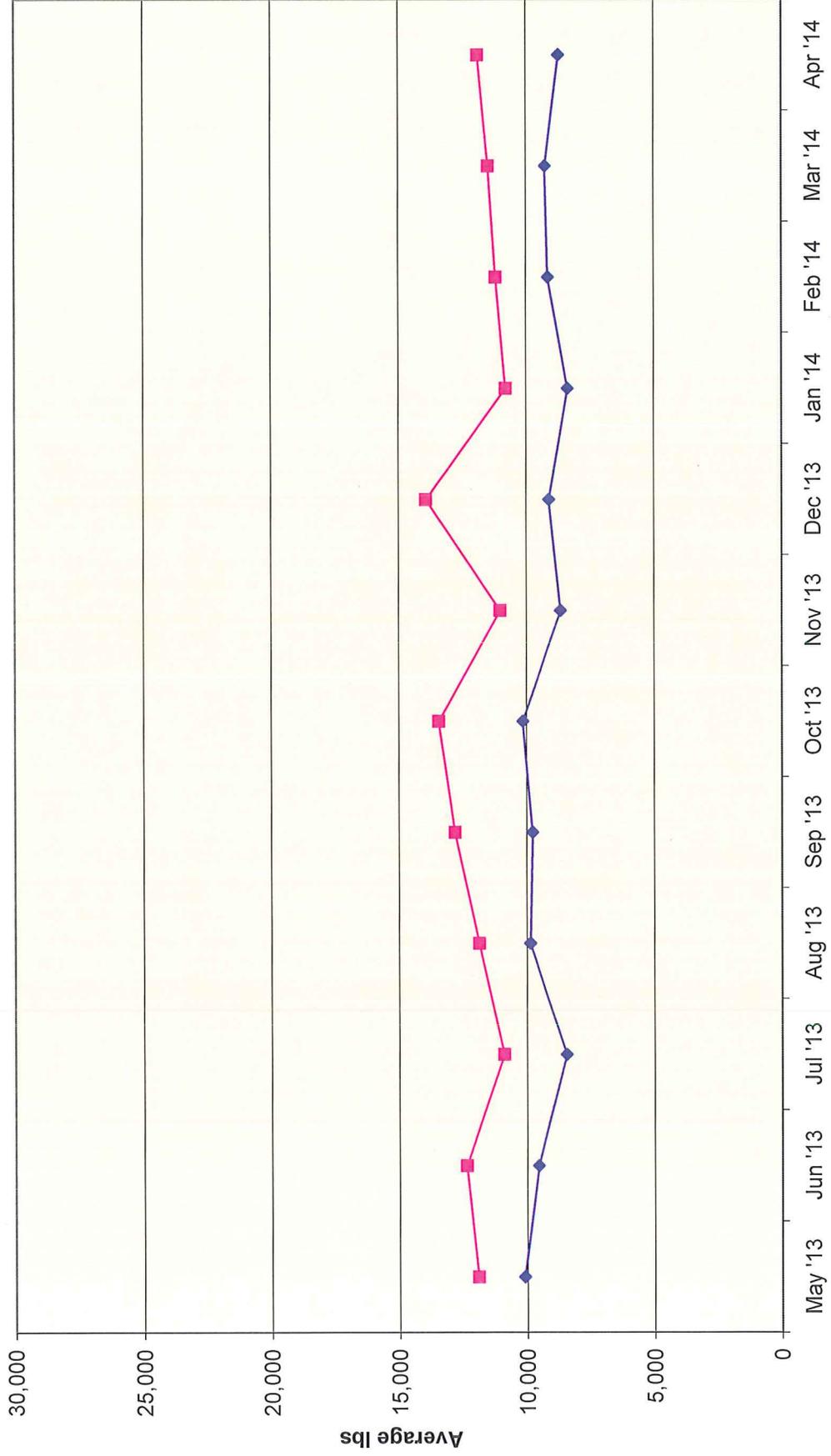
# FLOW COMPARISON

—◆— 2012 / 13    —■— 2013 / 14



# 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

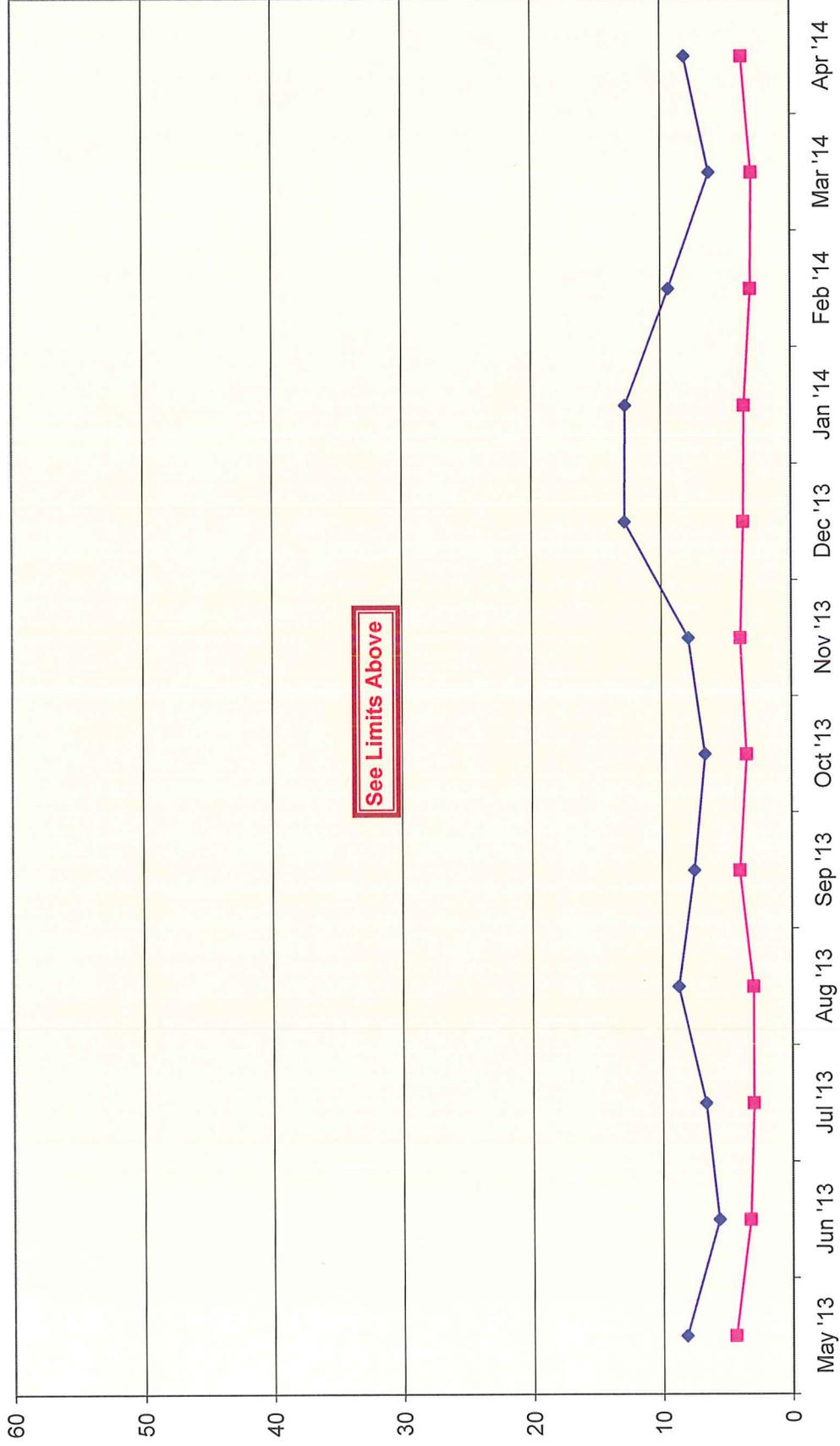
NPDES LIMITS DRY SEASON

BOD - 15 mg/L Monthly Ave, 30 mg/L Weekly Ave

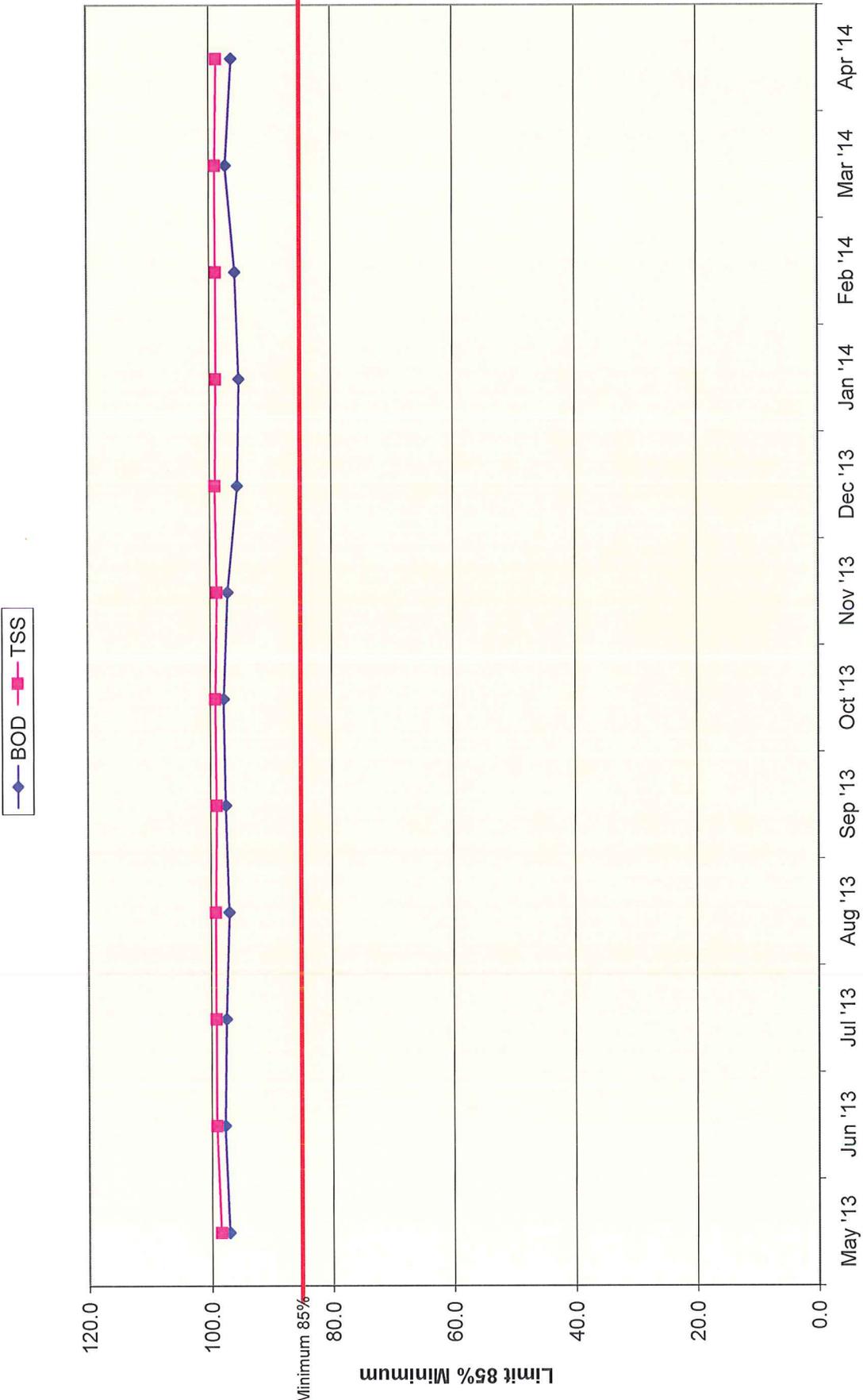
TSS - 10 mg/L Monthly Ave, 20 mg/L Weekly Ave

WDR (Waste Discharge Requirements) RECLAMATION

BOD - 40 mg/L



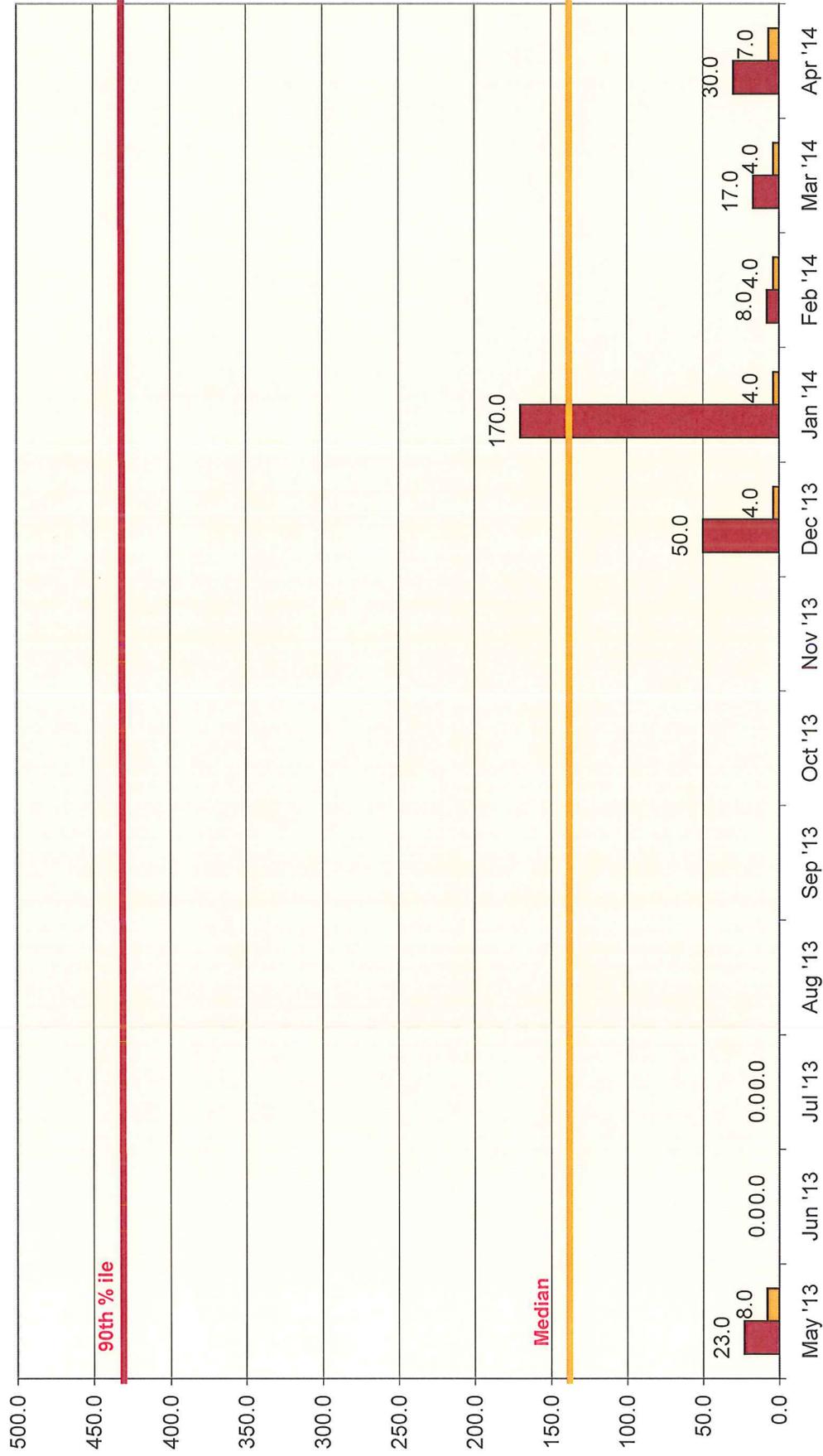
# BOD / TSS Percent Removal



# Disinfection

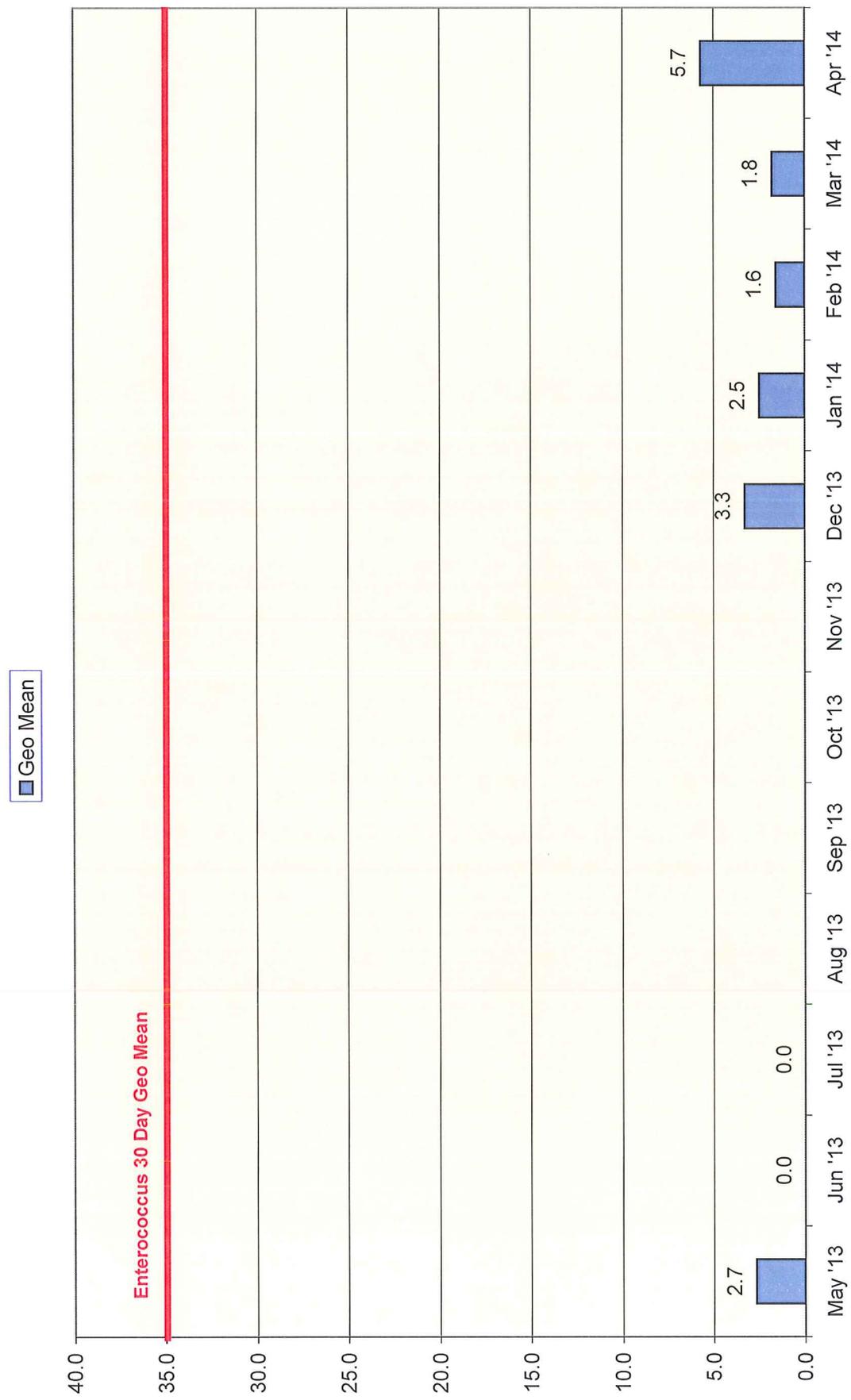
LIMITS - NPDES  
 Fecal 140 mpn monthly median  
 Fecal 430 mpn 90th percentile 30 day

90th % ile 30 day med

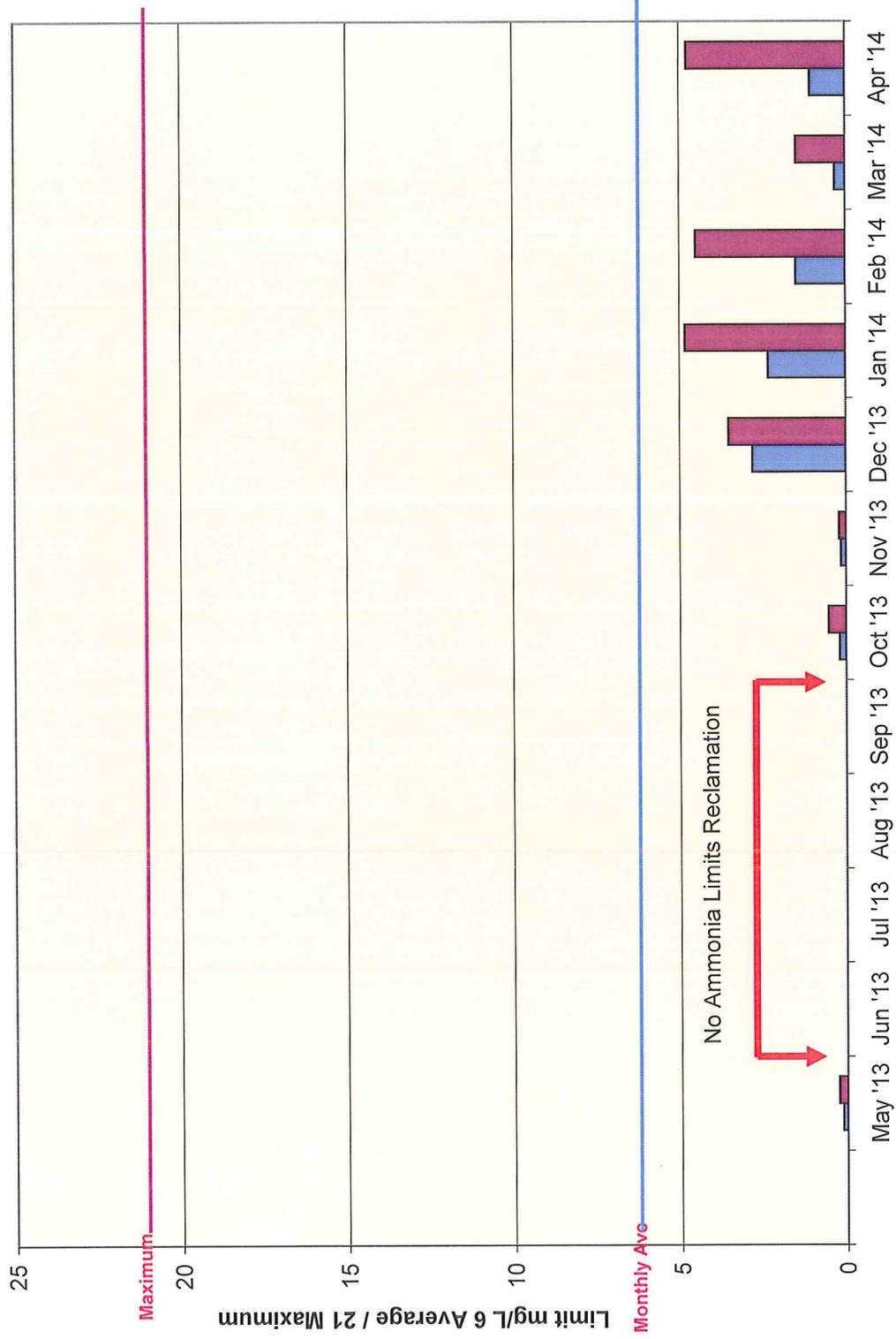


LIMITS - NPDES  
Enterococcus 30 day geo mean 35 mpn /100ml

# Disinfection

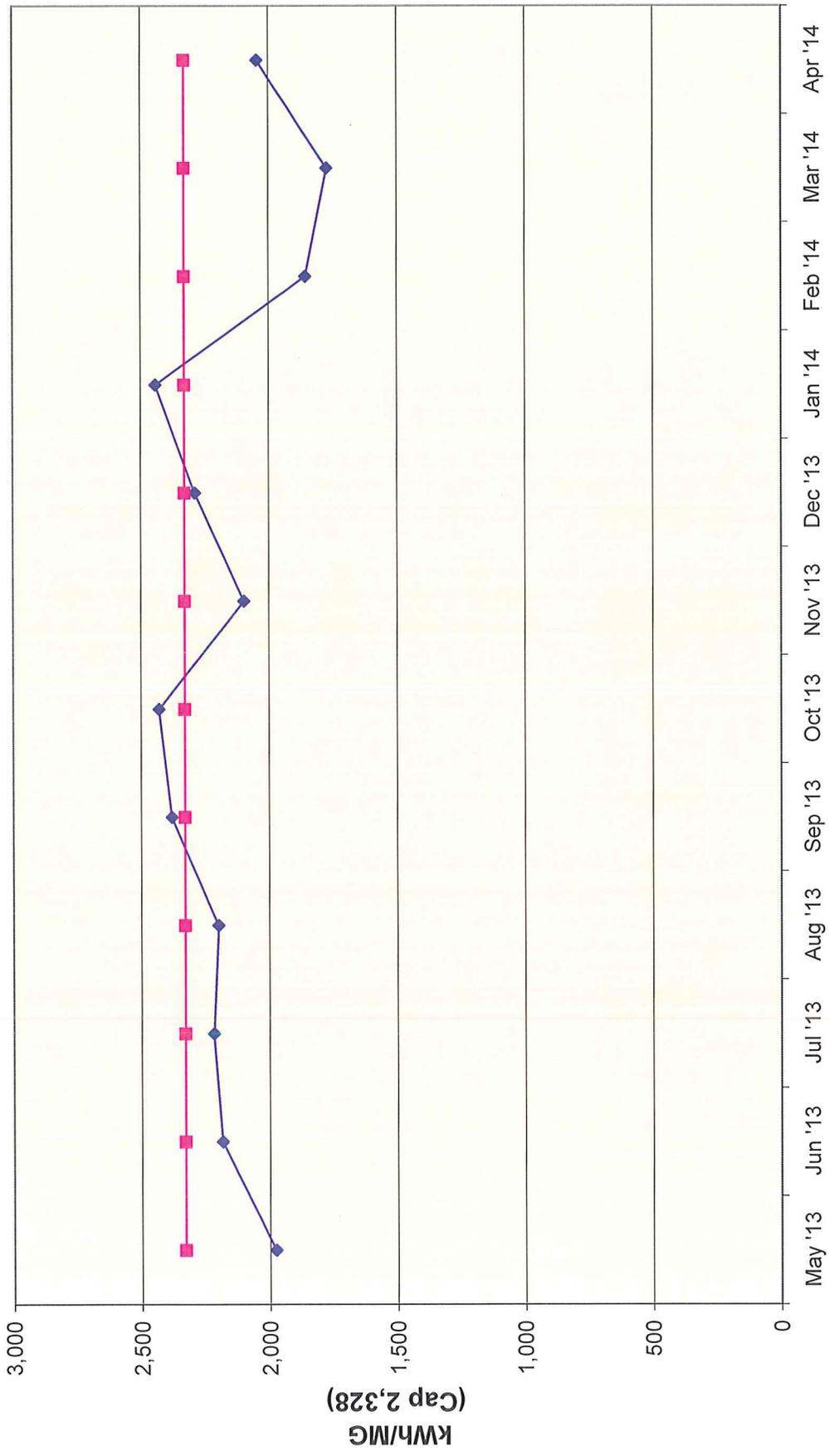


# Effluent Ammonia

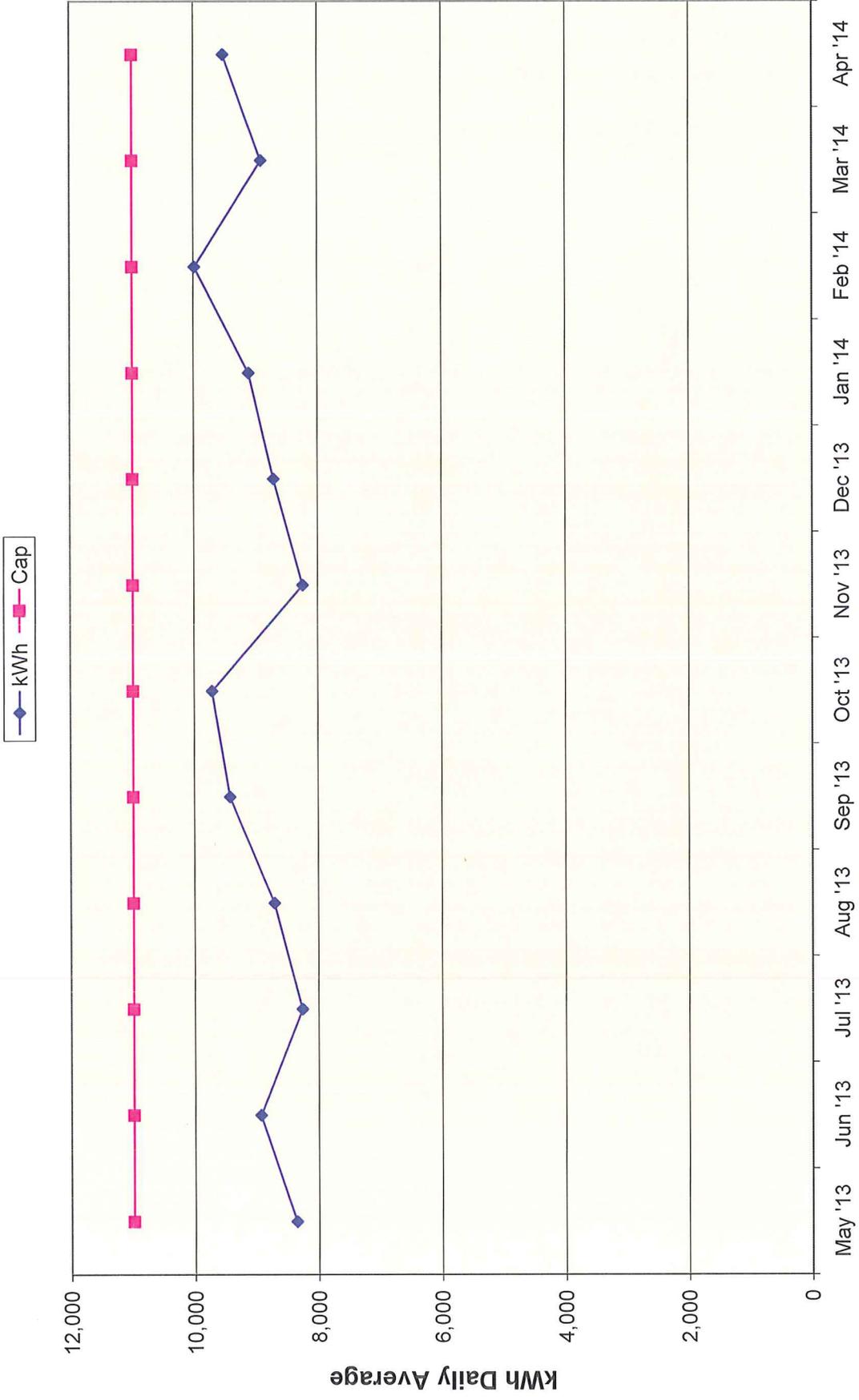


# Energy kWh/MG

—◆— kWh/MG    —■— Cap

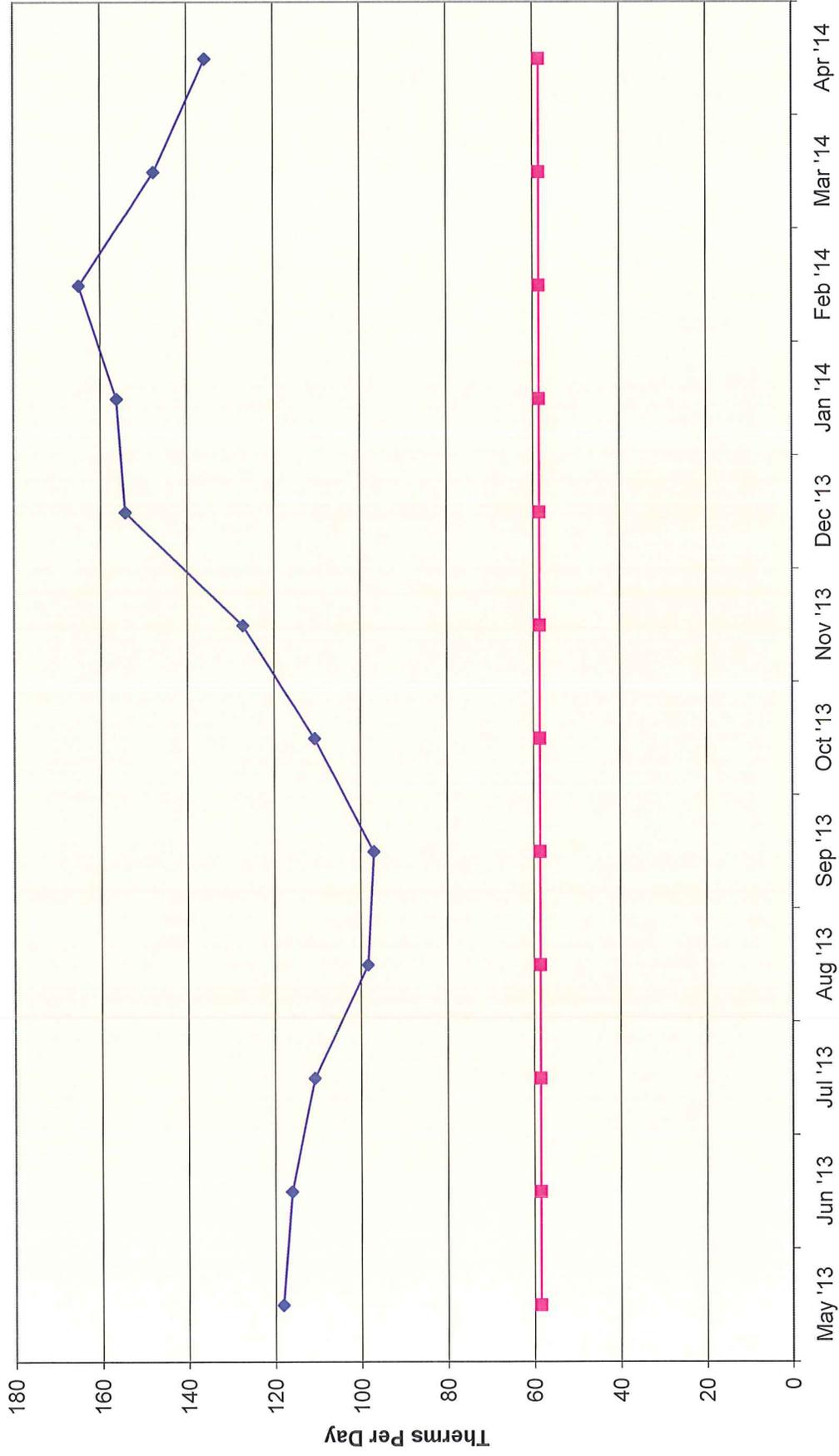


# Energy kWh

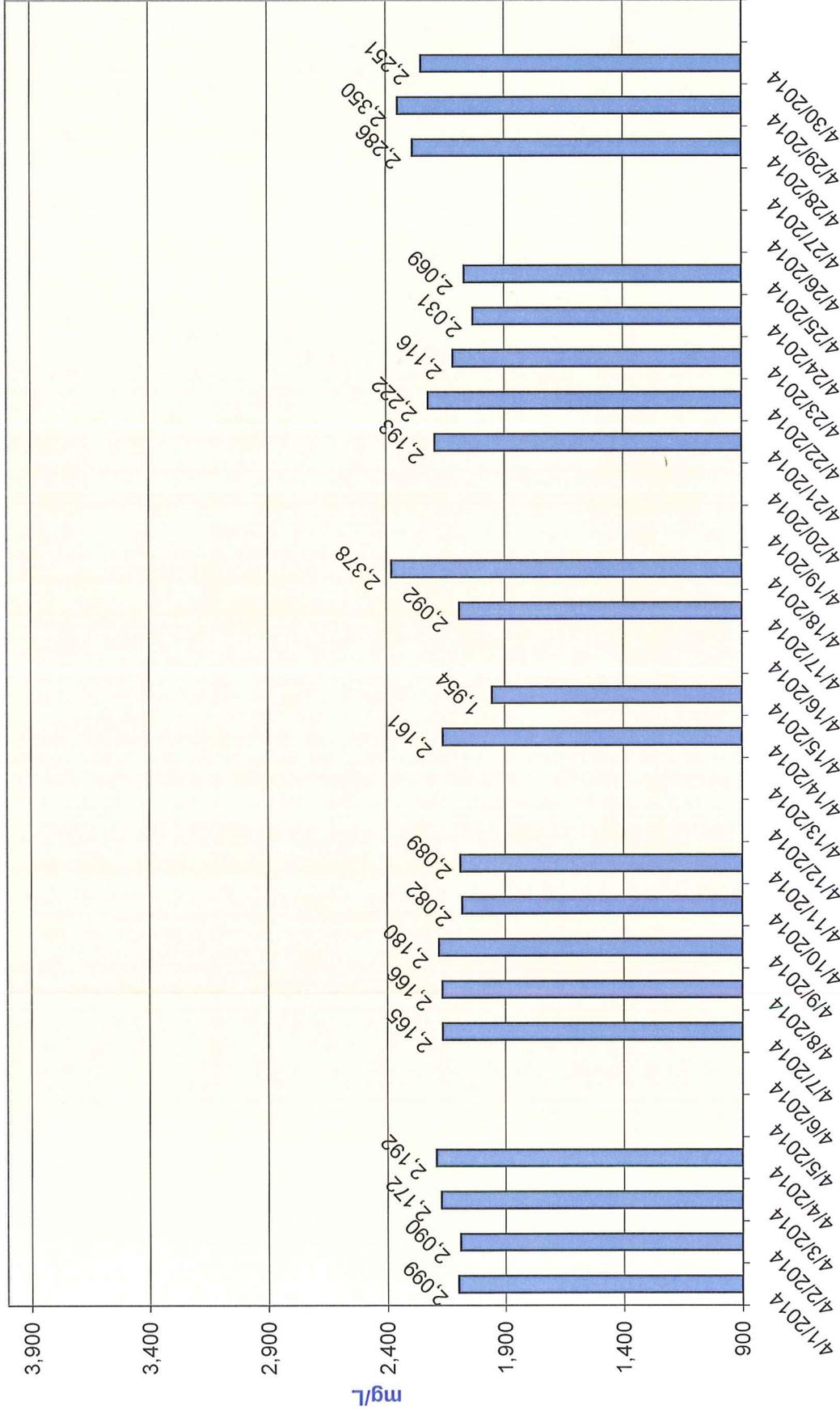


# Natural Gas Use

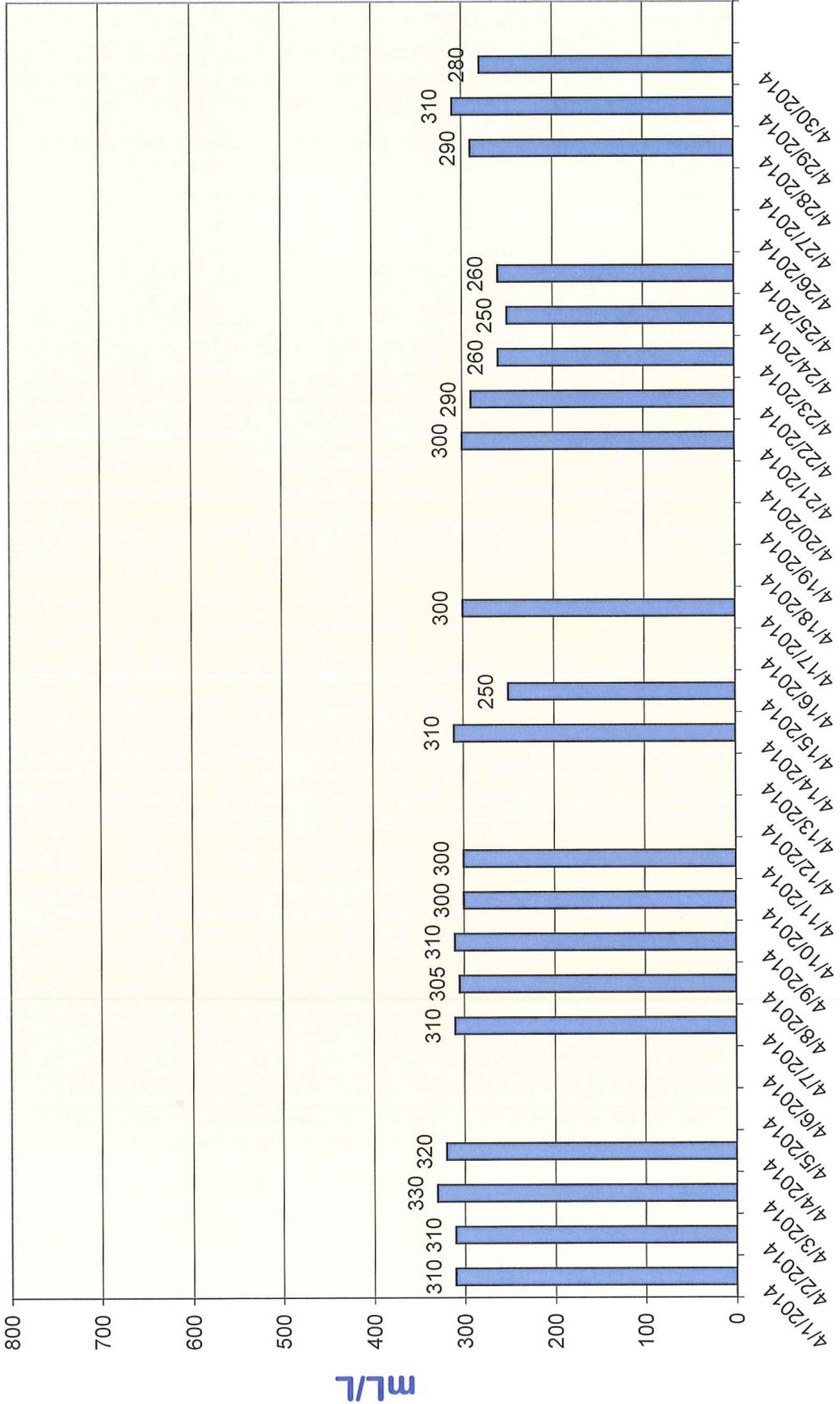
◆ Natural Gas    ■ Cap



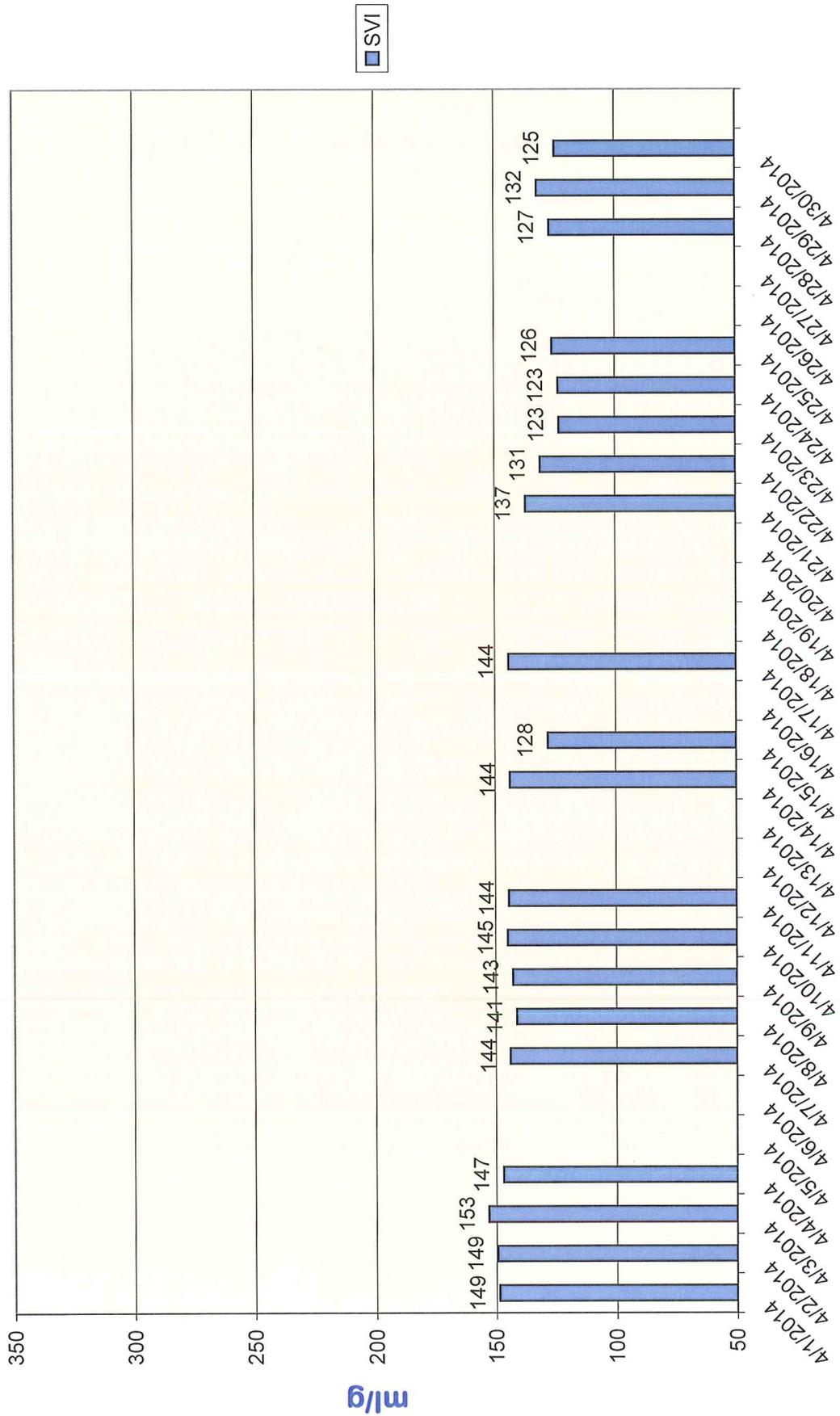
# MLSS Concentration



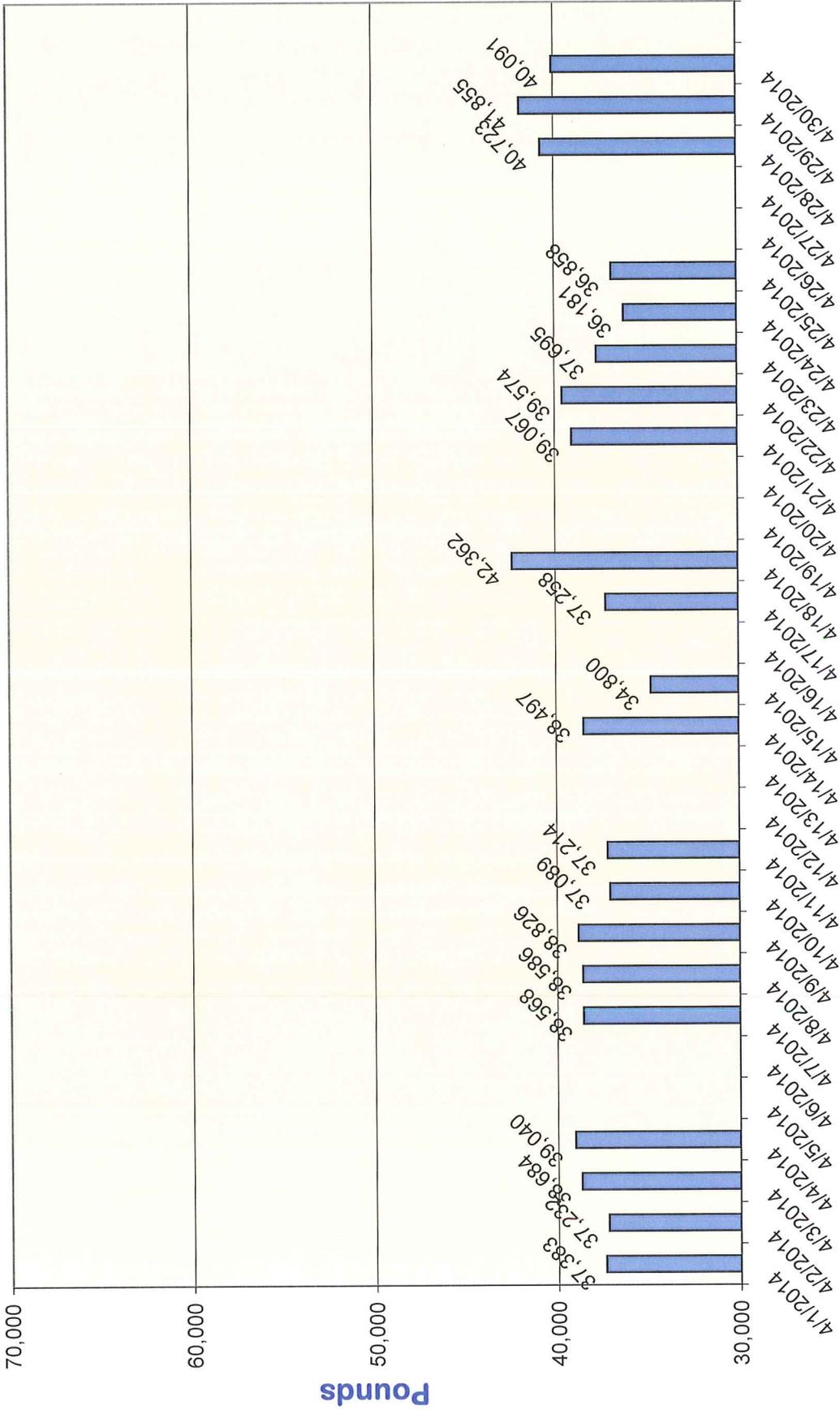
# Settleability



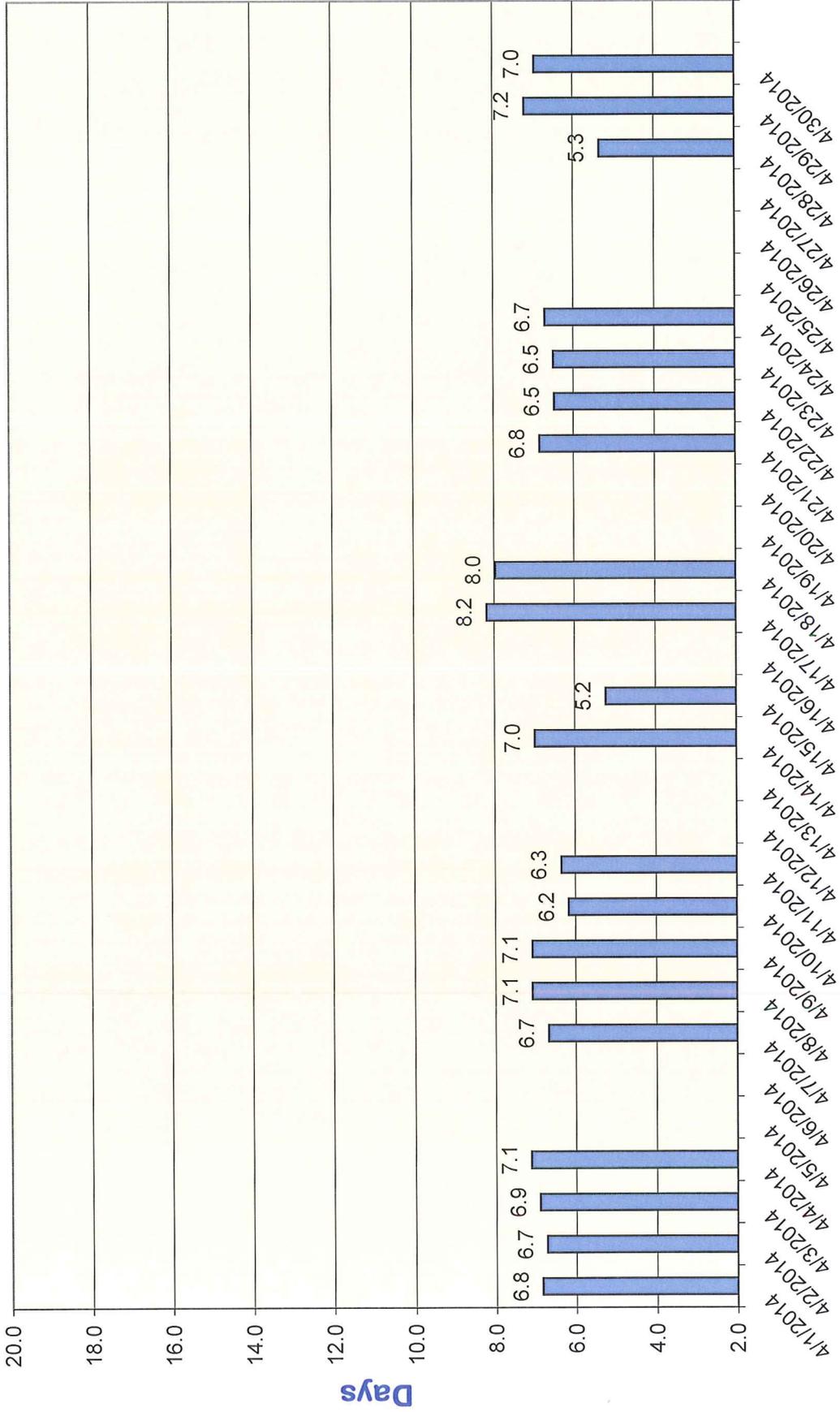
# Sludge Volume Index



# MLSS Inventory



# Mean Cell Residence Time



## Process Control Data

	Influent Flow	Settleability	MLSS Concentration	MLSS Inventory	F:M Ratio	MCRT	SVI
4/1/2014	7.87	310	2,099	37,383	0.27	6.8	149
4/2/2014	6.69	310	2,090	37,232	0.19	6.7	149
4/3/2014	6.18	330	2,172	38,684		6.9	153
4/4/2014	6.37	320	2,192	39,040		7.1	147
4/5/2014	5.87						
4/6/2014	5.52						
4/7/2014	4.83	310	2,165	38,568	0.14	6.7	144
4/8/2014	4.88	305	2,166	38,586	0.16	7.1	141
4/9/2014	4.63	310	2,180	38,826		7.1	143
4/10/2014	4.73	300	2,082	37,089		6.2	145
4/11/2014	4.17	300	2,089	37,214		6.3	144
4/12/2014	4.32						
4/13/2014	4.18						
4/14/2014	4.49	310	2,161	38,497	0.15	7.0	144
4/15/2014	4.40	250	1,954	34,800		5.2	128
4/16/2014	4.28						
4/17/2014	4.52	300	2,092	37,258		8.2	144
4/18/2014	3.83		2,378	42,362		8.0	
4/19/2014	4.21						
4/20/2014	4.28						
4/21/2014	4.21	300	2,193	39,067		6.8	137
4/22/2014	3.85	290	2,222	39,574		6.5	131
4/23/2014	3.74	260	2,116	37,695		6.5	123
4/24/2014	3.61	250	2,031	36,181		6.7	123
4/25/2014	3.93	260	2,069	36,858			126
4/26/2014	3.88						
4/27/2014	4.00						
4/28/2014	4.27	290	2,286	40,723		5.3	127
4/29/2014	3.94	310	2,350	41,855		7.2	132
4/30/2014	3.93	280	2,251	40,091		7.0	125
Minimum	3.61	250.00	1,953.50	34,800	0.14	5.2	123
Maximum	7.87	330	2,378	42,362	0.27	8.2	153
Total	135.68	5,615	43,083	767,491	0.91	128.4	2,630
Average	4.68	296	2,154	38,375	0.18	6.8	138

**WORK ORDER STATISTICS**

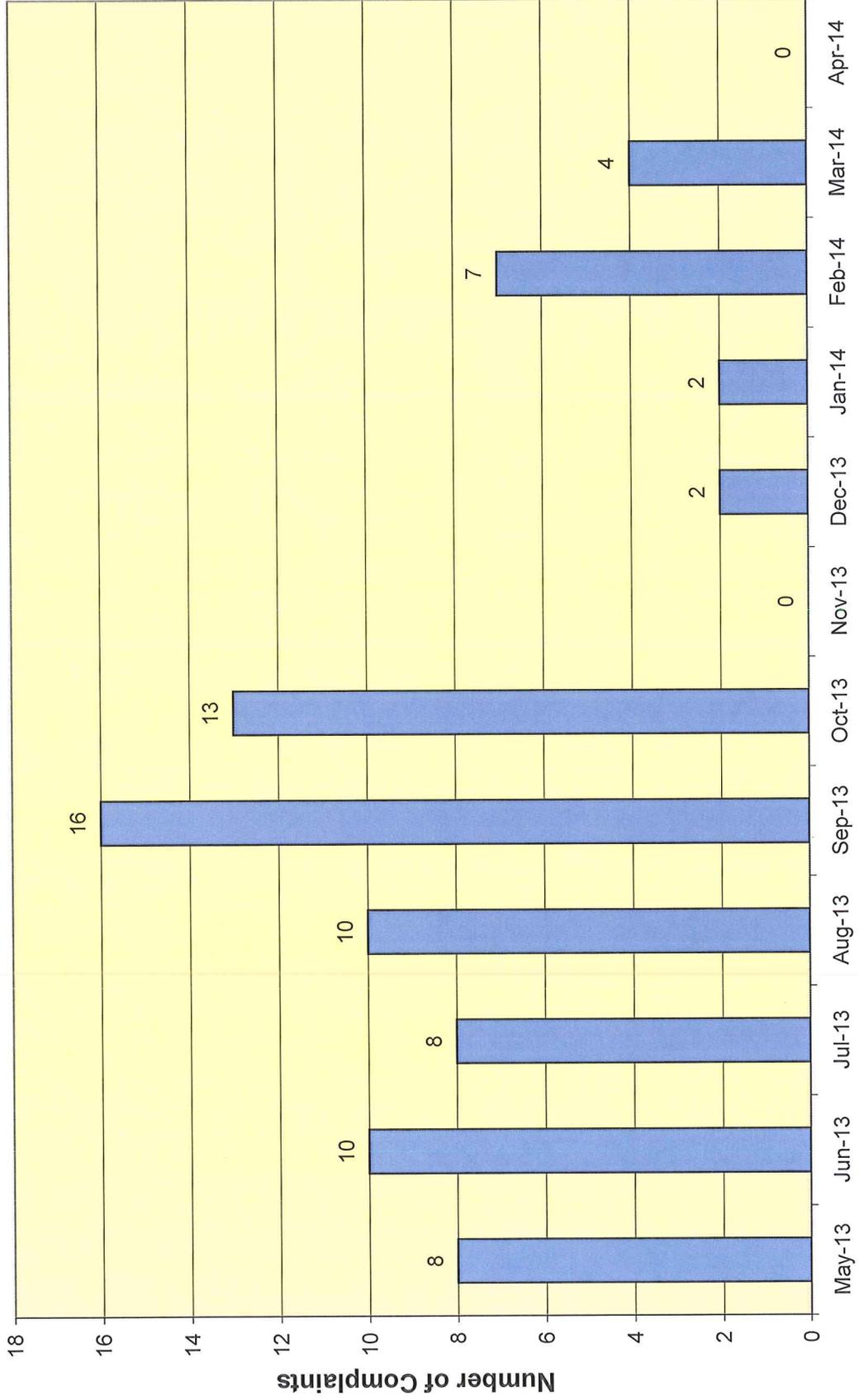
**April 1, 2014 - April 30, 2014**

	<b>Open Work Orders Due Prior to 4/1/14</b>	<b>Open Work Orders 4/1/14 - 4/30/14</b>	<b>Total Open Work Orders</b>
Preventative	24	383	407
Corrective	10	37	47
<b>Total</b>	<b>34</b>	<b>420</b>	<b>454</b>

	<b>Closed Work Orders 4/1/14 - 4/30/14</b>
Preventative	380
Corrective	21
<b>Total</b>	<b>401</b>

<b>Total Outstanding Work Orders as of May 1, 2014</b>	<b>53</b>
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# Complaints / Contacts Received



**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Odor Control and Landscaping Report**  
**April 2014**

**Background:**

Staff and the District's consultant continue to work to address issues of concern relating to odor control 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, measures related to further odor control measures, 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, and identify any other potential sources not previously considered or overlooked.

**Odor control:**

Previously, Mr. McEwen issued preliminary recommendations for odor control at the aeration basins, and made detailed presentations to neighborhood representatives in February, and to the District's Wastewater Operations Committee at its March meeting.

As mentioned before, Mr. McEwen's most significant recommendation, i.e. converting anoxic zones B and C at the aeration basins to aerobic zones, was implemented in late February/early March. Results thus far have been good, and staff continues to monitor performance.

Also, earlier in the process, staff had anticipated that implementation and further testing and validation of Mr. McEwen's recommendations would begin in spring, and that he would issue a draft technical memorandum of his work in late spring. However, upon further review, it was recommended that this next stage of testing and validation be deferred until summer, since testing during warm weather conditions will present a more appropriate "worst-case" testing scenario.

**Landscaping:**

Staff continues 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. Staff also anticipates bringing further landscaping improvements to this area for the Committee's consideration, at a future meeting. As an example, there are redwood trees currently in planter boxes along the east fence line that provided temporary visual screening prior to the construction of the fence. Staff is considering incorporating these trees permanently into the treeline of the east-northeast portion of the plant site.

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**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
April 2014**

**General:**

The breakdown of Collection System department staff time for April 2014, in terms of equivalent full-time employee (FTE) hours utilized, works out approximately as follows:

- 2.6 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.1 FTE field workers for Pump Station Maintenance
- 0.8 FTE field workers for CCTV work
- 1.8 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
- 0.8 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 brief discussion is also provided below.

Line Cleaning Performance: A total of 85,246 feet of sewer pipelines were cleaned for the month by District staff. Staff completed 580 maintenance work orders generated by the ICOM3 CMMS system, with thirty (30) outstanding work orders. Outside contractors cleaned 11,155 feet of larger diameter (10" or larger) District sewer mains.

Staff is working with ICOM/RedZone to correct apparent discrepancies between footages listed in the ICOM3 system and those listed on District maps; 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 measure line segment lengths using a measuring wheel whenever they note a line segment length discrepancy of more than 10 ft. between the work order and District maps.

In April, the Peterbilt hydro-flusher (Truck 3205) was out of service for 21 working days due to mechanical issues with the hose reel assembly on the truck, it is now returned and in service.

CCTV Performance: The District's CCTV van was in the field for a total of 13 working days and televised 224 line segments for 19,331 feet of CCTV production. Field crews also televised 5,428 feet using the Push Cam. There was no CCTV activity on larger diameter mains by outside contractors.

CCTV Findings: The April CCTV work indicated one (1) significant defect in District mains televised that will require evaluation to determine if they are eligible candidates for infrastructure repair, or require a change in maintenance frequency/method.

**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
April 2014**

**Collection System Projects:**

As part of the ongoing Collections System repair projects (Account No. 72803) contractors completed a repair at 29 San Domingo during the month of April.

**Pump Station Maintenance:**

The Collection System Department conducted 258 lift station inspections for the month with 112 of the inspection visits generated through the JobCal Plus CMMS system\*. There are 7 outstanding work orders for the month of April. 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.

District staff has identified forty-four (44) air relief valves (ARV's) that require periodic maintenance. These are being entered into the JobCal Plus CMMS maintenance schedule as initial inspections and evaluations are completed.

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

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**\*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 are two (2) pump stations under construction as part of the District's continuing multi-year Pump Station Rehabilitation Project (Capital Improvement Project Account No. 72403). This current phase, (Project Unit 5), includes rehabilitation of the Los Robles Pump Station and relocation and replacement of the Digital Drive pump station. Construction work continues on these projects.

Site drainage and bypass pumping improvements for Marin Village, Bahia and E. Hamilton Pump Stations began in March as part of the Annual Treatment Plant and Pump Station Improvements, (Capital Improvement Project Account No. 72805). These improvements will reconfigure each pump station site to return any water that falls on that site back into its wet well and also construct bypass connections to allow the District to pump around the pump stations when necessary. Site drainage improvements were completed at East Hamilton and Marin Village Pump Stations this month, and pump station bypass connections were installed at E. Hamilton and Bahia Main Pump Stations.

**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
April 2014**

**Safety and Training:**

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

Specialized training: Collection System staff participated in Pump Station Emergency Operation training as part of the development of the Pump Stations Emergency Operating Procedures (EOPs). This training included a simulated pump station failure response drill at Redwood Pump Station. Similar drills will take place at other pump stations periodically in the future. Staff also attended a three hour Fall Prevention training in April.

Safety performance: There were no lost time accidents this month for a total of 1,142 accident-free days.

**Standard Operating Procedures (SOPs):**

Department staff continues to work on generating new SOPs, and working towards finalizing earlier draft SOPs. One (1) SOP (Root Abatement Field Support) and eight (8) draft SOP's (Flygt Pump Removal) were issued in April.

**Emergency Operating Procedures (EOPs) – Pump Stations:**

Staff has also been working with DKF Solutions since summer 2013 to generate the 38 Emergency Operating Procedures (EOPs) required for all of the District pump stations. At this time, one EOP is almost complete (except for some minor edits), 24 have had a final review, and 2 more require a final review. The contractor has not yet submitted 12 EOP's for initial staff review. It is anticipated that the EOPs will be in place (along with all relevant training performed) by May 2014.

**Sanitary Sewer Overflows (SSOs):**

In April, there were zero (0) SSO's.

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Novato Sanitary District  
Collection System Monthly Report For April 2014 (as of April 30, 2014)

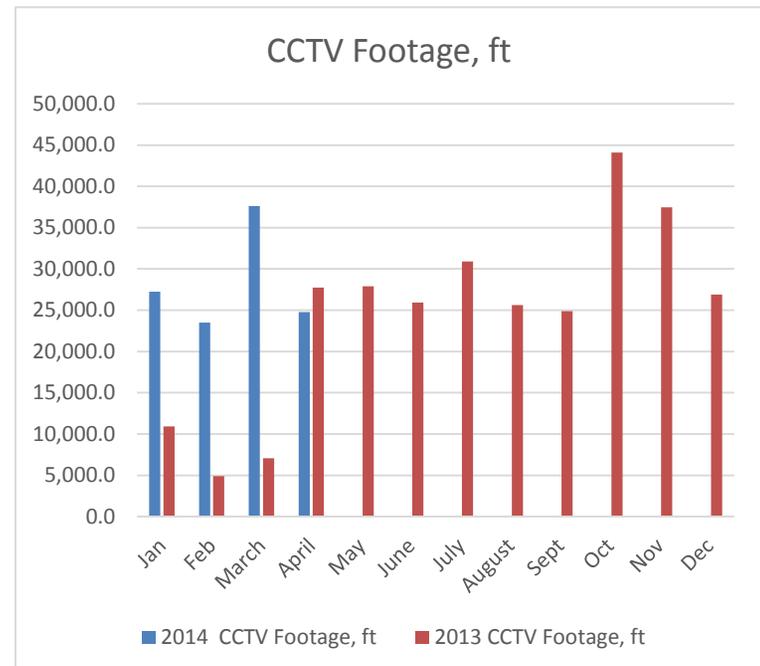
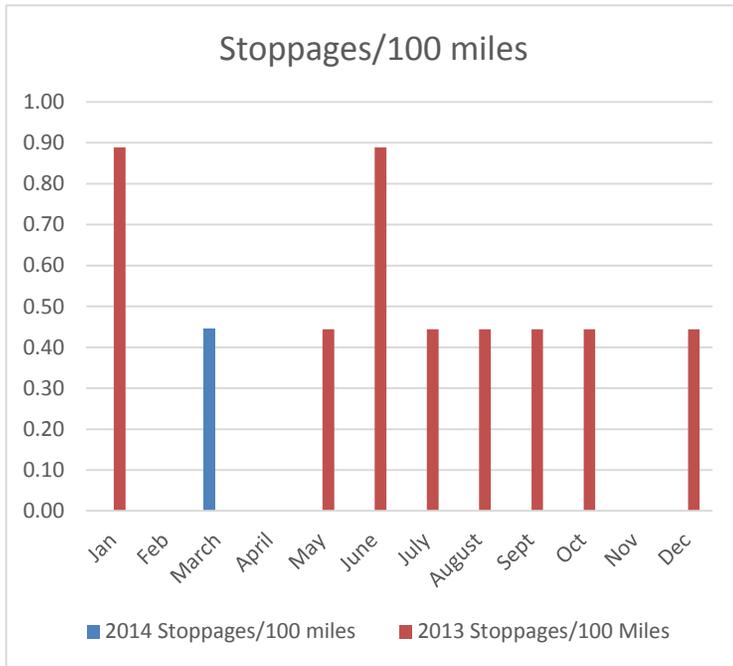
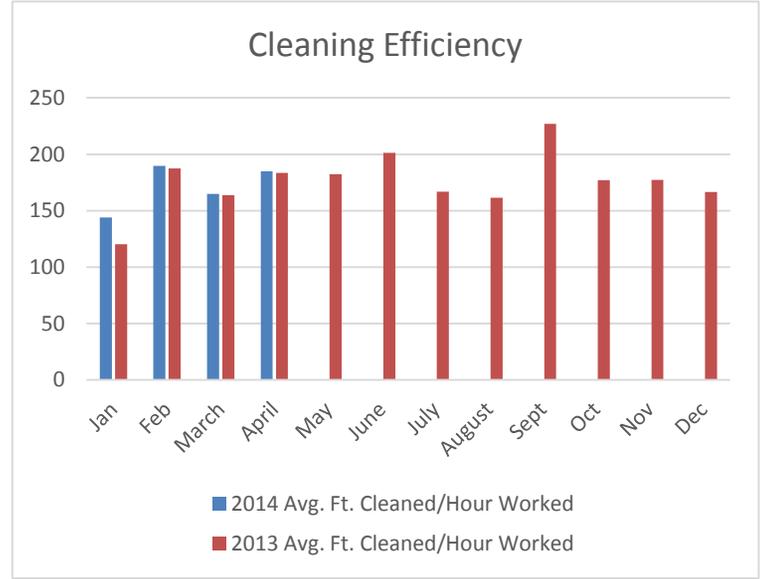
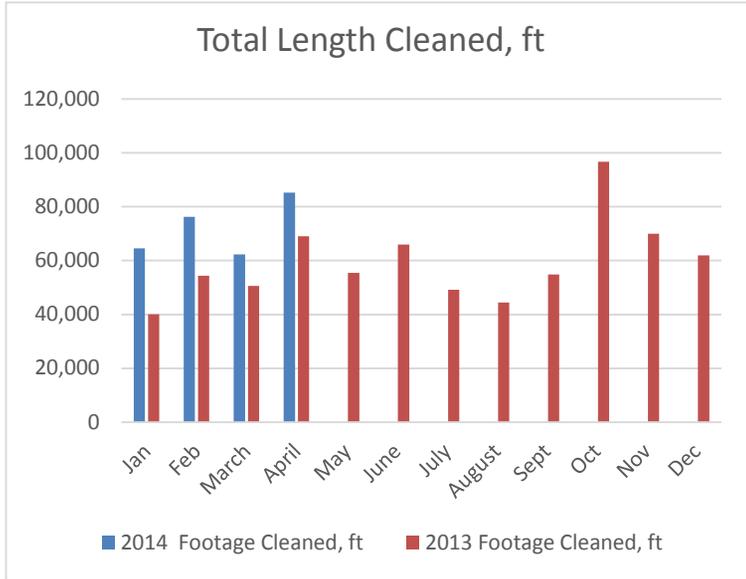
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
<b>A. Employee Hours Worked</b>														
Number of FTEs (main line cleaning), hrs.	2.6	2.5	2.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.8
Number of FTEs (other)	1.7	1.6	2.1	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.6
Number of FTEs (CCTV)	0.9	0.8	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	0.3
Total, FTEs	5.2	4.9	5.3	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA	1.7
Regular Time Worked, (main line cleaning), hrs	448	402	378	461										
Regular Time Worked on Other, hrs (1)	294	262	350	313										
Regular Time Worked on CCTV (2)	158	125	172	136										
Total Regular time, worked, hrs	900	789	900	909	0	0	0	0	0	0	0	0	3,498	292
Total Vacation/Sick Leave/Holiday, hrs	285	151	101	143									680	170
Vacation/Sick Leave/Holiday, FTEs	1.6	0.9	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.3
Overtime Worked on Coll. Sys., hrs	2	8	3	15									28	7
Overtime Worked on Other, hrs (1)	22	17	16	31									86	22
Overtime Worked on CCTV (2)	0	0	0	3									3	1
Total Overtime, hrs	24	25	19	49	0	0	0	0	0	0	0	0	117	10
<b>B. Productivity</b>														
<b>1. Line Cleaning</b>														
Rodder Work Orders generated	57	30	24	78									189	47
Rodder 3203 ft. cleaned	10,989	3,337	6,378	11,933									32,637	8,159
Rodder - outside services, ft cleaned	0	0	0	0									0	0
Flusher Work Orders generated	351	352	369	532									1,604	401
Truck 3205V ft. cleaned	16,187	16,552	18,158	802									51,699	12,925
Truck 3206V ft. cleaned	37,342	56,332	37,781	72,511									203,966	50,992
Flusher - outside services, ft. cleaned	2,301	1,570	6,492	11,155									21,518	
Total Footage cleaned(3)	64,518	76,221	62,317	85,246	0	0	0	0	0	0	0	0	288,302	24,025
Work Orders completed	408	361	393	580									1,742	436
Work Orders backlog	66	21	0	30	0	0	0	0	0	0	0	0	117	10
<b>2. Closed Circuit Television (CCTV)</b>														
Camera Work Orders generated	0	0	0	0	0	0	0	0	0	0	0	0	0	
CCTV Truck 3126T, ft. videoed	24,487	21,931	31,116	19,331									96,865	24,216
CCTV (hand cam), ft. videoed	449	0	0	5,428	0	0	0	0	0	0	0	0	5,877	
CCTV Inspection - outside services, ft. videoed	2,301	1,570	6,492	0	0	0	0	0	0	0	0	0	10,363	
Total CCTV footage(3)	27,237	23,501	37,608	24,759	NA	NA	NA	NA	NA	NA	NA	NA	113,105	
<b>C. Sanitary Sewer Overflows (SSOs)</b>														
Minor (Category III)	0	0	0	0									0	NA
Major (Category II)	0	0	0	0									0	NA
Major (Category I)	0	0	1	0									1	NA
Overflow Gallons	0	0	180	0									180	NA
Volume Recovered	0	0	0	0									0	NA
Percent Recovered	NA	NA	0%	NA	NA	NA	NA	NA	NA	NA	NA	NA	0%	NA
<b>D. Service Calls (non-SSO related)</b>														
Service calls, normal hours, #	8	3	5	4									20	5
Normal hours S.C. response time, mins (avg.)	38	19	25	18									100	25
Service Callouts, after hours, #	0	1	1	1									3	1
After Hours S.C. response time, mins (avg.)	0	15	40	42									97	24
<b>E. Benchmarks</b>														
Average Ft. Cleaned/Hour Worked	144	190	165	185	NA	NA	NA	NA	NA	NA	NA	NA	NA	171
Total Stoppages/100 Miles	0.0	0.0	0.4	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)	0	0	18	0									NA	5
Callouts/100 Miles	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.1
Overtime hours/100 Miles	1	4	1	7	0	0	0	0	0	0	0	0	12.44	1
Overflow Gallons/100 Miles	0	0	80	0	0	0	0	0	0	0	0	0	80	7

(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 2013-14 Graphs





**COLLECTION SYSTEM (Pump Stations)  
WORK ORDER STATISTICS  
April 1, 2014 - April 30, 2014**

	<b>Open Work Orders Due Prior to 4/1/2014</b>	<b>Open Work Orders 4/1/2014 - 4/30/2014</b>	<b>Total Open Work Orders</b>
Preventive	4	114	115
Corrective	0	1	1
<b>Total</b>	<b>4</b>	<b>115</b>	<b>119</b>

	<b>Closed Work Orders 4/1/2014 - 4/30/2014</b>
Preventive	111
Corrective	1
<b>Total</b>	<b>112</b>

<b>Total Outstanding Work Orders as of 4/30/2014</b>	<b>7</b>
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**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Reclamation Facilities Report**  
**April 2014**

**Summary:**

Pump No. 1 at Drainage Pump Station No. 7 was removed for repair and reinstalled. There were no other activities this month.

**Ranch Operations:**

In October, 2013 Pump No. 1 at Drainage Pump Station No. 7 was installed and put into service after it was repaired last Fall. Over the next few months staff noticed that while running, it was noticeably louder than the other two pumps. In March staff brought this to the attention of Koffler Electric, the company that rebuilt it, and Koffler came on site to check the pump out and agreed something was wrong. Koffler removed the pump and took it to their shop for inspection and eventual repair. Koffler found that the lower bearing housing was not repaired correctly when it was rebuilt last Fall in their shop. Koffler repaired the bearing housing and re-installed the pump. The pump was put into lead and has been running without issues. This work was completed at no cost to the District.

**Irrigation Parcels:**

There were no irrigation parcel activities this month.

**Irrigation Pump Station:**

There were no irrigation pump station activities this month.

**Sludge Handling & Disposal:**

There were no sludge handling and disposal activities this month.

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