

## NOVATO SANITARY DISTRICT

Meeting Date: October 20, 2014

The Wastewater Operations Committee of the Novato Sanitary District will hold a meeting at 2:00 PM, Monday, October 20, 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. APPROVE MINUTES OF SEPTEMBER 15, 2014 MEETING**

**4. WASTEWATER TREATMENT FACILITIES REPORT FOR SEPTEMBER 2014:**

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

**5. COLLECTION SYSTEM REPORT FOR SEPTEMBER 2014:**

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

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

- 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.***

September 15, 2014

A regular meeting of the Wastewater Operations Committee of Novato Sanitary District was held at 2:00 p.m., Monday, September 15, 2014, 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

**ALSO PRESENT:** Brian Exberger, Assistant Project Manager, Veolia

**AGENDA APPROVAL:** Approved as presented.

**PUBLIC COMMENT:** None

**APPROVAL OF MEETING MINUTES FOR AUGUST 18, 2014:** The August 18, 2014 meeting minutes were approved as written.

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

- Treatment Plant Performance Report, Maintenance Report and Safety & Training:  
Veolia Project Manager John Bailey gave an overview of treatment plant operations for the month of August and stated that August was another good month with no permit exceedances, violations or excursions. He 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 August and stated that as of August 30<sup>th</sup>, Veolia employees have been accident free for a total of 1,550 days / 70,680 hours. He discussed the training Veolia employees participated in during August. He reviewed the operations and maintenance report and stated that 17.62 million gallons of recycled water were produced.

The Project Manager 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 and that four (4) odor notifications were received in August.

- Odor control, noise, and landscaping report: The Manager-Engineer stated that staff continues to work with the odor control recommendations presented by Dave McEwen, Brown and Caldwell. He stated that Mr. McEwen's recommendation of adding sodium hypochlorite to the influent flow during warm weather periods was implemented in early July. He stated that staff continues to monitor performance and that the results appear to be good. The Manager-Engineer discussed the landscaping in the northeast area of the plant site. He stated that staff is looking into the possibility of transplanting the redwood trees currently in

boxes along the western boundary of the plant site to the northeast corner of the property in October.

**COLLECTION SYSTEMS OPERATION AND MAINTENANCE REPORT FOR AUGUST 2014:**

The Collections System Superintendent discussed the Collection Systems Monthly Report for August 2014. He reported that the Collection Systems crew cleaned a total of 61,271 feet of sewer pipeline and that the department completed 292 maintenance work orders which were generated in August. He stated that the District's CCTV van (Closed Circuit TV) televised 94 line segments for 19,137 feet of production and that no areas were identified as needing repairs or further evaluation. He reported that staff had identified and inspected a total of 42 air relief/vacuum valves (ARV's) and of these, 12 locations will be upgraded to provide better access for maintenance.

The Collections System Superintendent gave an update of the pump station rehabilitations taking place at the Los Robles and the Digital Drive pump stations. He stated that construction work continues on these projects with completion expected by the end of September. He stated that there were zero sanitary sewer overflows in the month of August.

The Collections System Superintendent noted that as of August 30<sup>th</sup>, the Collections Department and the District have worked accident free for a total of 1,265 days.

**RECLAMATION FACILITY REPORT FOR AUGUST 2014:**

The Field Services Manager presented the Reclamation Facilities report for August. He stated that the rancher continues to work on routine parcel maintenance. He stated irrigation times were increased to promote pasture growth on Site 3 & 7. He stated that 88.19 MG of treated effluent was used for irrigation of the parcels in August.

The Field Services Manager stated that an agreement has been executed between the District and Custom Tractor Service of Petaluma to pump sludge out of the sludge lagoons and into the Dedicated Land Disposal area.

**ADJOURNMENT:** There being no further business to come before the Committee, the meeting adjourned at 2:44 p.m. The next Wastewater Operations Committee meeting will be held on Monday, October 20, 2014.

Respectfully submitted,

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Sandeep Karkal  
Manager-Engineer

Julie Swoboda, Recording



October 15, 2014

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

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

Dear Mr. Karkal:

I am pleased to provide the Monthly Operation Report for September 2014.

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

Best regards,

A handwritten signature in blue ink, appearing to read 'John Bailey', written in a cursive style.

John Bailey  
Project Manager, Veolia



**MONTHLY OPERATIONS REPORT  
September 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: September 2014:

Reclamation / Storage – Waste Discharge Requirements (WDR)

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	3.33	3.74	N/A	N/A
Max Peak Hour, MGD – Dry Weather Flow	N/A	N/A	N/A	N/A
Influent BOD <sub>5</sub> , lb/day (month ave/max)	7,453	10,506	N/A	N/A
Influent TSS, lb/day (monthly ave/max)	9,590	11,666	N/A	N/A
Effluent BOD <sub>5</sub> , mg/L (monthly ave/weekly max)	<5	5	40	N/A
Effluent TSS, mg/L (monthly ave/weekly max)	<3	3	N/A	N/A
Effluent BOD <sub>5</sub> - % Removal, Minimum	98	N/A	N/A	N/A
Effluent TSS - % Removal, Minimum	99	N/A	N/A	N/A
Ammonia, mg/L – (monthly ave/daily max)	0.04	0.04	N/A	N/A
pH, su (min / max)	7.0	7.2	6.0	9.0
Enterococcus, mpn (30 day geo mean)	N/A	N/A	N/A	N/A
Fecal Coliform, mpn (30 day median)	N/A	N/A	N/A	N/A
Fecal Coliform, mpn (90 <sup>th</sup> percentile)	N/A	N/A	N/A	N/A
Total Coliform, mpn (5 Sample Median / Max)	140	1700	240	10,000
<b>Total Permit Exceedances (WDR)</b>	0			

NA – Not Applicable

Discussion of Violations / Excursions: NONE

Title 22 - Recycled Water Production and Quality

Description	Units	Value	Limit
Volume Produced	Million Gallons	10.87	N/A
Average Turbidity	NTU	1.2	2.0
Turbidity > 5 NTU (in 24 hour)	Minutes	0	72
Minimum CT (disinfection)	mg-min/L	>450	>450
Minimum Dissolved Oxygen (DO)	mg/L	7.4	1.0
Maximum Total Coliform	mpn/100 ml	<2	2

Total Rainfall. – 0.34

Daily Max – 0.32, September 25<sup>th</sup>

**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 September
- Accident Free: 6/1/10 – 9/30/14: 1,580 days / 72,048 hours
- Monthly Safety Topic and Training – LOTO (lock-out tag-out)

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

- Routine rounds, readings and maintenance
- Performed annual inspection on Flygt pumps & mixers
- Cleaned digested sludge transfer sump
- Performed annual maintenance on Influent Screen #1
- Replaced Blower #3 variable frequency drive (VFD) fan
- Replaced sensor and board on Primary Clarifier #2 LEL Gas Monitor
- Installed safety railing at abandoned in ground valve structure behind UV Disinfection area

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

- Primary Clarifier #1 (not needed at current flows)
- Secondary Clarifier #2 (not needed at current flows)
- Aeration Basins 1 & 3 (not needed at current flows)

**Ignacio Transfer Pump Station**

- Routine rounds, readings and maintenance
- Annual inspection on Flygt pumps
- Conveyance pump #2 removed for impeller retrofit
- Grinder removed for warranty repair

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

- Grinder (out for repair)

**Recycled Water Plant (RWP)**

- Performed plant rounds and maintenance
- Performed annual inspection on Compressed Air Dryer

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

- None

**Sludge Lagoons**

- Performed routine rounds and inspection
- Flushed Digested Sludge Line and Decant Return Line

**ADMINISTRATION:**

- August Electronic Self Monitoring Report submitted on September 19, 2014
- August DMR and Semi Annual Report submitted on September 19, 2014

**ODORS:**

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

**MISCELLANEOUS**

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

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

John O'Hare                      Technical Support

## ULTRA VIOLET DISINFECTION MAINTENANCE



Christian Williams and Ralph Loveless changing UV Lamps.  
Lower Right – Ralph Loveless and Brian Exberger (in Arc Flash PPE) locking out electrical power to UV System.

IGNACIO TRANSFER PUMP STATION  
REMOVAL OF CONVEYANCE PUMP  
IMPELLER RETROFIT - SEPTEMBER 29<sup>TH</sup>  
CHANNEL GRINDER REMOVED FOR REPAIR - SEPTEMBER 4<sup>TH</sup>



## CLEANING (PUMPING) SLUDGE LAGOONS AT RECLAMATION



Contractor transferring biosolids from sludge lagoons to dedicated land disposal site. This is a NSD function



Novato Sanitary District  
BOD/TSS Report



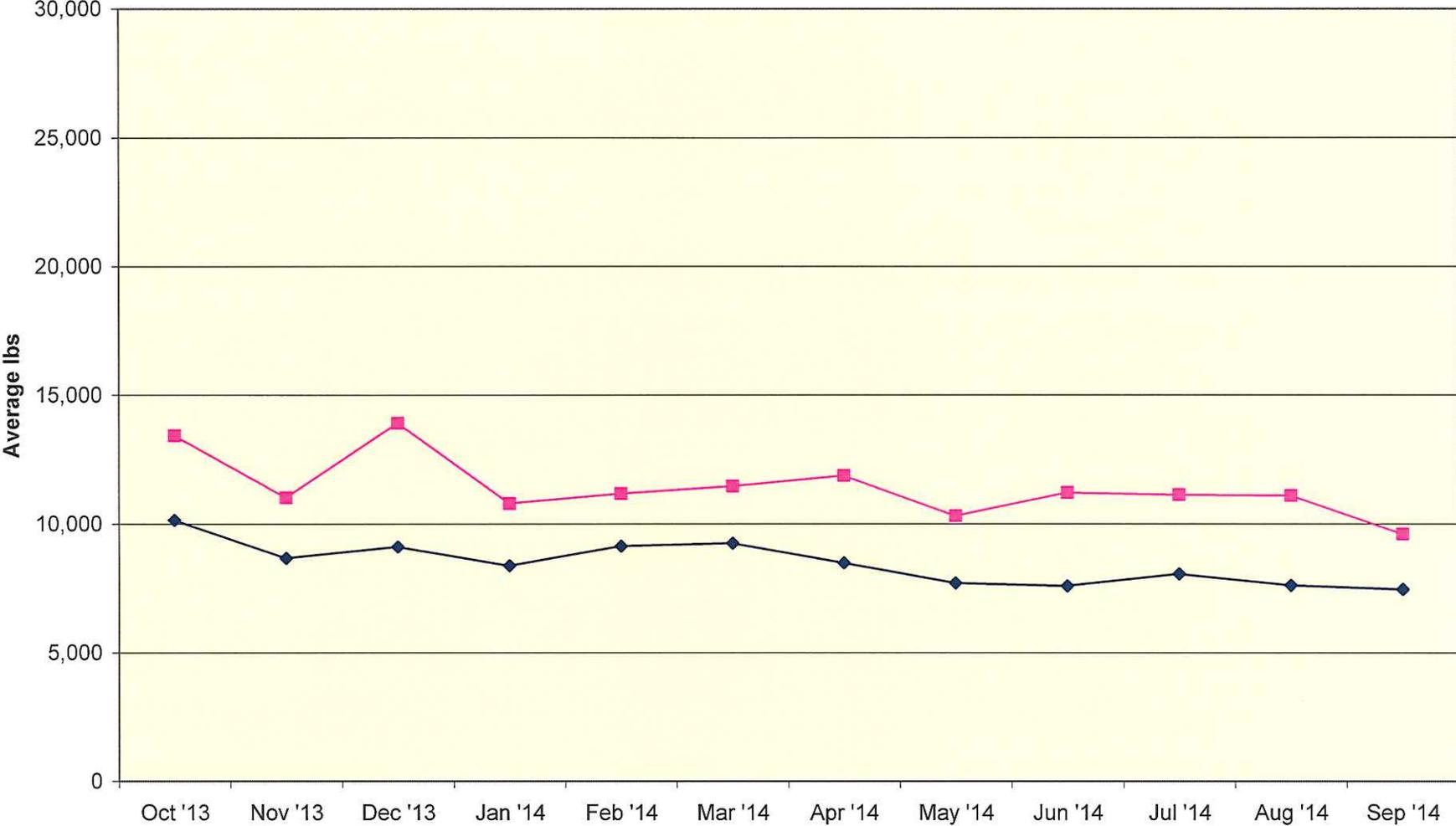
September, 2014

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		
09/01/14	3.74										
09/02/14	3.27										
09/03/14	3.23	330	8,890	414	11,152	<5	<135	<3	<81	98.5	99.3
09/04/14	3.19	239	6,358	311	8,274	<5	<133	<3	<80	97.9	99.0
09/05/14	3.13	230	6,004	295	7,701	<5	<131	<3	<78	97.8	99.0
09/06/14	3.19										
09/07/14	3.31										
09/08/14	3.29	320	8,780	330	9,055	<5	<137	<3	<82	98.4	99.1
09/09/14	3.36	228	6,389	326	9,135	<5	<140	3	84	97.8	99.1
09/10/14	3.20										
09/11/14	3.20										
09/12/14	3.09	249	6,417	353	9,097	6	155	3	77	97.6	99.2
09/13/14	3.39										
09/14/14	3.61										
09/15/14	3.74	264	8,235	374	11,666	<5	<156	3	94	98.1	99.2
09/16/14	3.56										
09/17/14	3.62	348	10,506	377	11,382	<5	<151	<3	<91	98.6	99.2
09/18/14	3.19										
09/19/14	3.06	300	7,656	351	8,958	<5	<128	3	77	98.3	99.1
09/20/14	3.15										
09/21/14	3.41	268	7,622	278	7,906	5	142	3	85	98.1	98.9
09/22/14	3.12										
09/23/14	3.67	150	4,591	359	10,988	<5	<153	3	92	96.7	99.2
09/24/14	3.36										
09/25/14	3.28	292	7,988	357	9,766	<5	<137	3	82	98.3	99.2
09/26/14	3.12										
09/27/14	3.28										
09/28/14	3.36										
09/29/14	3.30										
09/30/14	3.54										
<b>Weekly Averages</b>											
09/06/14	Week 1	266	7,084	340	9,042	5	133	3	80		
09/13/14	Week 2	266	7,195	336	9,096	5	144	3	81		
09/20/14	Week 3	304	8,799	367	10,668	5	145	3	87		
09/27/14	Week 4	237	6,734	331	9,553	5	144	3	86		
	Week 5										
<b>Monthly</b>											
Minimum	3.06	150	4,591	278	7,701	<5	<128	<3	77	97	99
Maximum	3.74	348	10,506	414	11,666	6	<156	3	94	99	99
Total	99.96										
Average	3.33	268	7,453	344	9,590	<5	<141	<3	<84	98	99

TOTAL COLIFORM (RECLAMATION)		
Sep-14		
(1) 5 Sample Median not to exceed 240 mpn/100 mL		
(2) Maximum not to exceed 10,000		
Note (2): Maximum must be confirmed by a follow-up sample taken within 24 hours		
Date	Value	Median
August 22, 2014	7	6
August 25, 2014	11	6
August 27, 2014	13	7
August 29, 2014	8	8
September 1, 2014		
September 2, 2014		
September 3, 2014	300	11
September 4, 2014	26	13
September 5, 2014	130	26
September 6, 2014		
September 7, 2014		
September 8, 2014	140	130
September 9, 2014	50	130
September 10, 2014		
September 11, 2014		
September 12, 2014	50	50
September 13, 2014		
September 14, 2014		
September 15, 2014	1600	130
September 16, 2014		
September 17, 2014	1700	140
September 18, 2014		
September 19, 2014	40	50
September 20, 2014		
September 21, 2014	50	50
September 22, 2014		
September 23, 2014	70	70
September 24, 2014		
September 25, 2014	70	70
September 26, 2014		
September 27, 2014		
September 28, 2014		
September 29, 2014		
September 30, 2014		
Maximum	1700	140

### Influent Load BOD / TSS lbs

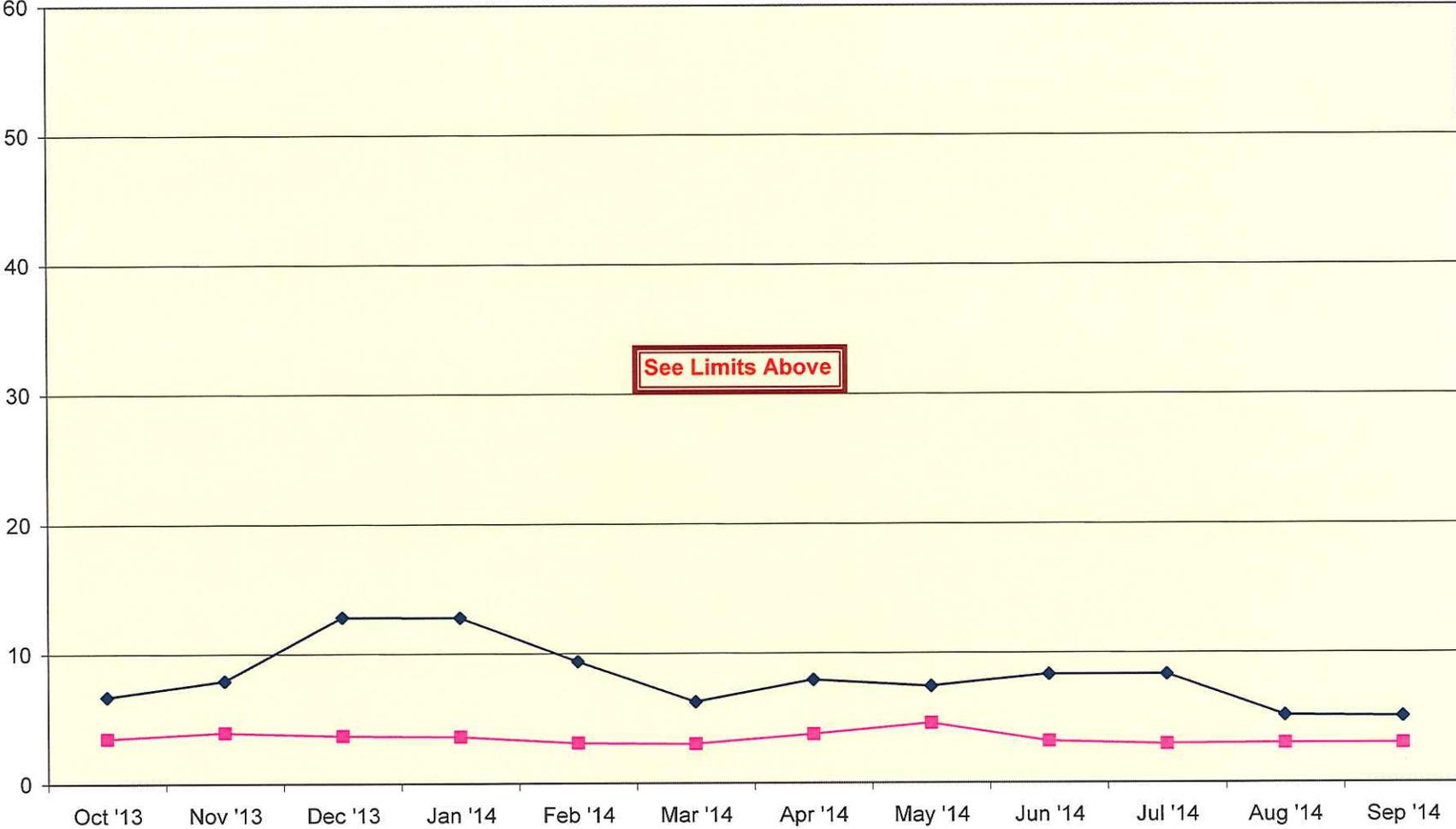
◆ BOD lbs    ■ TSS lbs



# Effluent BOD / TSS Concentration

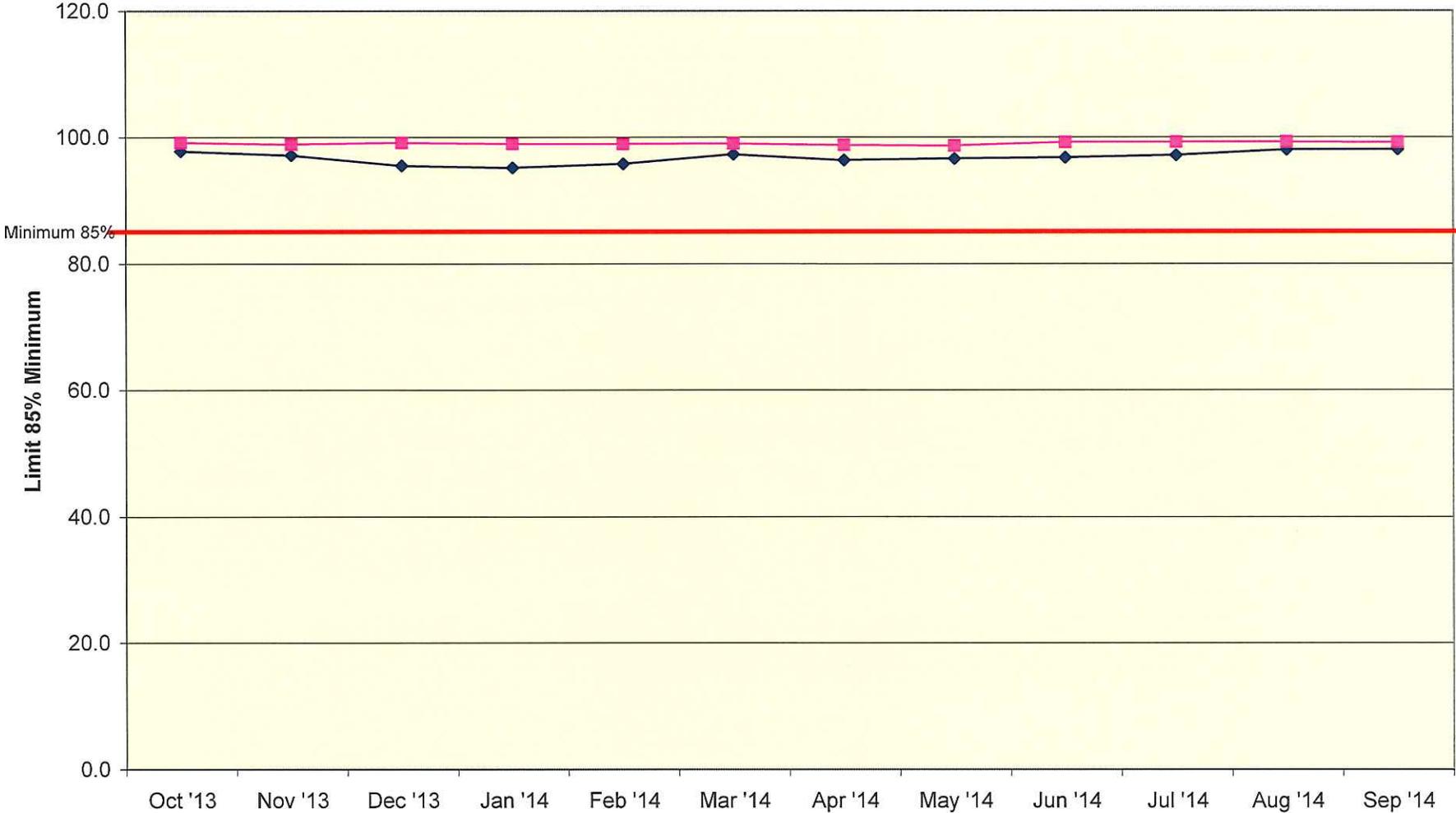
NPDES LIMITS WET SEASON  
BOD & TSS - 30 mg/L Monthly Ave, 45 mg/L Weekly Ave  
NPDES LIMITS DRY SEASON  
BOD - 15 mg/L Monthly Ave, 30 mg/L Weekly Ave  
TSS - 10 mg/L Monthly Ave, 20 mg/L Weekly Ave  
**WDR (Waste Discharge Requirements) RECLAMATION**  
**BOD - 40 mg/L**

◆ BOD ■ TSS



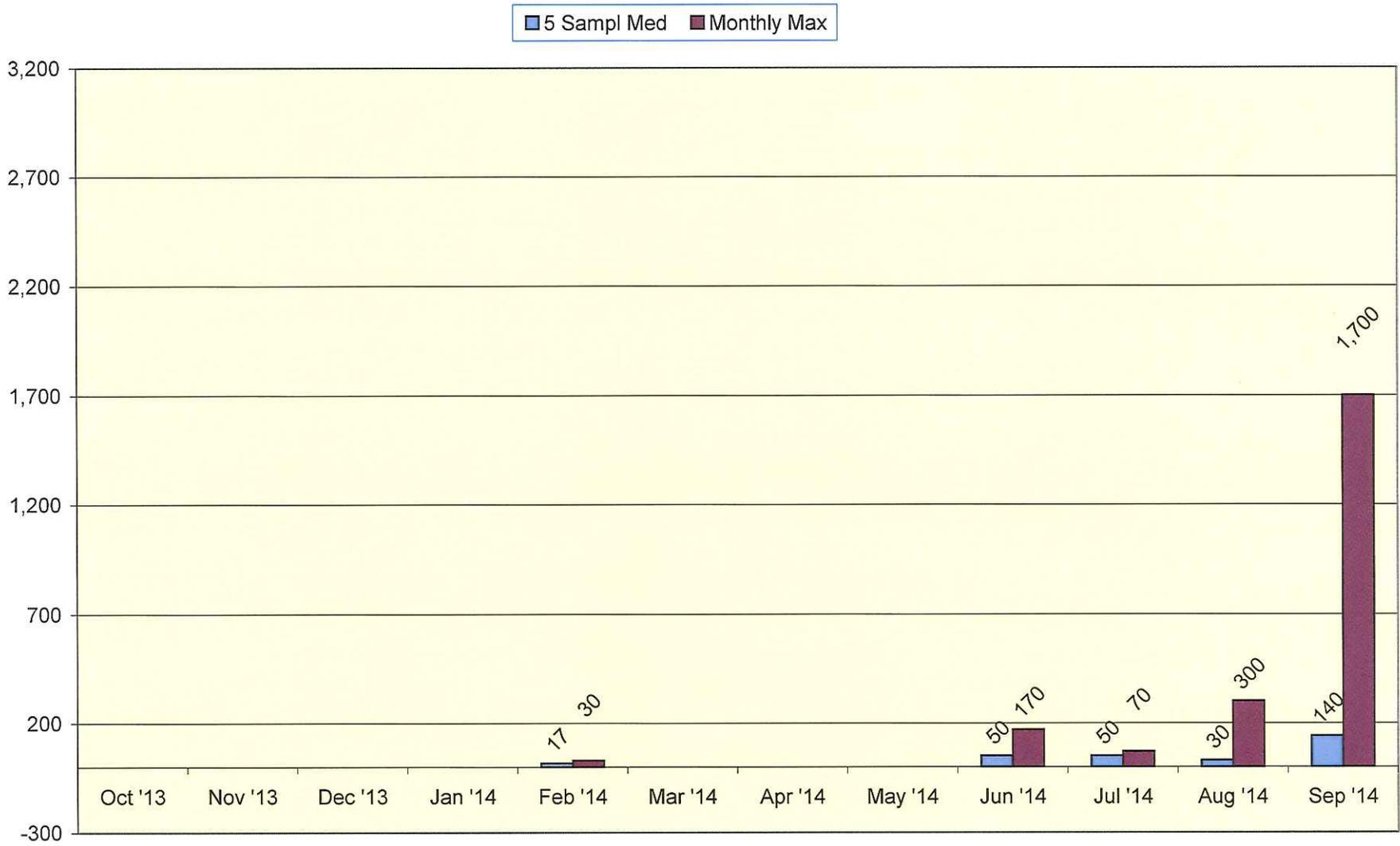
# BOD / TSS Percent Removal

—◆— BOD —■— TSS



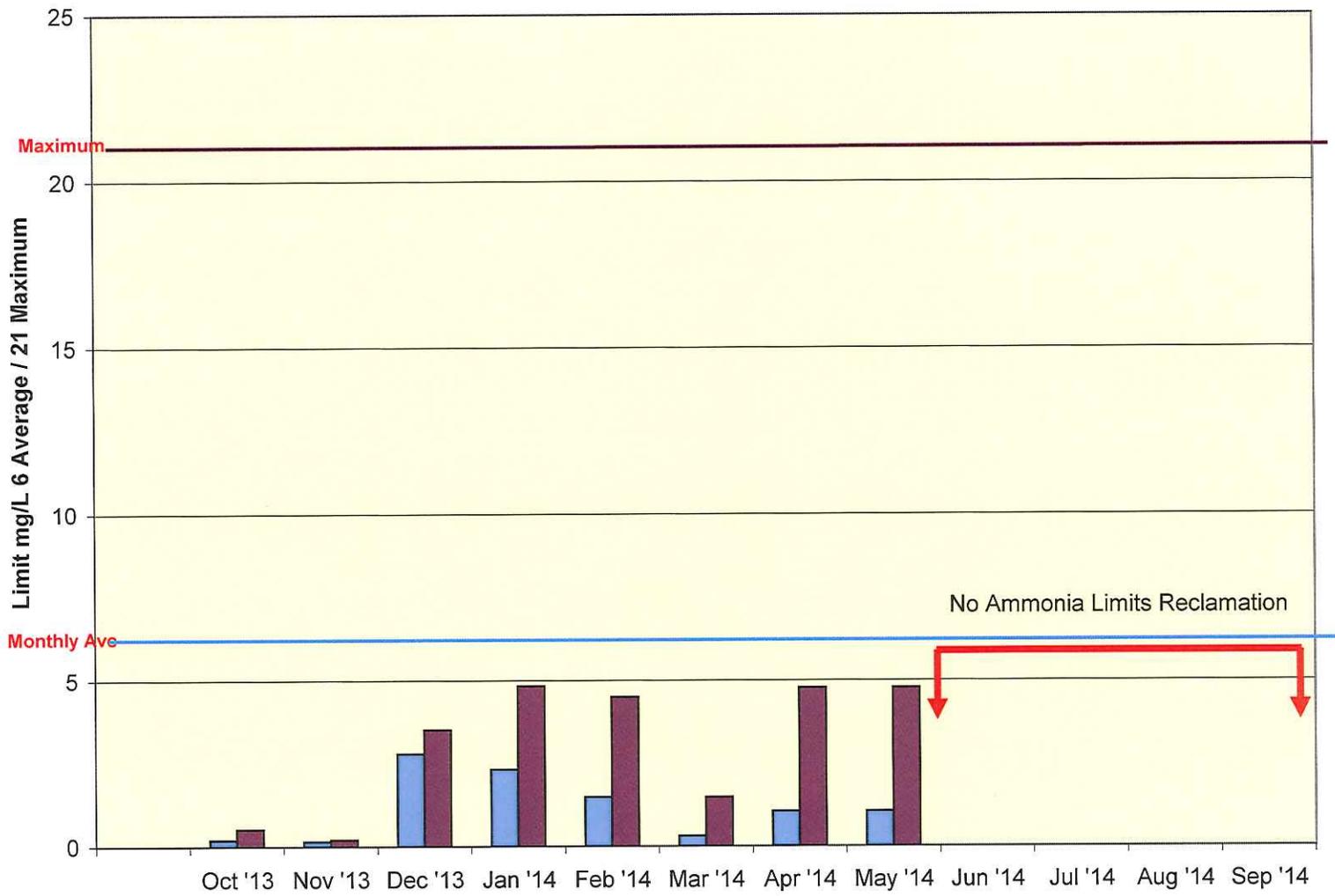
# Disinfection

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



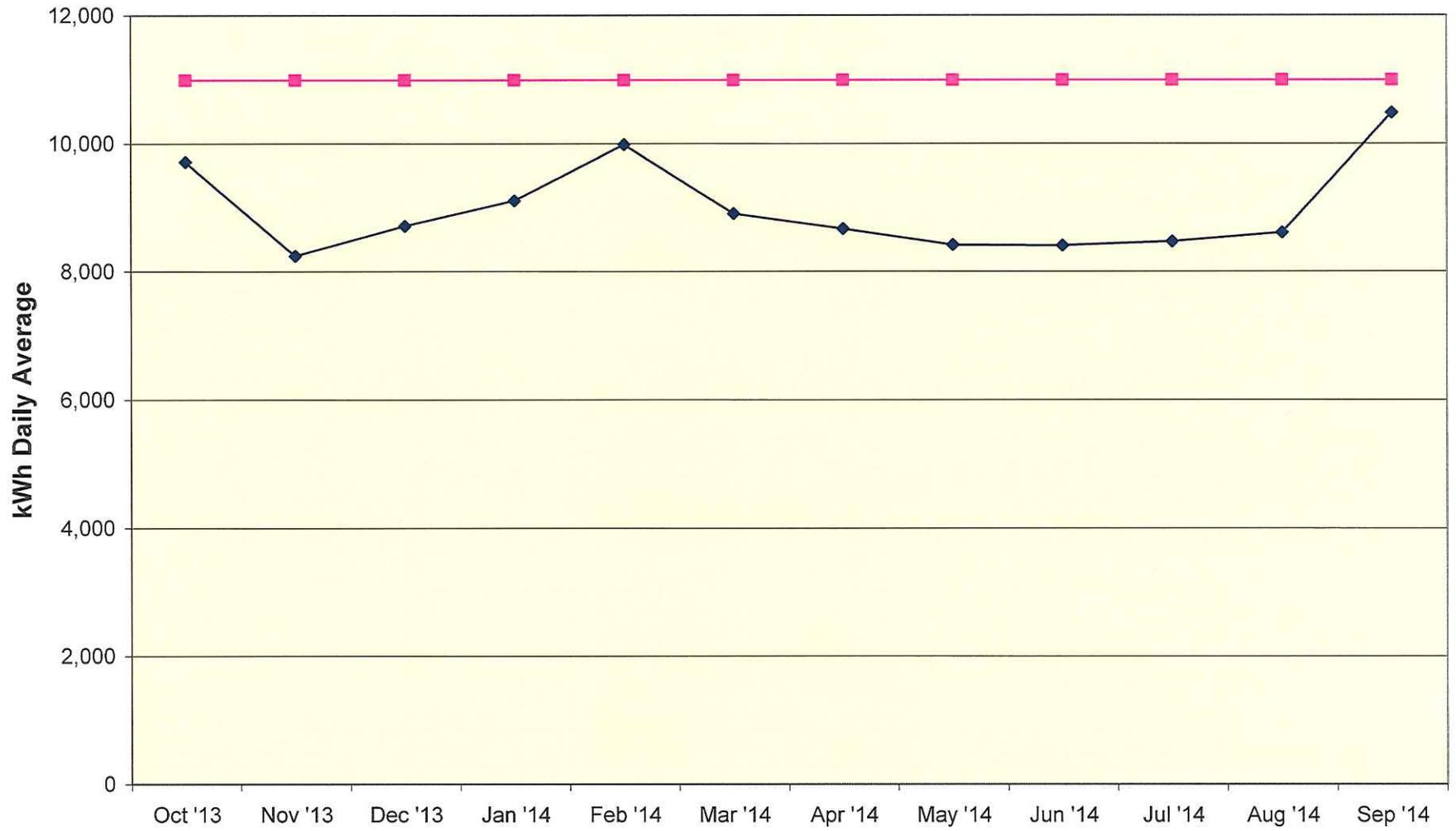
# Effluent Ammonia

Average Maximum



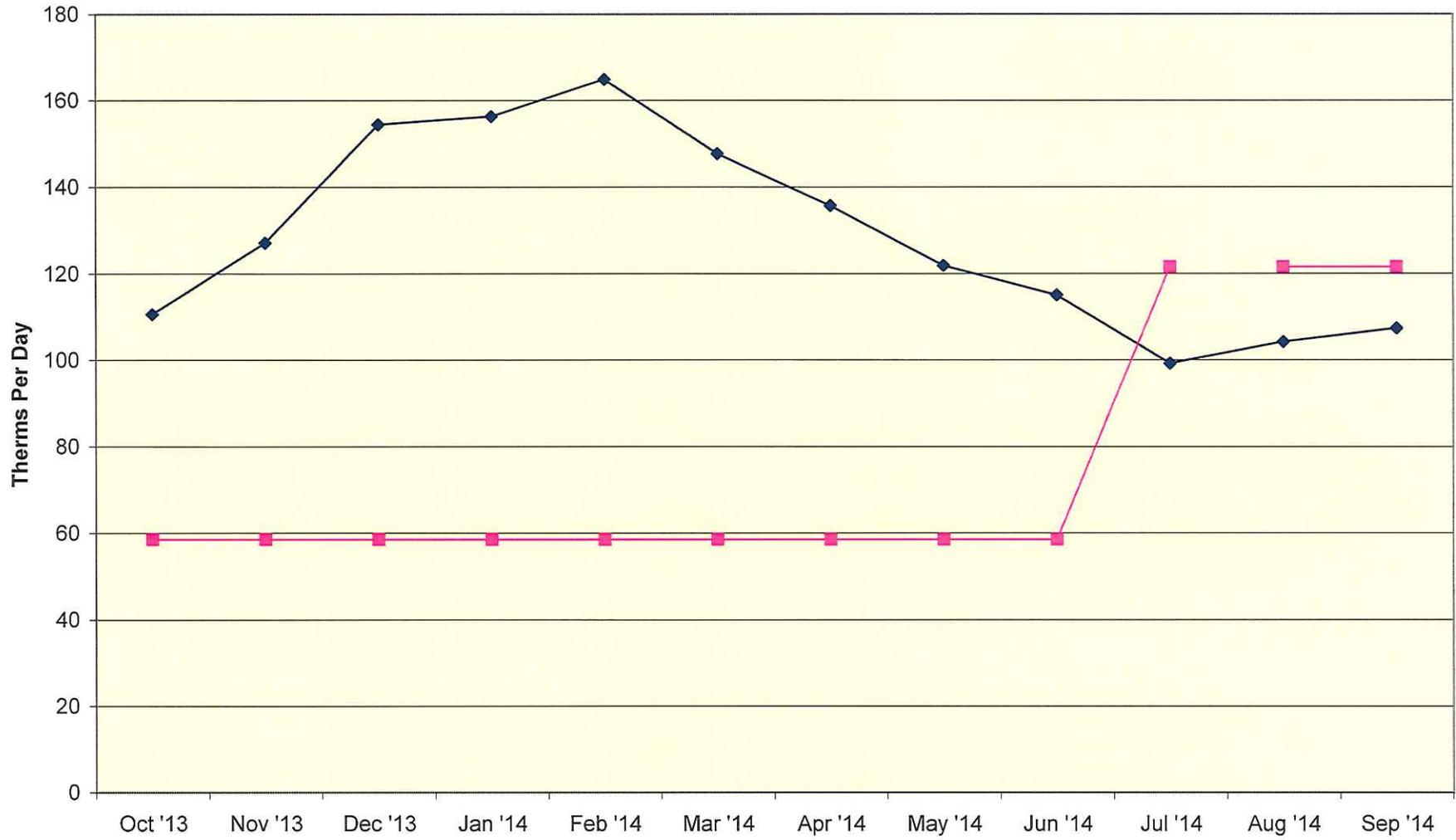
# Energy kWh

◆ kWh    ■ Cap



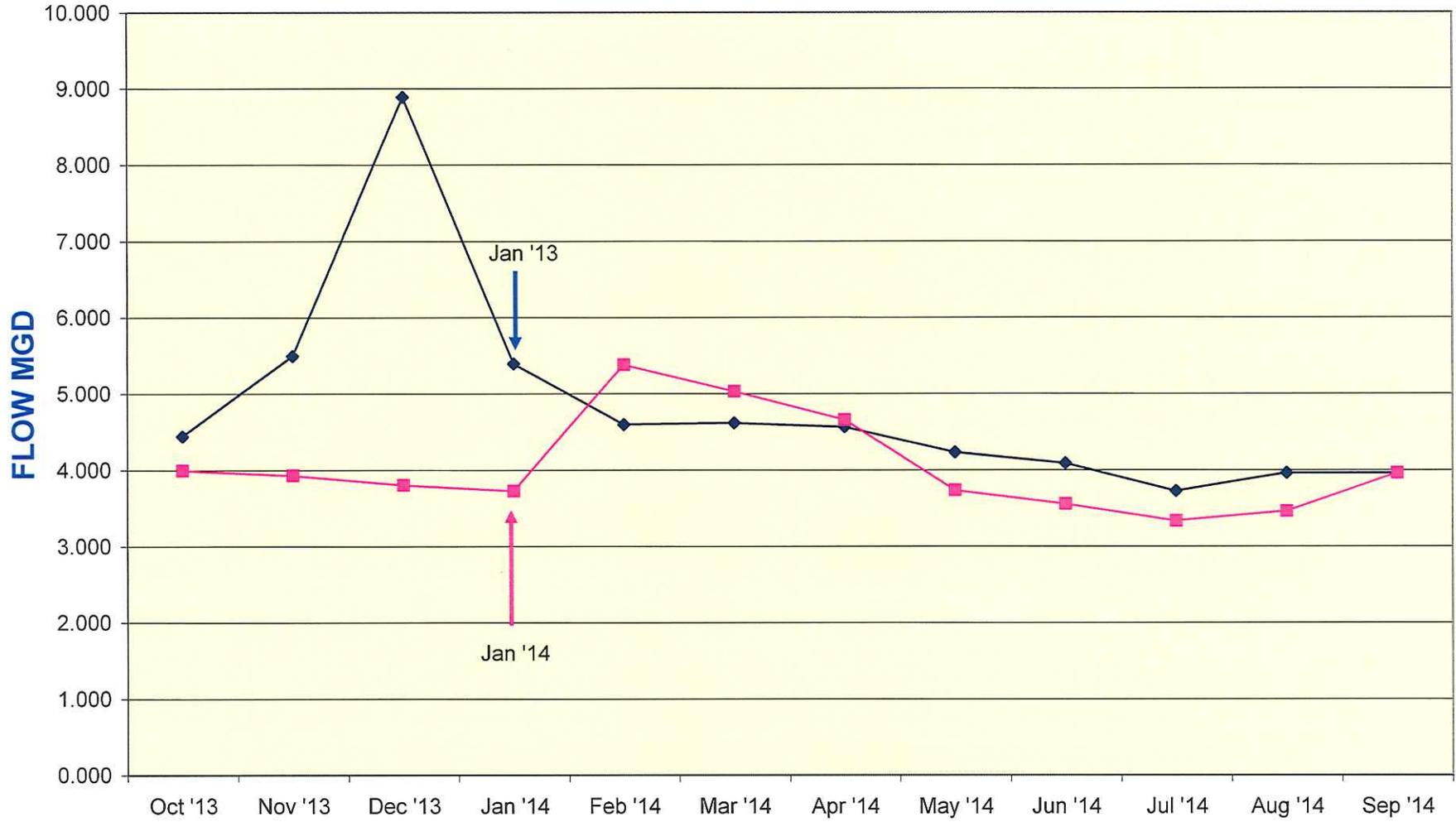
### Natural Gas Use

◆ Natural Gas    ■ Cap



# FLOW COMPARISON

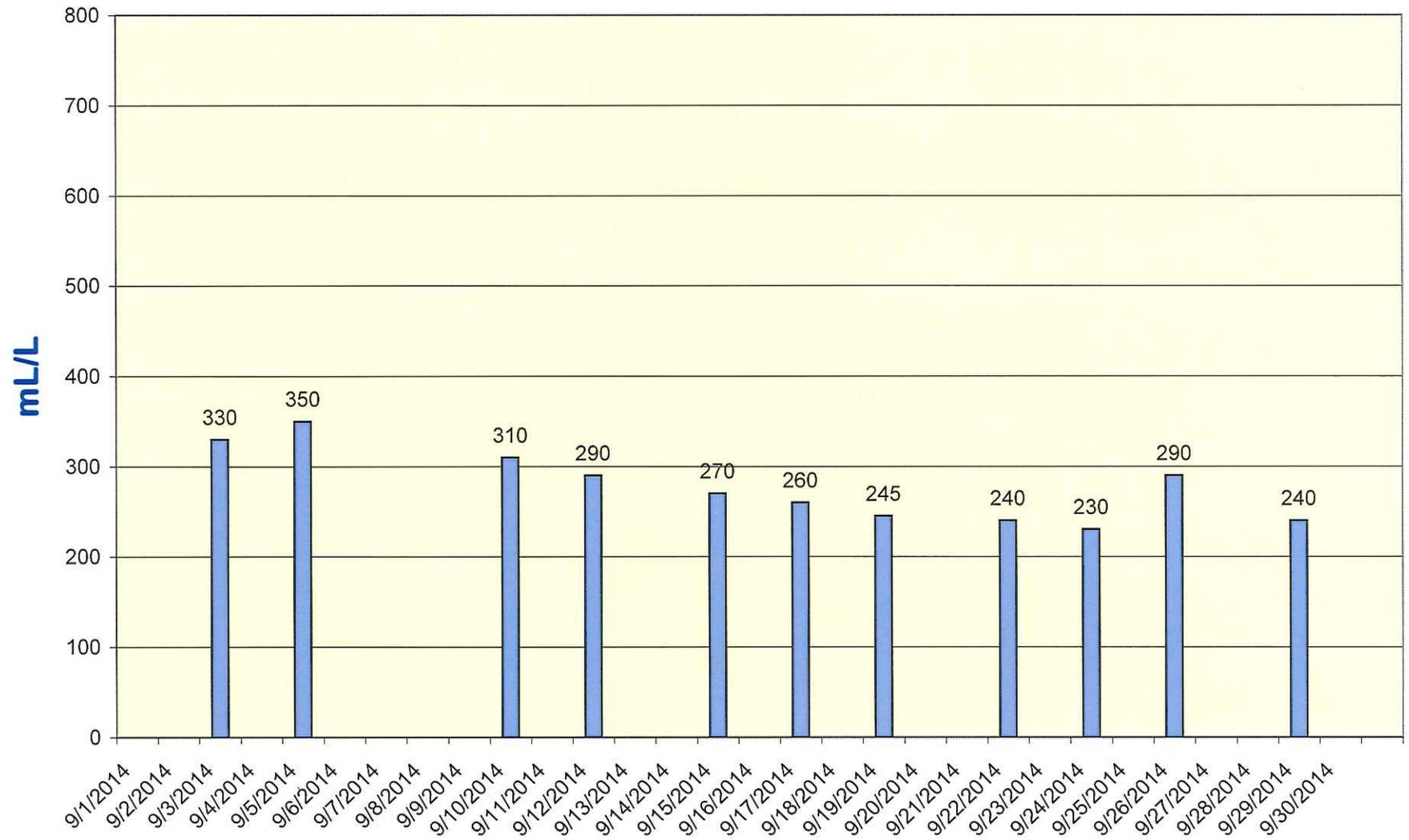
—◆— 2012 / 13    —■— 2013 / 14



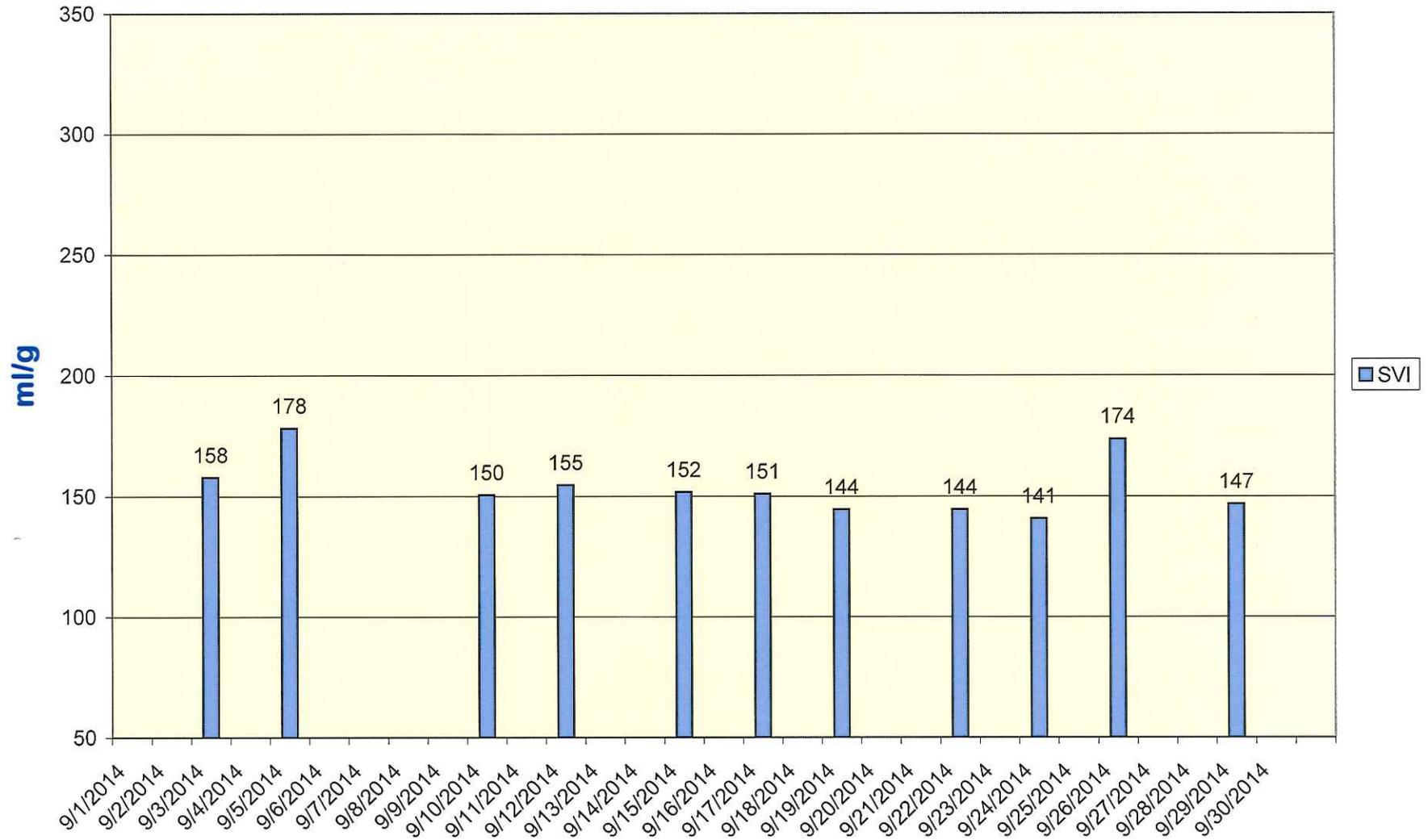
## Process Control Data

	Influent Flow	Settleability	MLSS Concentration	MLSS Inventory	F:M Ratio	MCRT	SVI
9/1/2014	3.74						
9/2/2014	3.27						
9/3/2014	3.23	330	2,093	37,276	0.17	8.1	158
9/4/2014	3.19						
9/5/2014	3.13	350	1,966	35,014	0.14	7.6	178
9/6/2014	3.19						
9/7/2014	3.31						
9/8/2014	3.29						
9/9/2014	3.36						
9/10/2014	3.20	310	2,067	36,813		8.3	150
9/11/2014	3.20						
9/12/2014	3.09	290	1,876	33,411	0.17	6.7	155
9/13/2014	3.39						
9/14/2014	3.61						
9/15/2014	3.74	270	1,781	31,718	0.22	7.5	152
9/16/2014	3.56						
9/17/2014	3.62	260	1,723	30,685	0.18	5.8	151
9/18/2014	3.19						
9/19/2014	3.06	245	1,697	30,231	0.23	6.1	144
9/20/2014	3.15						
9/21/2014	3.41						
9/22/2014	3.12	240	1,662	29,607		7.0	144
9/23/2014	3.67						
9/24/2014	3.36	230	1,635	29,126			141
9/25/2014	3.28						
9/26/2014	3.12	290	1,670	29,750			174
9/27/2014	3.28						
9/28/2014	3.36						
9/29/2014	3.30	240	1,635	29,126		7.1	147
9/30/2014	3.54						
Minimum	3.06	230.00	1,635.00	29,126	0.14	5.8	141
Maximum	3.74	350	2,093	37,276	0.23	8.3	178
Total	96.42	3,055	19,802	352,758	1.11	64.1	1,694
Average	3.32	278	1,800	32,069	0.18	7.1	154

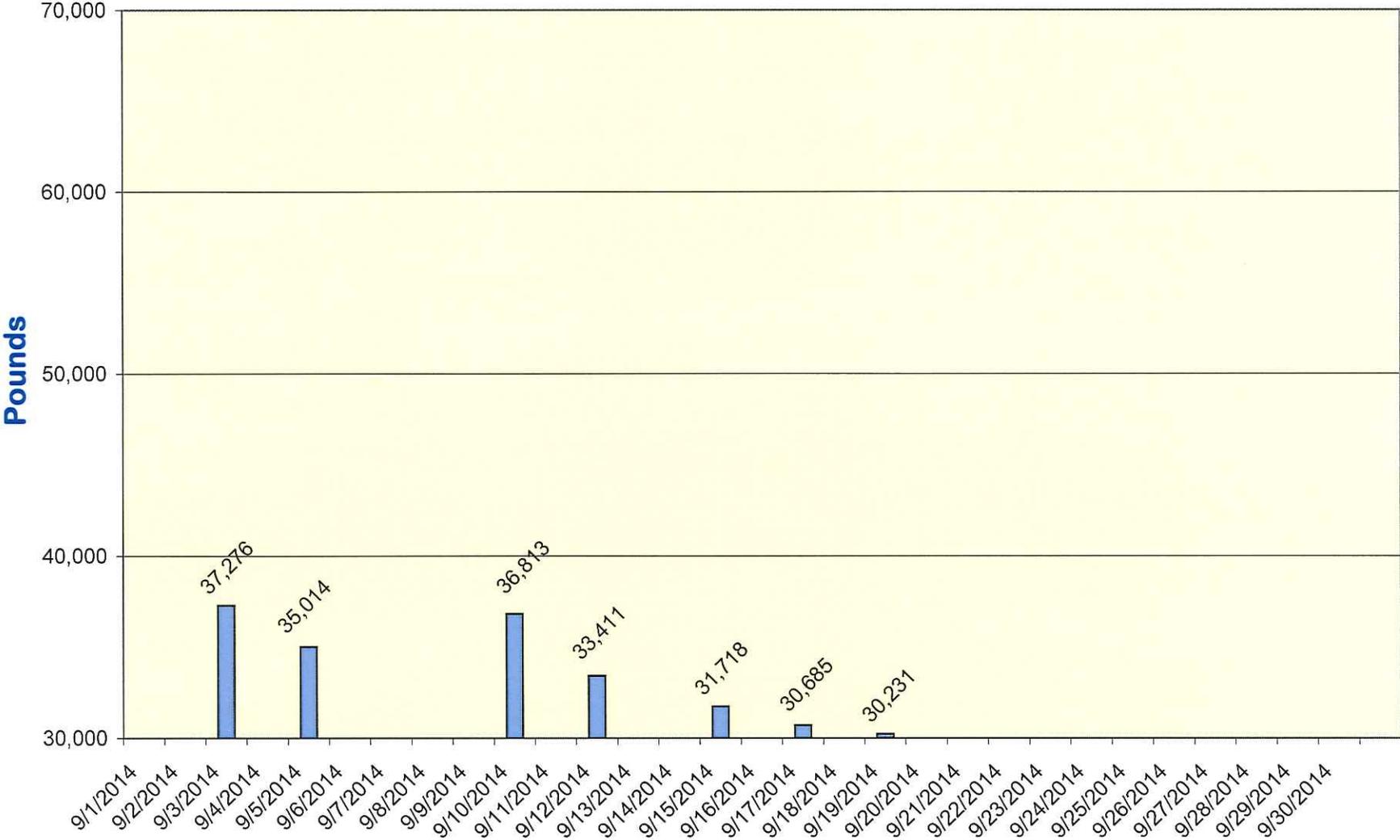
## Settleability



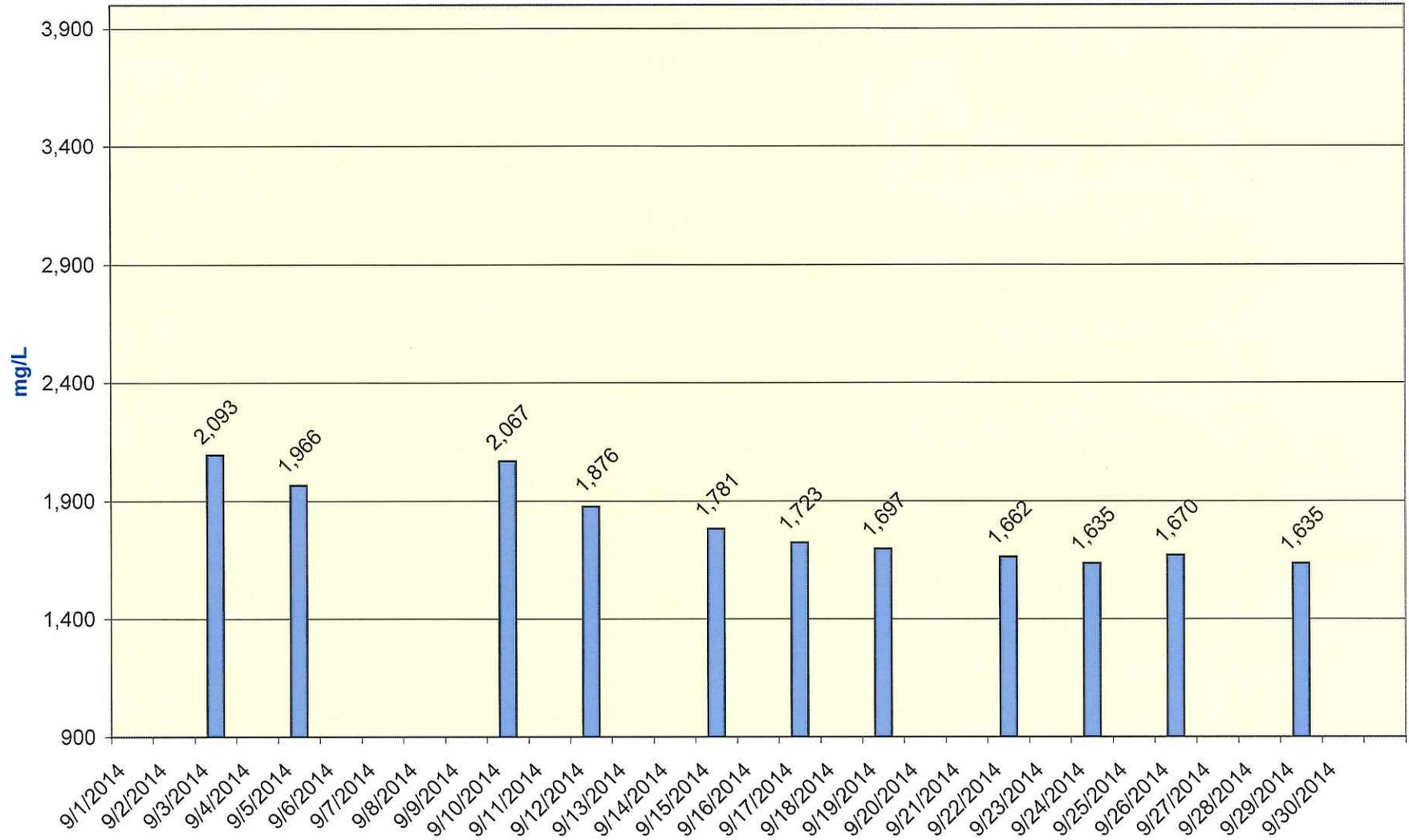
## Sludge Volume Index



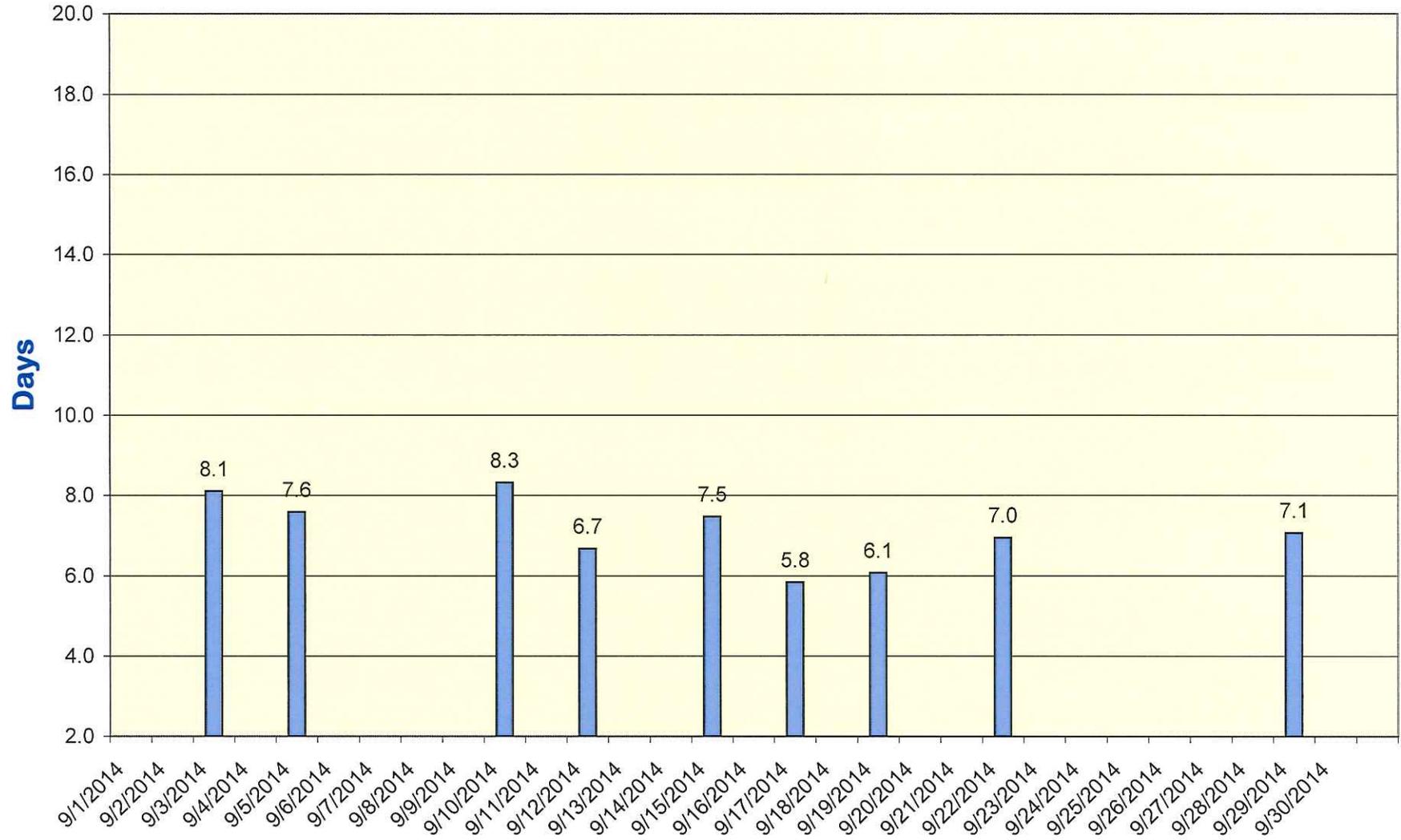
# MLSS Inventory



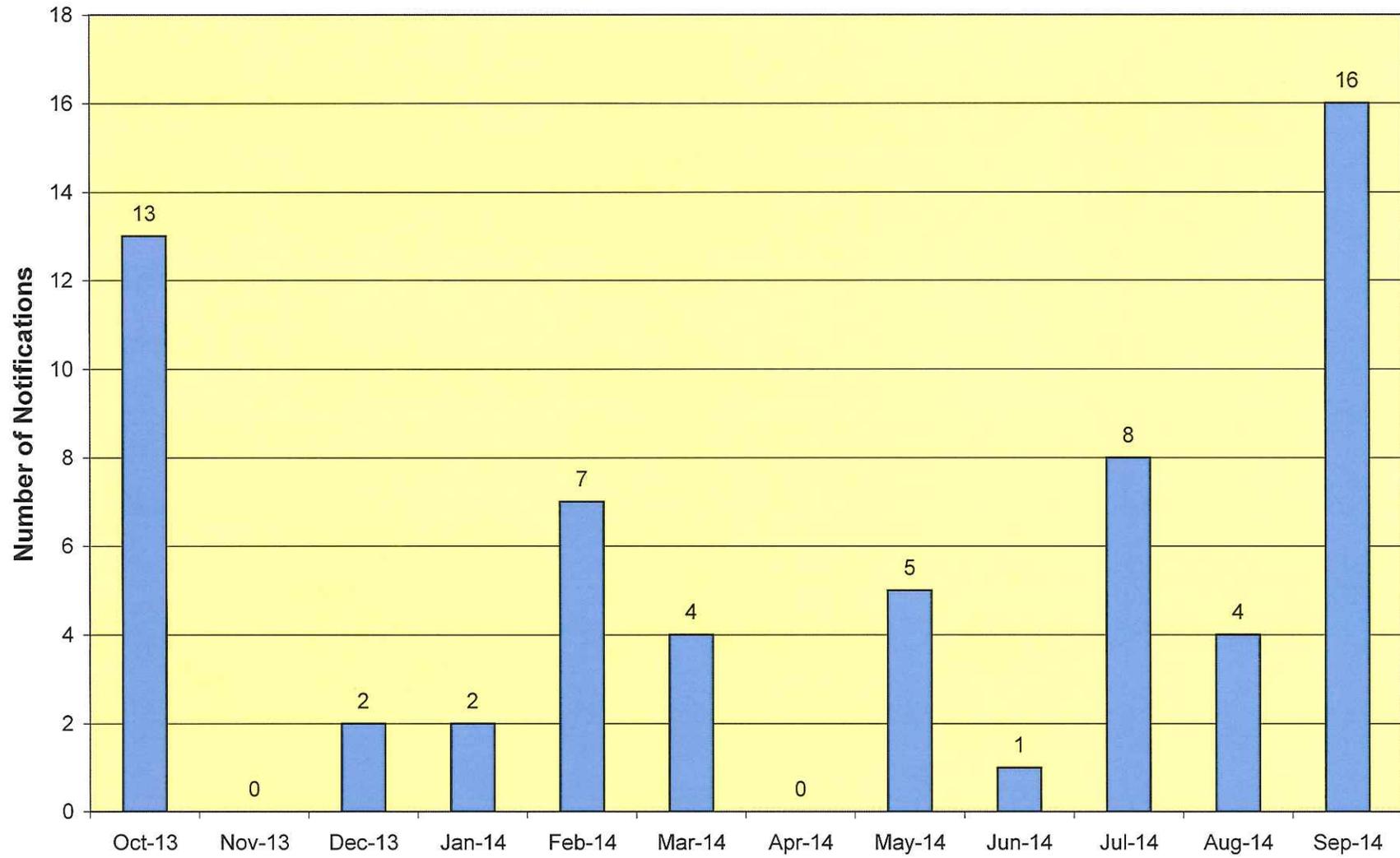
## MLSS Concentration



## Mean Cell Residence Time



# Complaints / Contacts Received



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

**Background:**

The District continues to work to address issues of odor control and landscaping, specifically in the Lea Drive neighborhood, and at the northeast corner of the Novato Treatment Plant (NTP) site. As mentioned in prior reports, the District has already spent significant amounts beyond the substantial investment for odor control and landscaping from 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 also retained Brown and Caldwell (B&C) and their project manager, Mr. David McEwen, to further study the issue of potential odor emissions from the aeration basins, and any other potential sources not previously considered.

**Odor control:**

As discussed previously, Mr. McEwen's most significant recommendation, i.e. converting anoxic zones B and C at the aeration basins to aerobic zones was implemented earlier this year. Also, Mr. McEwen performed sampling activities for the validation testing of this recommendation in June to reflect a warm weather "worst case" scenario. Results became available in late August and the data was analyzed. As reported last month, the analysis presented some contradictory results. Consequently, it was decided that this operational change needed to be tweaked, particularly the air flow input to the converted anoxic zones, and additional testing be considered to gage impacts from this change. Regardless, results still appear to be good anecdotally, and operations staff continues to monitor performance.

Also, another of Mr. McEwen's odor control recommendations i.e. adding an oxidizing agent, sodium hypochlorite, to the influent flow during warm weather periods, was implemented in July. Again, the results are still good anecdotally, but staff continues to monitor performance.

**Landscaping:**

There was only light activity in this area in September, but 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. As mentioned in earlier reports, staff intends to bring further improvements to this area for the Committee's consideration. Particularly, staff will be looking to transplant the redwood trees currently in boxes along the western boundary of the plant site to the northeast corner of the property in October or November, depending on weather.

\*\*\*\*\*

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

**General:**

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

- 1.7 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.3 FTE field workers for Pump Station Maintenance
- 0.6 FTE field workers for CCTV work
- 1.7 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
- 1.7 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 479 work orders were generated for September by the ICOM3 CMMS system. Staff completed 431 maintenance work orders leaving 48 of the work orders outstanding; the outstanding work orders are scheduled to be completed in October. The 431 maintenance work orders completed resulted in a total of 71,429 feet of sewer pipelines cleaned by staff. In addition, outside contractors cleaned 12,079 feet of small and large diameter sewer mains.

CCTV Performance: The District's CCTV van was in the field for 11 working days, televising 69 line segments totaling 12,090 feet of CCTV inspection. In addition, staff also televised 946 feet using the Push Cam. This production is lower than the District's internally set benchmarks due to staff availability. Outside contractors also televised an additional 8,585 feet of large diameter sewer mains for a total CCTV footage of 21,621 feet.

CCTV Findings:

- Infrastructure related: The September CCTV work identified several items that merit further evaluation to determine the extent of pipe repair or replacement, as follows:
  - One hundred twenty five total feet of sewer mains with structural defects (five locations).
  - Twenty feet of tar lined and coated corrugated metal pipe trunk sewer.
  - One buried manhole in Caltrans right-of-way along South Novato Blvd at Highway 101/37, and

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Wastewater Operations Committee meeting  
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- Approximately 300 feet of reinforced concrete pipe with evidence of corrosion.
- O&M related: The September CCTV work did not identify any areas that would require a change in sewer line operations, or merit any changes in maintenance activities in terms of cleaning frequency or method.

**Collection System Projects:**

The District awarded two informal contracts under the provisions of the Uniform Public Construction Cost Accounting Act (UPCCAA): (1) Repair of a sewer main at 14 Angelica Court, and (2) Replacement of 199 feet of sewer main across Redwood Blvd. at Hill Road. Work has not commenced at either location.

**Pump Station Maintenance:**

The Collection System Department conducted 297 lift station inspections this month. 147 of the inspection visits were generated through the District's CMMS system. There are 6 outstanding work orders for the month that will be completed in October. Lift station inspections included 30 submersible pump station visits, once per month, 4 underground style, dry well/wet well pump station visits, once per month, and 4 main pump stations that are visited daily.

Annual service was performed on all on-site and trailer mounted generators as well as on the trailer mounted 4" pump.

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

**Air Relief/Vacuum Valves (ARVs):**

Staff completed maintenance inspections on 3 air relief/vacuum valves.

**Pump Station Rehabilitation:**

Currently, two (2) pump stations are being rehabilitated 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 has progressed to a point where these stations were preliminarily accepted for operation by District staff in September, and punch list items are being completed.

**Safety and Training:**

General: The Collection System staff attended four safety tailgate meetings.

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Specialized training: Collection System staff attended Emergency Response training this month. Steve Krautheim and Dasse de longh attended a webinar on SSO Mobile Application for smart phones, and Justin Wall completed Arc Flash Awareness training.

Safety performance: There were no lost time accidents this month for a total of 1,295 accident free days.

**Standard Operating Procedures (SOPs):**

Department staff continues to work on generating new SOPs, and finalizing earlier draft SOPs. 12 draft Energy Control SOPs were completed and the SOP for CCTV practices was revised this month.

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

Staff has been working with DKF Solutions over the past year to develop 38 Emergency Operating Procedures (EOPs) for all of the District pump stations. At this time, all EOP's have been through a final review by staff. Staff expects the final EOPs to be in place (District staff has already received all relevant training) by the end of October 2014. Also included in DKF Solution's contract was an interactive training program hosted on CSRMA's website and on CD. At this time, staff expects completion of this portion of the Contract by the end of November. The timeline for completion was delayed a month while District staff generated a method to include a common Emergency Contact and Vendor List into the Procedures that will also be used in other Procedures.

**Sanitary Sewer Overflows (SSOs):**

There were no SSO's in September.

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

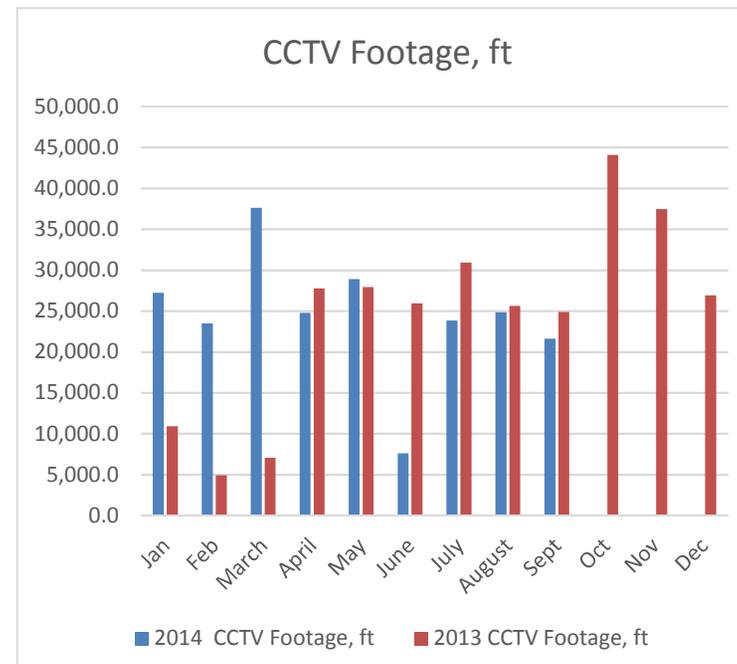
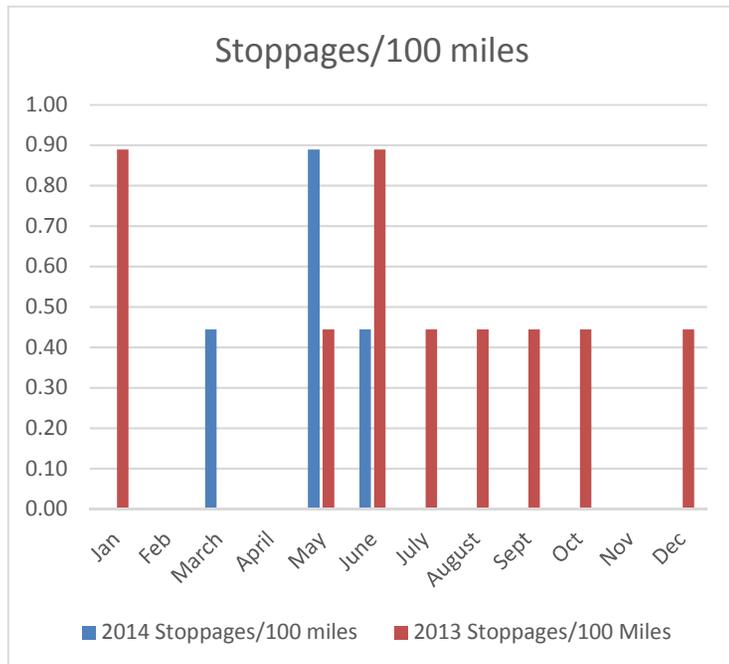
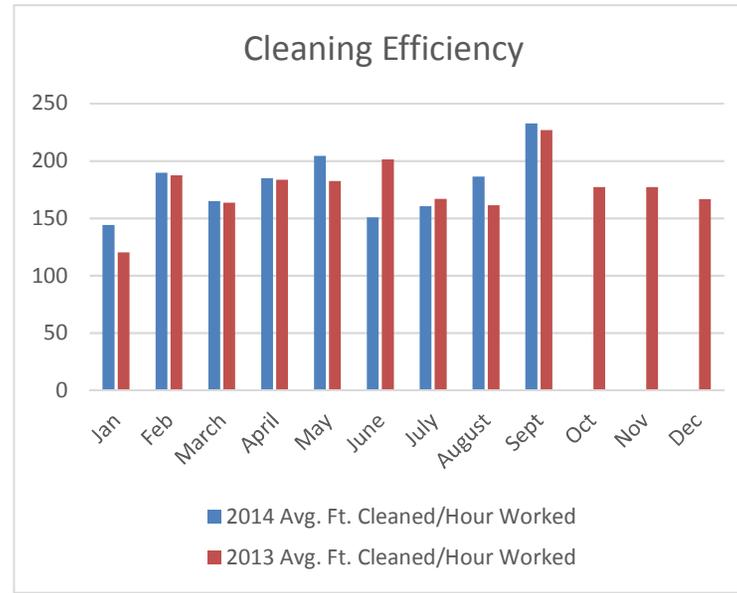
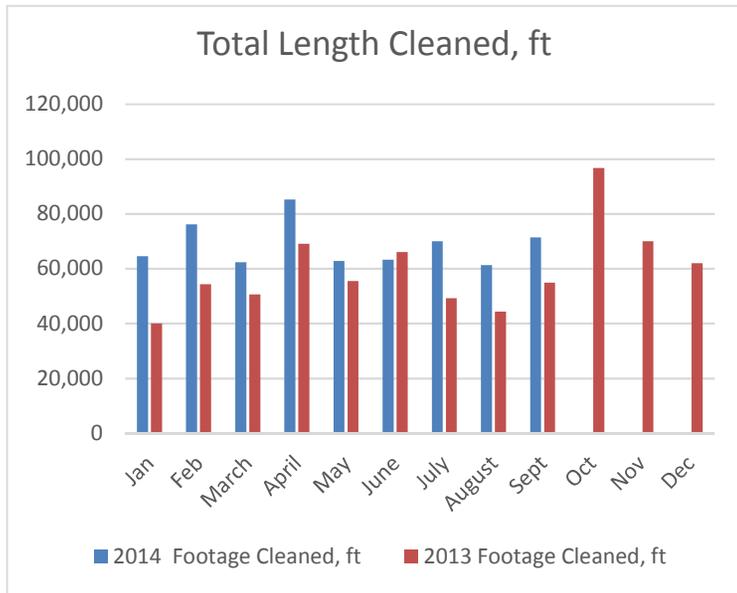
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
<b>A. Employee Hours Worked</b>														
Number of FTEs (main line cleaning), hrs.	2.6	2.5	2.2	2.6	1.8	2.5	2.3	2.0	1.7				NA	2.2
Number of FTEs (other)	1.7	1.6	2.1	1.8	1.7	2.1	1.9	1.8	1.7				NA	1.8
Number of FTEs (CCTV)	0.9	0.8	1.0	0.8	0.9	0.2	0.3	0.9	0.6				NA	0.7
Total, FTEs	5.2	4.9	5.3	5.1	4.4	4.8	4.6	4.7	4.0				NA	4.8
Regular Time Worked, (main line cleaning), hrs	448	402	378	461	308	420	436	329	307					
Regular Time Worked on Other, hrs (1)	294	262	350	313	297	362	358	298	303					
Regular Time Worked on CCTV (2)	158	125	172	136	164	38	63	145	110					
Total Regular time, worked, hrs	900	789	900	909	768	820	857	772	720				7,434	826
Total Vacation/Sick Leave/Holiday, hrs	285	151	101	143	220	195	198	126	294				1,713	190
Vacation/Sick Leave/Holiday, FTEs	1.6	0.9	0.6	0.8	1.3	1.2	1.1	0.8	1.7				9.9	1.1
Overtime Worked on Coll. Sys., hrs	2	8	3	15	0	3	17	1	5				54	6
Overtime Worked on Other, hrs (1)	22	17	16	31	35	26	15	17	27				206	23
Overtime Worked on CCTV (2)	0	0	0	3	0	0	4	0	0				7	1
Total Overtime, hrs	24	25	19	49	35	29	36	18	32	NA	NA	NA	267	30
<b>B. Productivity</b>														
<b>1. Line Cleaning</b>														
Rodder Work Orders generated	57	30	24	78	20	72	73	68	29				451	50
Rodder 3203 ft. cleaned	10,989	3,337	6,378	11,933	1,388	12,770	9,286	6,005	289				62,375	6,931
Rodder - outside services, ft cleaned	0	0	0	0	0	0	0	0	3,494				3,494	388
Flusher Work Orders generated	351	352	369	532	313	308	333	288	450				3,296	366
Truck 3205V ft. cleaned	16,187	16,552	18,158	802	13,575	9,410	17,136	3,441	16,834				112,095	12,455
Truck 3206V ft. cleaned	37,342	56,332	37,781	72,511	47,863	41,143	43,561	51,825	54,306				442,664	49,185
Flusher - outside services, ft. cleaned	2,301	1,570	6,492	11,155	0	0	7,216	1,717	8,585				39,036	
Total Footage cleaned(3)	64,518	76,221	62,317	85,246	62,826	63,323	69,983	61,271	71,429				617,134	68,570
Work Orders completed	408	361	393	580	313	348	371	292	431				3,497	389
Work Orders backlog	66	21	0	30	20	32	35	64	48				316	35
<b>2. Closed Circuit Television (CCTV)</b>														
Camera Work Orders generated	0	0	0	0	0	0	0	0	0				0	
CCTV Truck 3126T, ft. videoed	24,487	21,931	31,116	19,331	27,555	5,560	11,827	19,137	12,090				173,034	19,226
CCTV (hand cam), ft. videoed	449	0	0	5,428	1,340	2,056	4,802	3,983	946				19,004	
CCTV Inspection - outside services, ft. videoed	2,301	1,570	6,492	0	0	0	7,216	1,717	8,585				27,881	
Total CCTV footage(3)	27,237	23,501	37,608	24,759	28,895	7,616	23,845	24,837	21,621	NA	NA	NA	219,919	
<b>C. Sanitary Sewer Overflows (SSOs)</b>														
Minor (Category III)	0	0	1	0	2	1	0	0	0				4	NA
Major (Category II)	0	0	0	0	0	0	0	0	0				3	NA
Major (Category I)	0	0	0	0	0	0	0	0	0				0	NA
Major (Category I)	0	0	1	0	0	0	0	0	0				1	NA
Overflow Gallons	0	0	180	0	50	235	0	0	0				465	NA
Volume Recovered	0	0	0	0	50	235	0	0	0				285	NA
Percent Recovered	NA	NA	0%	NA	100%	100%	NA	NA	NA	NA	NA	NA	61%	NA
<b>D. Service Calls (non-SSO related)</b>														
Service calls, normal hours, #	8	3	5	4	4	3	6	9	5				47	5
Normal hours S.C. response time, mins (avg.)	38	19	25	18	14	16	15	16	20				181	20
Service Callouts, after hours, #	0	1	1	1	1	1	3	1	0				9	1
After Hours S.C. response time, mins (avg.)	0	15	40	42	13	25	34	10	0				179	20
<b>E. Benchmarks</b>														
Average Ft. Cleaned/Hour Worked	144	190	165	185	204	151	161	186	233	NA	NA	NA	NA	180
Total Stoppages/100 Miles	0.0	0.0	0.4	0.0	0.9	0.4	0.0	0.0	0.0				1.8	NA
Average spill response time (mins)	0	0	18	0	39	14	0	0	0				NA	8
Callouts/100 Miles	0.0	0.4	0.4	0.4	0.4	0.4	1.3	0.4	0.0				4.0	0.4
Overtime hours/100 Miles	1	4	1	7	0	1	8	0	2				24.00	3
Overflow Gallons/100 Miles	0	0	80	0	22	104	0	0	0				207	23

(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



Novato Sanitary District

Pump Station Monthly Report For September 2014 (as of September 30, 2014)

	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
<b>Employee Hours Worked</b>	248	212	205	226	251	190	334	304	258				2,228	
Number of Employees (FTEs)	1.4	1.1	1.1	1.1	1.3	1.0	1.4	1.5	1.3					1.2
Regular Time Worked on Pump Sta	231	181	183	194	229	169	255	250	232				1,923	
Overtime Worked on Pump Sta	17	31	22	32	22	22	79	54	26				305	
After Hours Callouts	1	5	1	5	6	1	11	7	6				43	
Average Callout response time (mins)	30	26	25	33	13	22	39	27	26				241	27
<b>Work Orders</b>														
Number generated in month	124	115	147	116	130	143	150	122	153				1200	
Number closed in month	121	110	142	109	128	139	127	112	147					
Backlog	3	5	5	7	2	4	23	10	6					

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

	<b>Open Work Orders Due Prior to 9/1/2014</b>	<b>Open Work Orders 9/1/2014 - 9/30/2014</b>	<b>Total Open Work Orders</b>
Preventive	3	153	153
Corrective	3	0	0
Total	6	153	153

	<b>Closed Work Orders 9/1/2014 - 9/30/2014</b>
Preventive	147
Corrective	0
Total	147

<b>Total Outstanding Work Orders as of 9/30/2014</b>	<b>6</b>
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**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Reclamation Facilities Report**  
**September 2014**

**Summary:**

The rancher continued to work on routine parcel maintenance. A total of 33.77 MG of recycled water was applied to the irrigation pastures in September. Work began to empty the sludge lagoons, transferring approximately 2.6 MG of sludge into the Dedicated Land Disposal (DLD) site.

**Ranch Operations:**

The rancher continued to perform annual parcel maintenance, spraying weeds and thistles, and making sprinkler and fence repairs. The rancher also removed accumulated mud and debris from the end of plugged culverts in Site 7. This material is deposited there when cattle enter the ditches around the ends of the culverts to drink water in the ditches.

The rancher had to start feeding cattle baled hay because of low grass feed production on the Parcels. Irrigation has been off for some time due to the failed main breaker at the Irrigation Pump Station.

**Irrigation Parcels:**

There are no significant activities to report this month since irrigation did not occur for a large portion of the month due to the main breaker failure at the Irrigation Pump Station in the previous month.

**Irrigation Pump Station:**

On September 20<sup>th</sup> the main breaker for the Irrigation Pump Station was replaced, tested and put back into service. The pump station and related equipment have operated through the end of the month with no issues. Approximately 33.77 MG of recycled water was used for irrigation of the parcels during the remainder of the month.

The Wildlife Pond recirculation system remains out of service due to a leak in the line. Staff will pursue finding the leak when time allows. Recirculation of the water through the Wildlife Pond is not an essential function of the Reclamation Facility.

**Sludge Handling & Disposal:**

Custom Tractor Service (CTS) of Petaluma began pumping sludge out of the sludge lagoons and into the DLD area. Approximately 2.6 MG of sludge was pumped out of lagoons 1, 2, 4, 5 & 6. Lagoon 3 will be emptied in October after the heavier, bottom solids have been excavated from the other lagoons.

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**NOVATO SANITARY DISTRICT**  
**Reclamation Facility - Monthly Statistics for Calendar Year 2014, as of July 2014**

	January	February	March	April	May	June	July	August	September	October	November	December	Total Year to Date	Annualized Monthly Average
<b>Irrigation Pump Station</b>														
Plant flow to ponds (MG)	0	59.39	0	0	0	90.36	103.36	89.67	89.11				431.89	35.99
Irrigation (MG)	17.87	0	7.0	0	15.57	65.36	63.45	88.19	37.77				295.21	24.60
Irrigation Pump 1 Hours	29.3	0	13.5	0	27.5	107.8	106.8	127.4	77.2				489.5	40.79
Irrigation Pump 2 Hours	0	0	2.9	0	35.3	106.6	103.8	126.7	84.4				459.7	38.31
Irrigation Pump 3 Hours	31.4	0	14.4	0	25.9	133.1	103.2	120.3	0.3				428.6	35.72
Washdown Water Pump Hours	0	0	0	0	0	0	0	0	0				0	0.00
Wildlife Feed Pump Hours	0	0	0	0	352.9	747.6	212.4	0	0				1312.9	109.41
Water Circulated through Wildlife Pond (MG)	0	0	0	0	22.23	47.10	13.38	0	0	0	0	0	82.7127	6.89
Strainer No. 1 Hours	-	-	0.9	0	10.9	44.1	37.2	43.5	23.6				160.2	13.35
Strainer No. 2 Hours	-	-	1	0	10.8	43.9	38.2	47.7	20.9				162.5	13.54
Pond 1 Gauge @ Beginning of Month	3.3	2.4	6.1	5.2	5.2	3.9	4.4	5.3	4.2	7				
Pond 1 Gauge @ End of Month	2.4	6.1	5.2	5.2	3.9	4.4	5.3	4.2	7					
Pond 1 Gallons Stored @ End of Month(MG)	15.2	45.8	37.6	37.6	27.2	31.2	38.4	29.6	53					
Pond 2 Gauge @ Beginning of Month	3.3	2.2	6.1	5.2	5.2	4	4.4	5.4	4.3	7				
Pond 2 Gauge @ End of Month	2.2	6.1	5.2	5.2	4	4.4	5.4	4.3	7					
Pond 2 Gallons Stored @ End of Month(MG)	17	58	49	49	36	40	51	39	68					
Total Irrigation Water Stored	32.2	103.8	86.6	86.6	63.2	71.2	89.4	68.6	121	0	0	0		
<b>Drainage Pump Station No. 3</b>														
Drainage Pump No. 1 Hours	0	0	0	0	0	0	0	0	16.9					
Drainage Pump No. 2 Hours	0	0	14	0	0	0	0	0	0					
Drainage Pump No. 3 Hours	0.7	134.5	0	31.1	0.8	0	0	0	0					
Total Gallons Stormwater Pumped (MG)	0.21	40.35	4.2	9.33	0.24	0	0	0	5.07	0	0	0	59.4	4.95
<b>Drainage Pump Station No. 7</b>														
Drainage Pump No. 1 Hours	0	24.2	13.2	3.9	0	0	0	0	0.6					
Drainage Pump No. 2 Hours	0	106.6	48.8	9.5	0	0	0	0	0.4					
Drainage Pump No. 3 Hours	0	1.7	0.9	0	0	0	0	0	0.3					
Total Gallons Stormwater Pumped (MG)	0	59.63	28.31	6.03	0	0	0	0	0.585	0	0	0	94.545	7.88