

## NOVATO SANITARY DISTRICT

Meeting Date: November 19, 2012

**The Wastewater Operations Committee of Novato Sanitary District will hold a meeting at 2:00 PM, Monday, November 19, 2012, 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. APPROVAL OF MEETING RECORD FOR OCTOBER 15, 2012:**

**4. WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR OCTOBER 2012:**

- a. Treatment Plant Performance Report.
- b. Maintenance Report.
- c. Safety and training.
- d. Odor control and landscaping progress report.
- e. Report on reconciliation of natural gas usage.
- f. Presentation of draft Annual Report.

**5. COLLECTION SYSTEM OPERATION AND MAINTENANCE REPORT FOR OCTOBER 2012:**

- a. Collection System Maintenance.
- b. Pump Station Maintenance.
- c. Pump Station Rehabilitation.
- d. Safety and Training
- e. Standard Operating Procedures SOP's).
- f. Sanitary Sewer Overflows (SSO's).

**6. RECLAMATION FACILITY REPORT FOR OCTOBER 2012**

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

**7. ADJOURNMENT:**

AGENDA/Wastewater Operations Committee  
April 16, 2012

***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.***

October 15, 2012

The regular meeting of the Wastewater Operations Committee of Novato Sanitary District was anticipated for 2:00 p.m. Monday, October 15, 2012, however no quorum was present. Minutes therefore were not recorded.

**MEMBERS PRESENT:** NSD Board Members William Long. *Member Jerry Peters was absent.*

**STAFF PRESENT:** Beverly James, Manager-Engineer  
Tim O'Connor, Collection Systems Supervisor  
Steve Krauthem, Field Services Superintendent  
Julie Swoboda, Administrative Secretary  
John Bailey, Plant Manager, Veolia Water

**ALSO PRESENT:** Lynda Rodefer, Veolia Water  
Bob Guinan, Novato resident  
Joe Carlomagno, Novato resident



November 13, 2012

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

**Subject: Veolia Water Operations Report – October 2012**

Dear Ms. James:

We are pleased to provide this updated activity report for October 2012.

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

Regards,

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

John Bailey  
Project Manager

**MONTHLY OPERATIONS REPORT  
October 2012**

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: October 2012:**

**Bay Discharge**

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	4.44	5.78	N/A	N/A
Influent BOD <sub>5</sub> , lb/day (month ave/max)	9,149	11,184	N/A	N/A
Influent TSS, lb/day (monthly ave/max)	12,793	18,635	N/A	N/A
Effluent BOD <sub>5</sub> , mg/L (monthly ave/weekly max)	<11	18	15	30
Effluent TSS, mg/L (monthly ave/weekly max)	<5	<5	10	20
Effluent BOD <sub>5</sub> - % Removal, Minimum	96	N/A	85	N/A
Effluent TSS - % Removal, Minimum	99	N/A	85	N/A
pH, su (min / max)	7.0	7.2	6.5	8.5
Enterococcus, mpn (30 day geo mean)	2.3	N/A	35	N/A
Fecal Coliform, mpn (30 day median)	9.5	N/A	140	N/A
Fecal Coliform, mpn (90 <sup>th</sup> percentile)	13	N/A	430	N/A
<b>Total Permit Exceedances (NPDES)</b>	0			

NA – Not Applicable

**Discussion of Violations / Excursions: NONE**

**OPERATIONS & MAINTENANCE STATUS / REVIEW:**

**Key events for the period:**

**Novato**

- Routine rounds, readings and maintenance
- Bay Discharge mode
- Blower Room HVAC repaired
- Flygt / Xylem returned and installed repaired Influent Pumps (2)
- Repaired Digested Sludge Pump
- California Diesel performed Annual Service on Emergency Generators
- Chris Cilliers – Veolia Richmond Project on-site to troubleshoot / repair the Digested Sludge Transfer Pump VFD
- Telstar in to perform Annual Calibration on Flow Meters

**Ignacio Transfer Pump Station**

- Routine rounds, readings, and maintenance
- Flygt / Xylem returned and installed Conveyance Pump
- California Diesel performed Annual Service on Emergency Generator
- Pulled and troubleshot Ignacio Channel Grinder – determined replacement cartridge needed

**Digester Cleaning**

- Submitted work plan to Regional Water Quality Control Board and Bay Area Air Quality Management District
- Awarded contract to Synagro
- Began Digester Cleaning @ Novato
- Work plan changed from hauling liquid to dewatering and hauling dewatered solids. Belt filter press and Baker tank required
- Started cleaning Digester @ Ignacio

**Recycled Water Plant**

- Dye Tracer Study
- Mel Demsky onsite to install Recycled Water Equipment into Job Plus
- Mel Demsky onsite to gather information for Criticality Report/Capital Plan

**CONSTRUCTION UPDATE:**

- Provided support as needed.
- Assisted with Dye Tracer Study

**ADMINISTRATION:**

- Electronic Self Monitoring Report for September 2012, submitted on 10/19/12

**SAFETY AND TRAINING:**

- Monthly plant safety inspections for Novato WWTF completed on 10/22/12
- Five Minute Tailgate training is held daily with the O&M staff.
- No safety incidents for the month of October 2012.
- Accident Free: 6/1/10 – 10/31/12: 882 days / 39,690 hours.
- Monthly Safety Training: Emergency Action Plan 10/18/12  
Annual Great Shakeout Earthquake Drill 10/18/12  
First Aid/CPR/AED Certification Training 10/3/12  
Crane Safety Awareness 10/26/12
- Recycled Water – Electronic O&M Manual Training 10/17/12

**ODORS:**

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

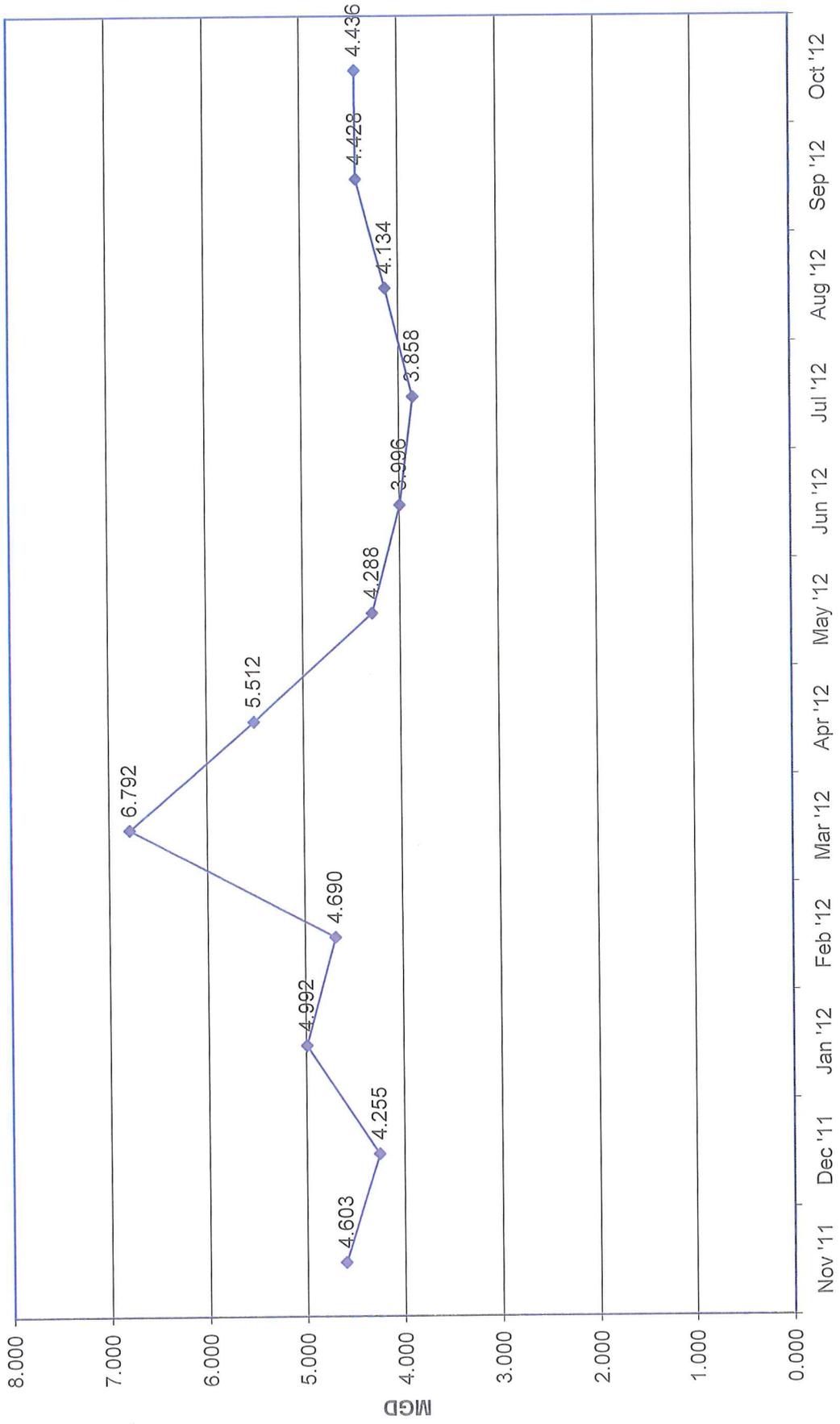
**MISCELLANEOUS**

- Process Control Management Plan (PCMP) meetings held regularly
- Dan Brown onsite for Job Cal Plus Audit/Review
- Dan Ryan & Kevin Caraker onsite for EMS Audit/Safety Audit

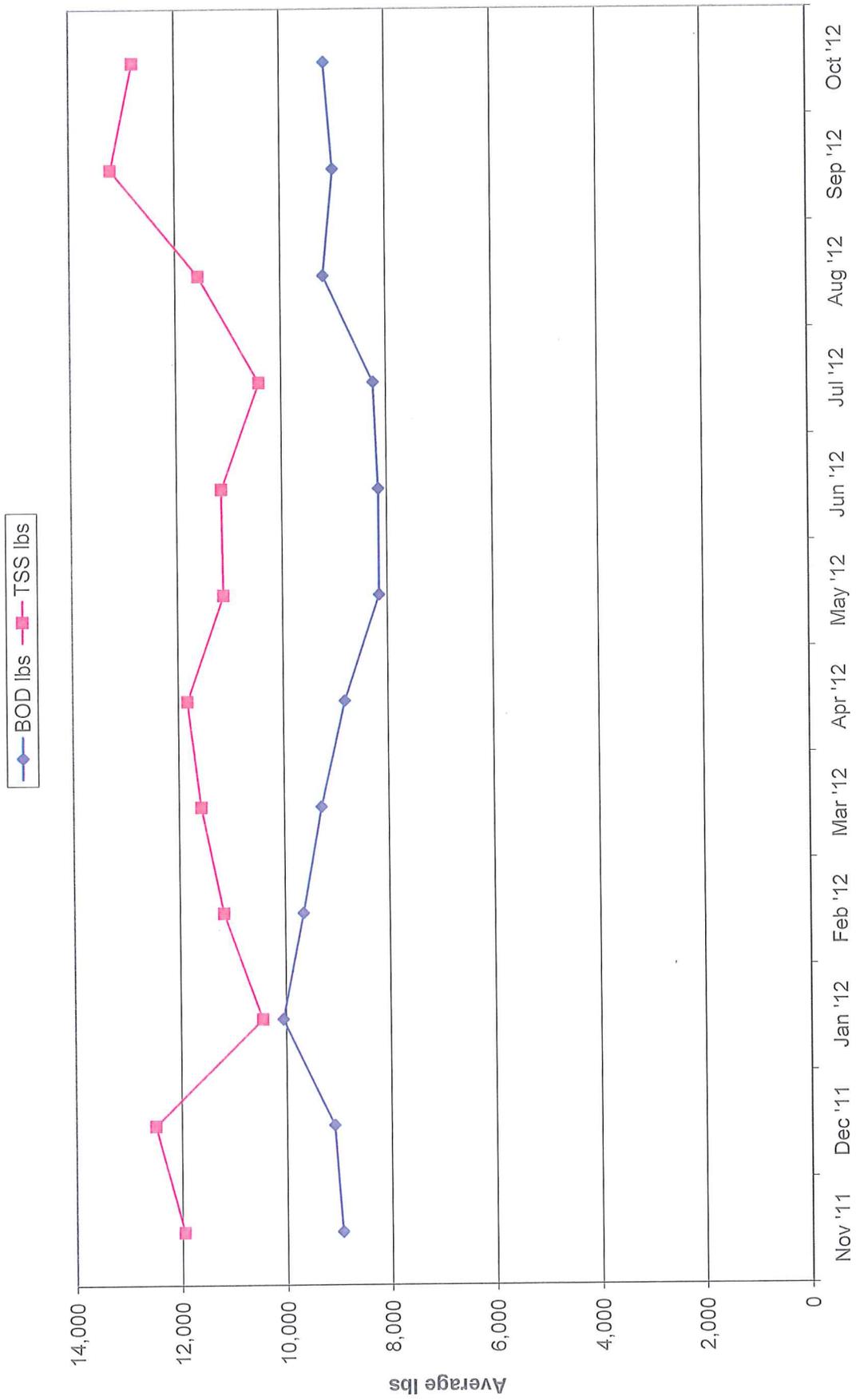
**Veolia Support Staff On/Off Site (Various Times)**

John O'Hare	Technical Support
Chris McAuliffe	District Manager
John Herron	Northern California Area Manager
Bryce Behnke	Technical Support via conference call & web exchange
Brian Exberger	Electronic Operations and Maintenance Manual Development
Jeremiah Danielson	Environmental, Health, and Safety – Confined Space Training
Mel Demsky	Regional Director of Asset Management
Dan Brown	Asset Manager
Dan Ryan	EVP, Management Systems and H&S
Kevin Caraker	Manager, Management Systems and Health & Safety
Chris Cilliers	I&C Technician – Richmond

# Plant Flow

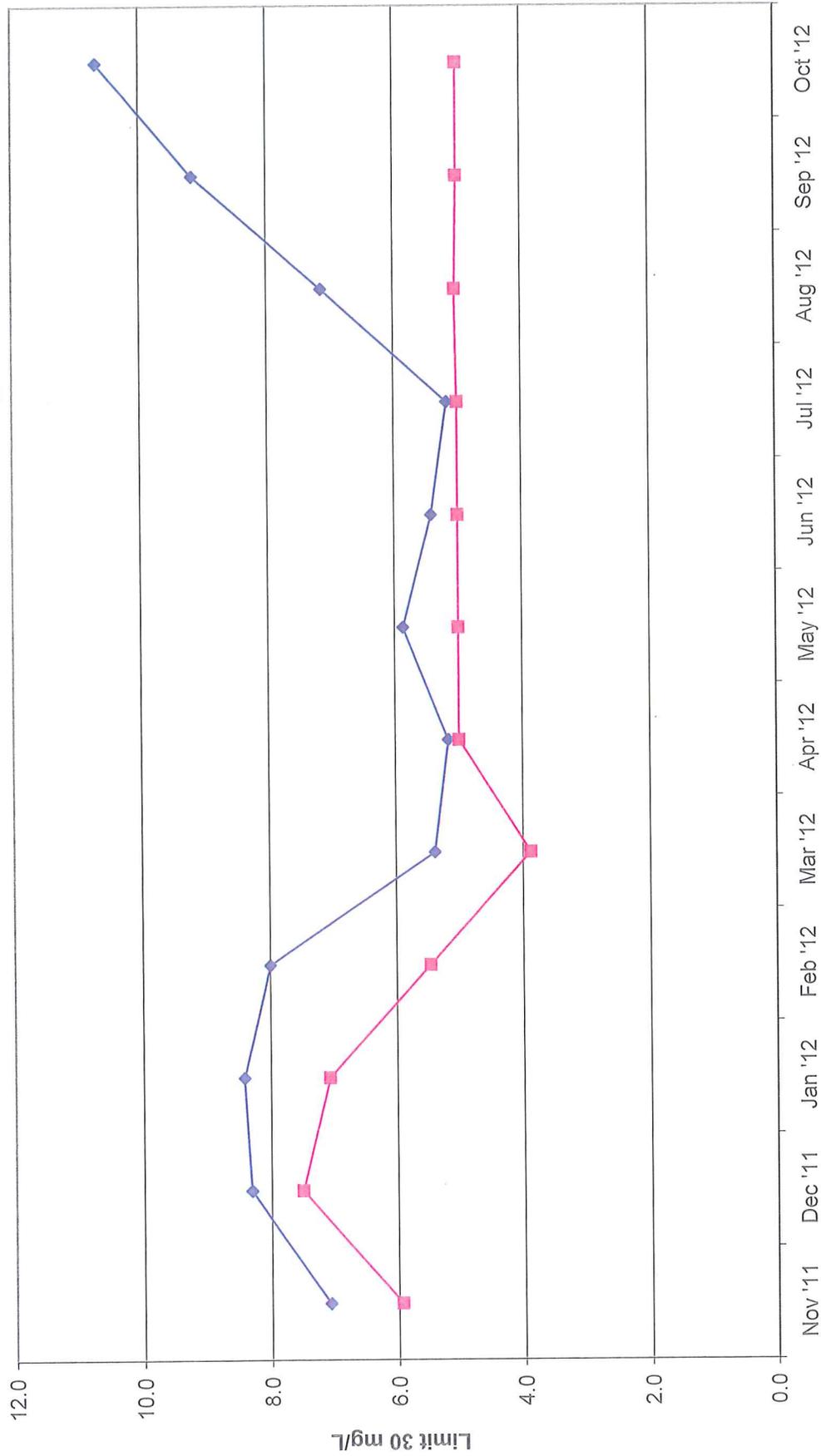
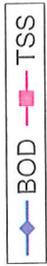


# Influent Load BOD / TSS lbs



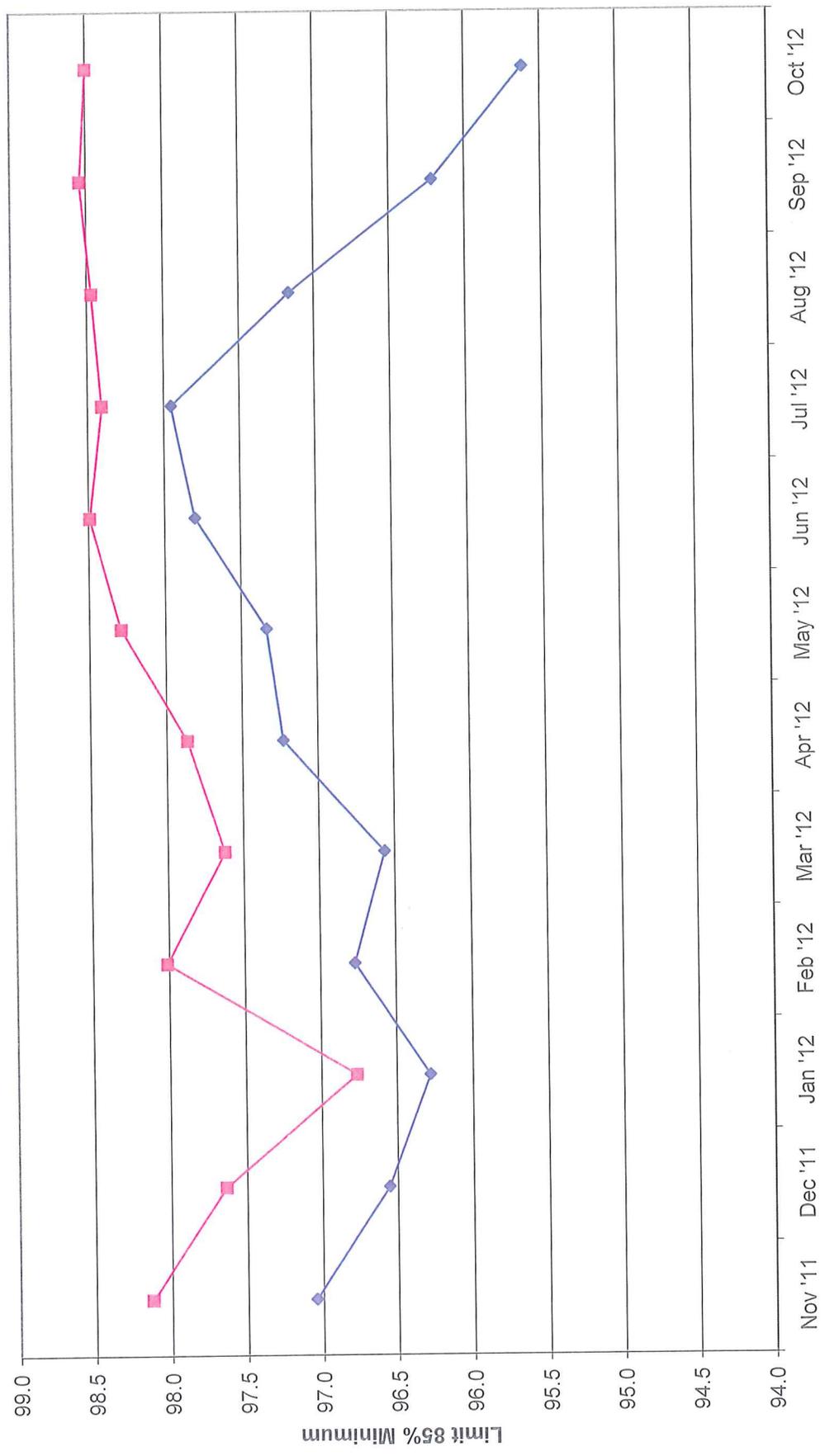
# Effluent BOD / TSS Concentration

**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

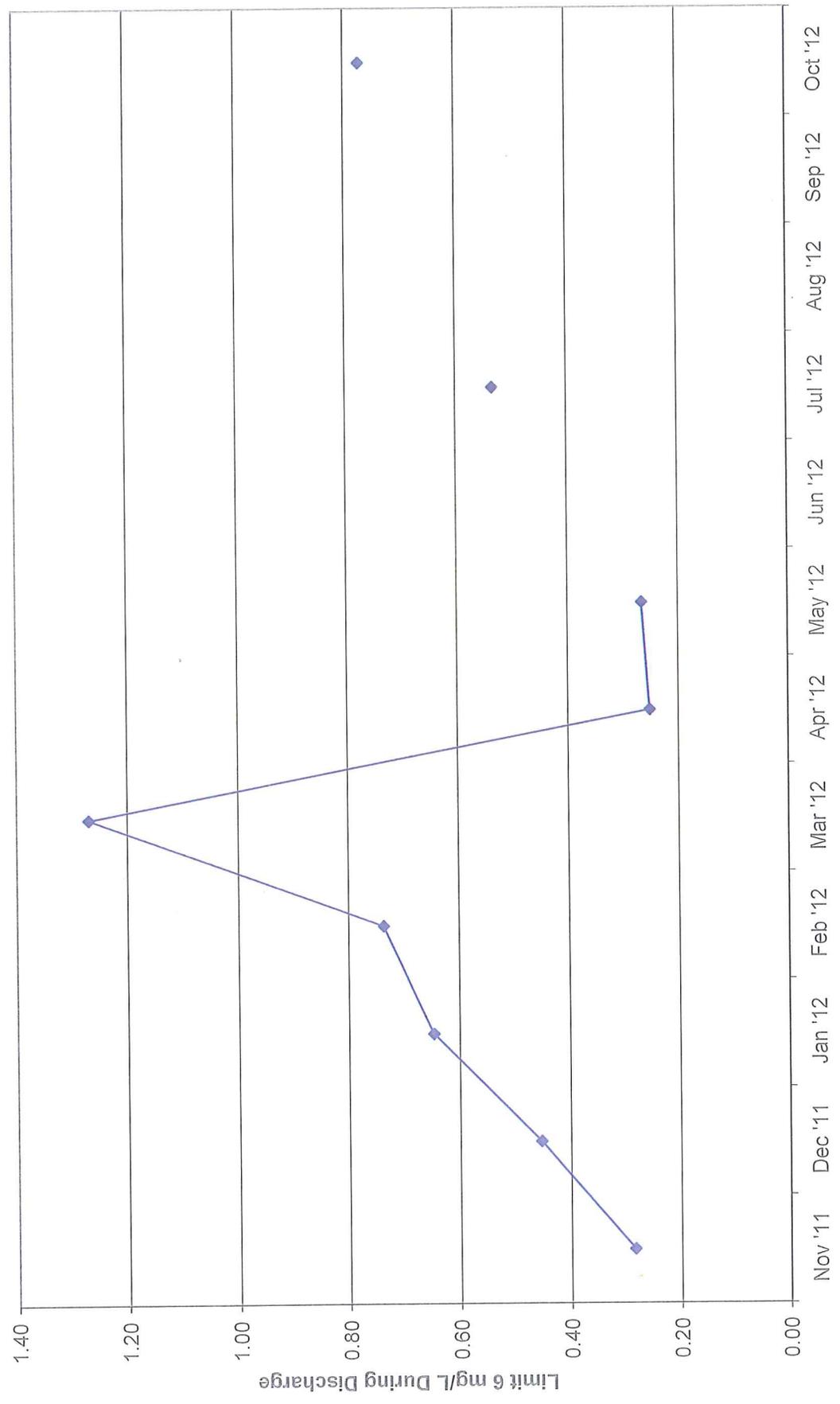


# BOD / TSS Percent Removal

Legend: BOD (blue line with diamond markers), TSS (pink line with square markers)



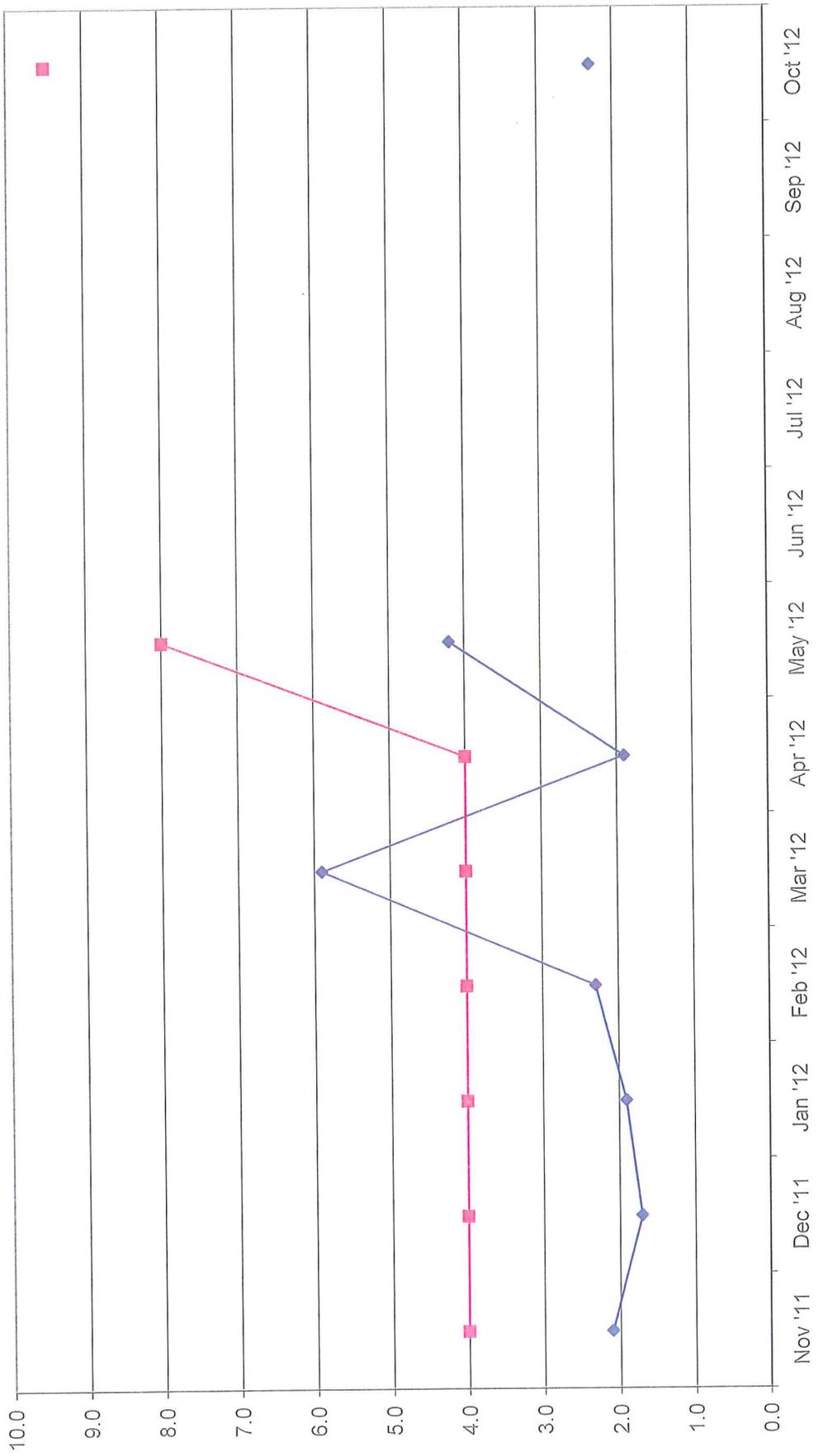
# Effluent Ammonia



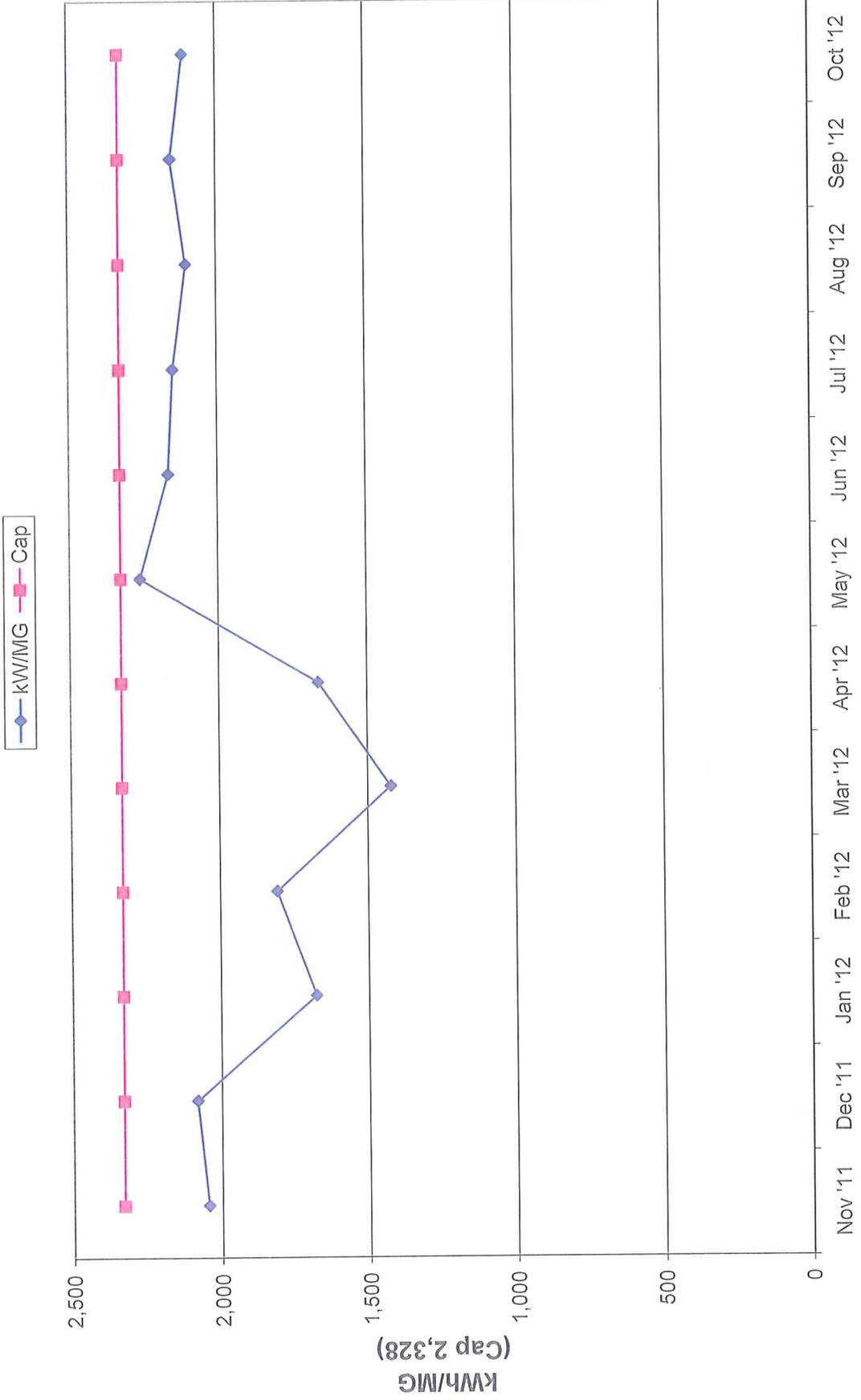
LIMITS - NPDES  
 Entero 30 day geo mean 35 mpn /100ml  
 Fecal 140 mpn monthly median  
 Fecal 430 mpn 90th percentile 30 day

### Disinfection

—◆— Entero —■— Fecal Med

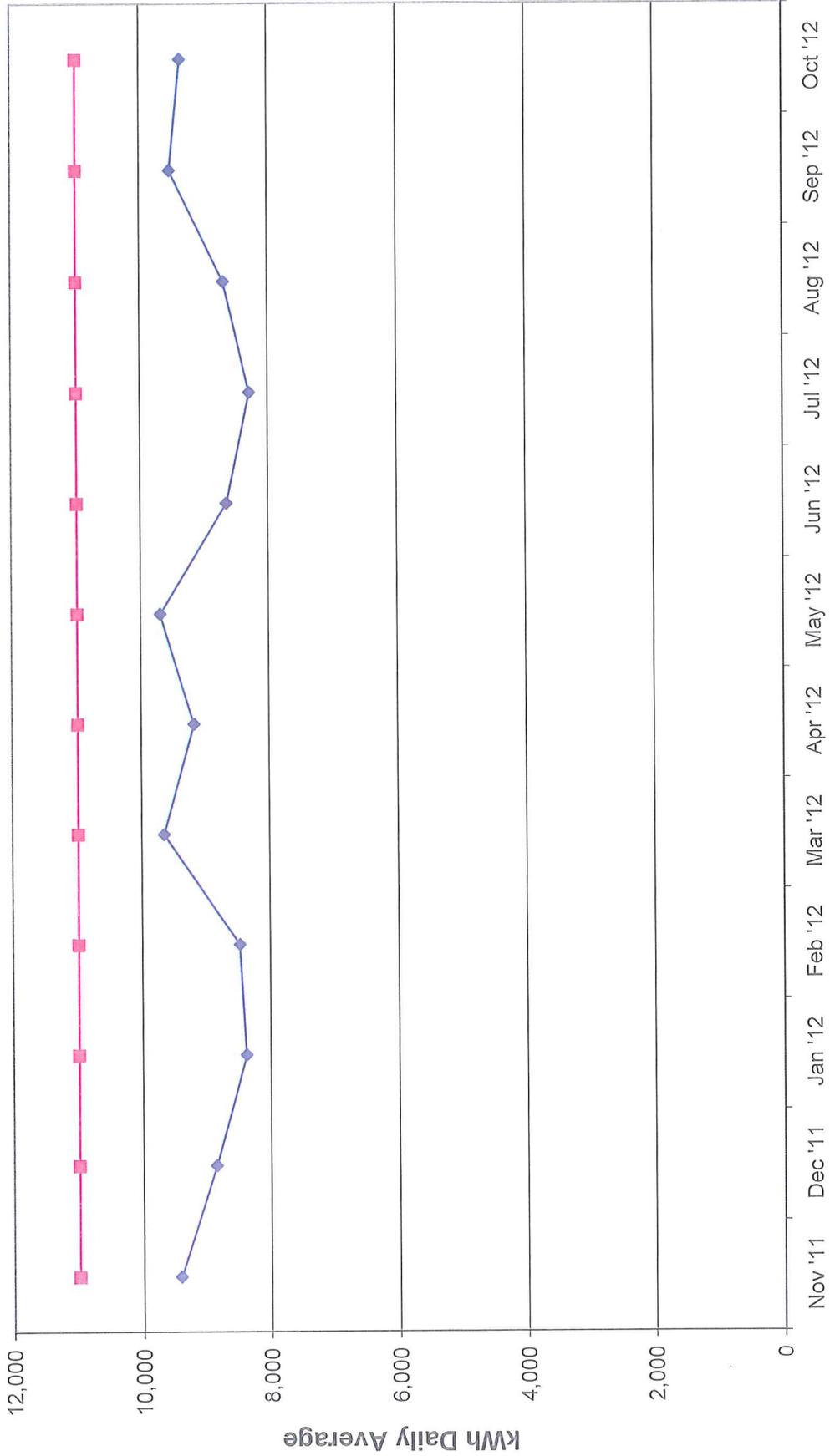


# Energy kWh/MG



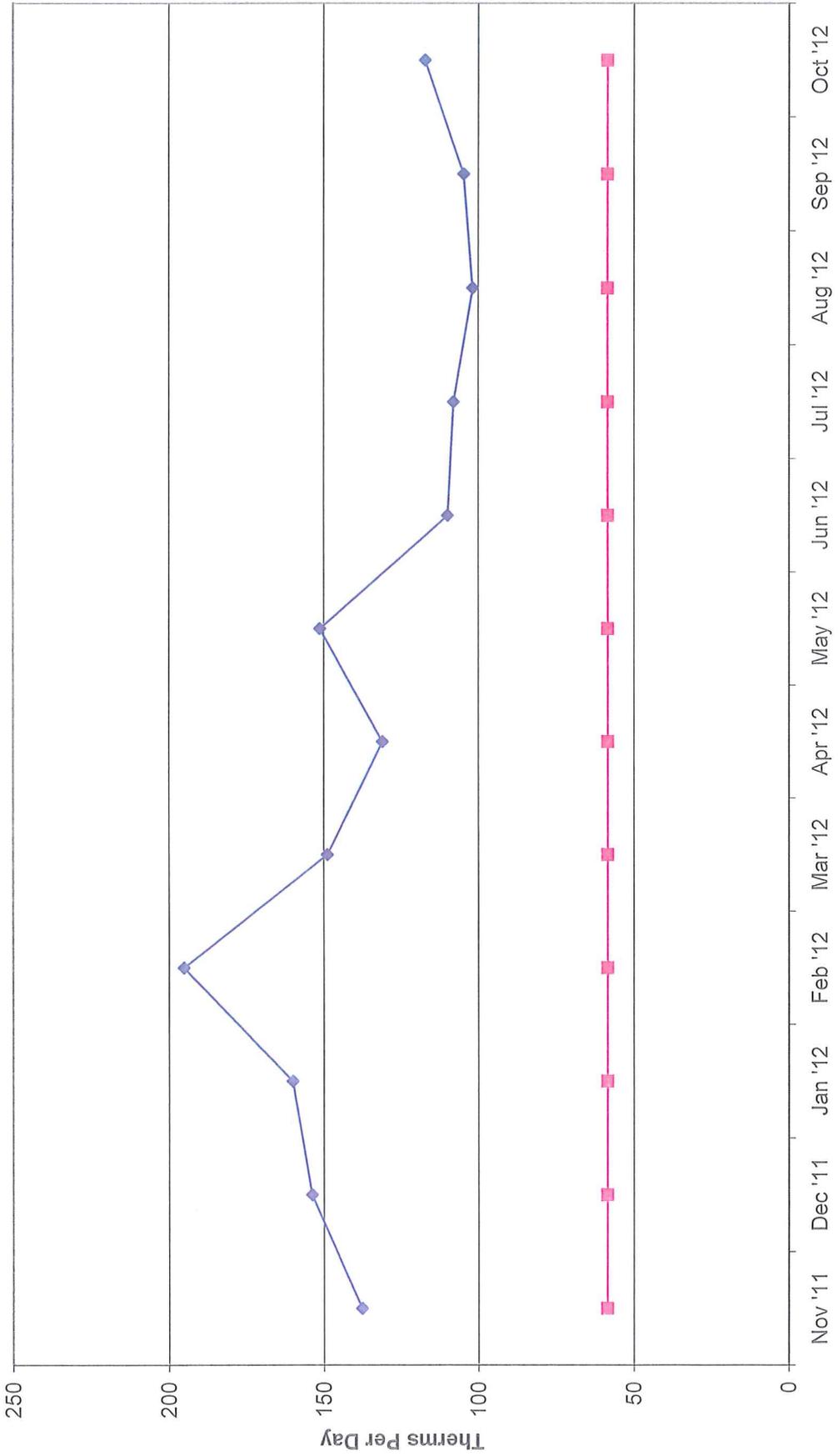
# Energy kWh

◆ kWh  
■ Cap



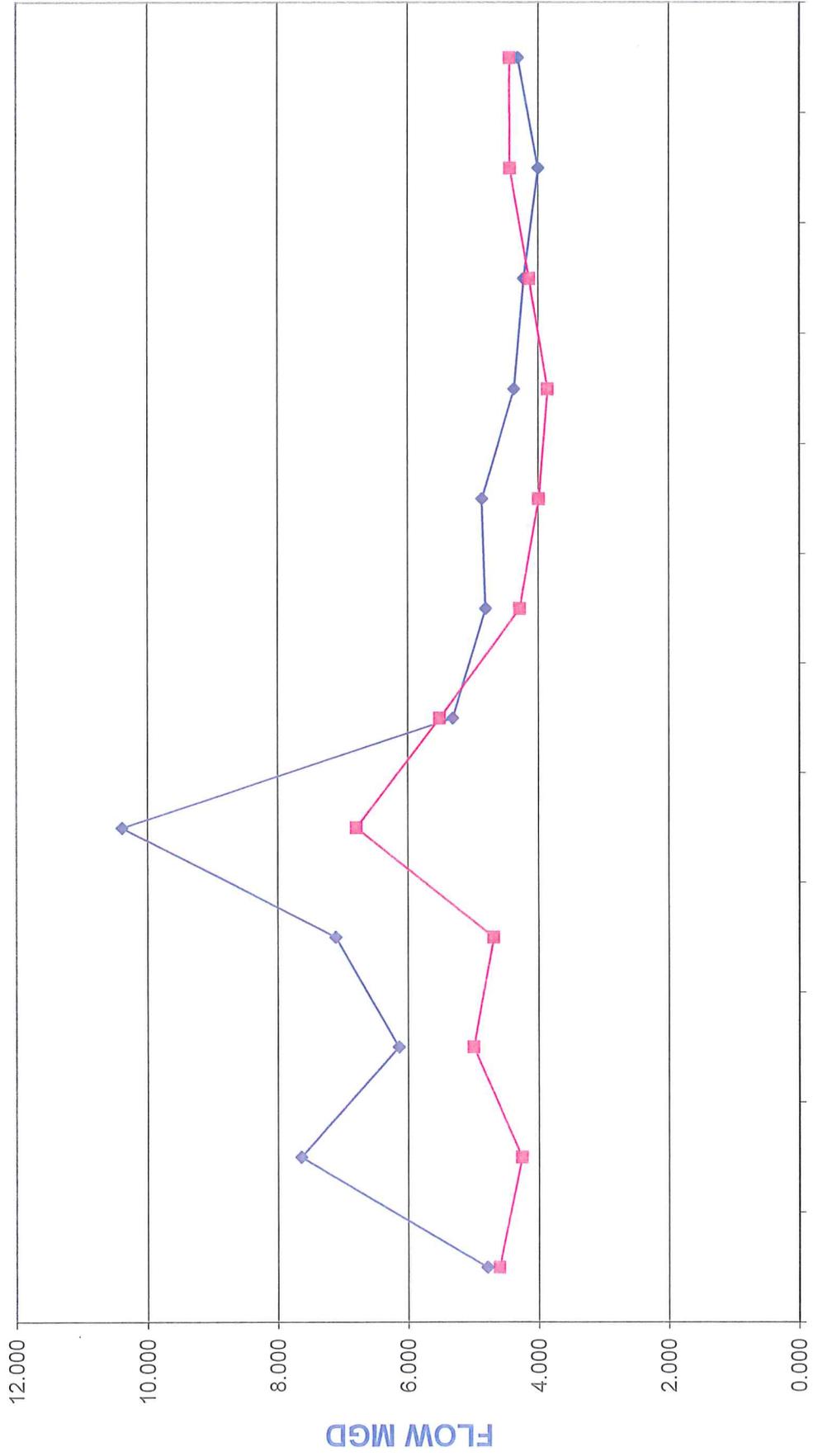
# Natural Gas Use

◆ Natural Gas    ■ Cap

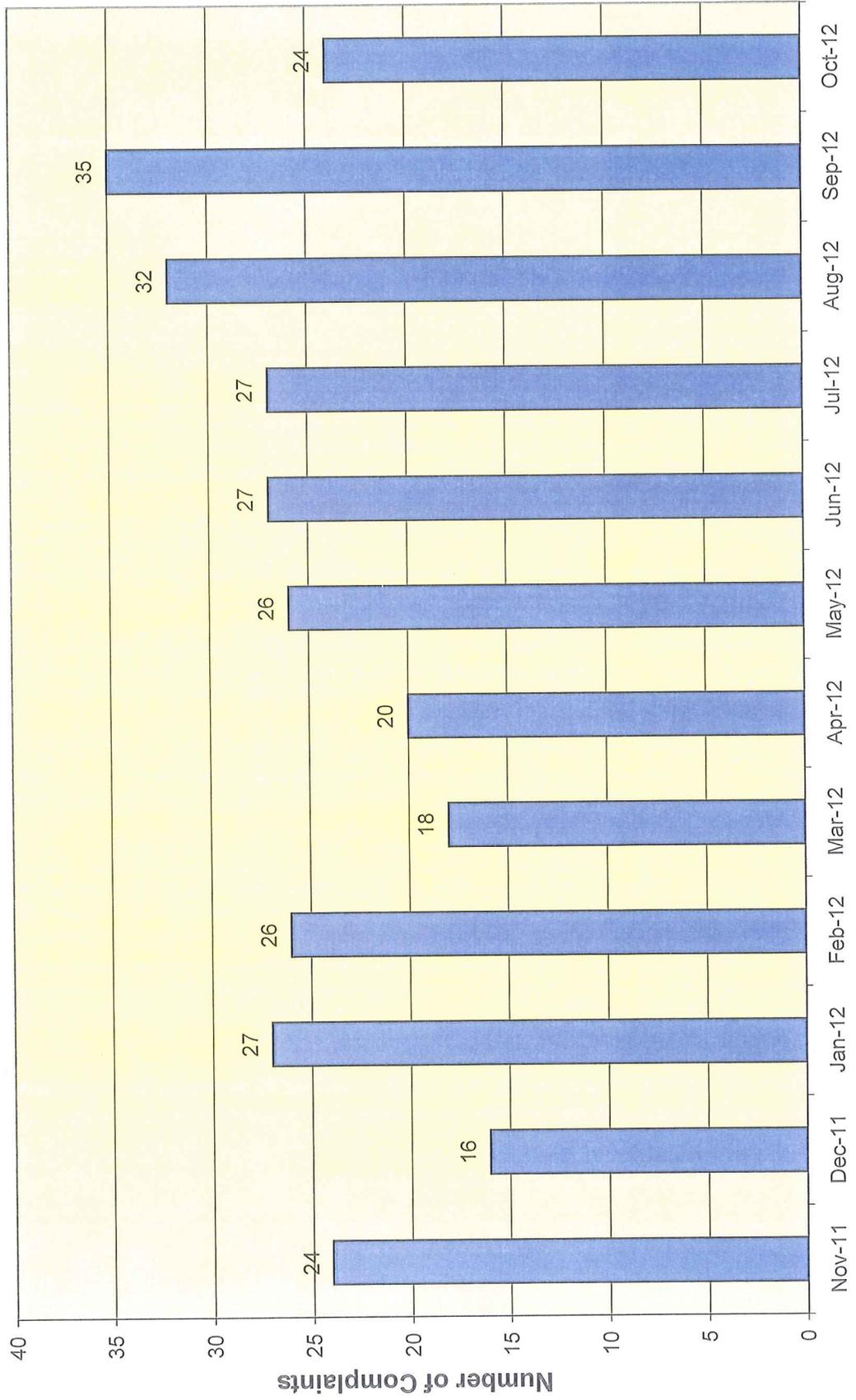


# FLOW COMPARISON

2011 2012



# Complaints Received



**WORK ORDER STATISTICS**

**October 1, 2012 - October 31, 2012**

	<b>Open Work Orders Due Prior to 10/1/12</b>	<b>Open Work Orders 10/1/12 - 10/31/12</b>	<b>Total Open Work Orders</b>
Preventative	3	311	314
Corrective	5	24	29
<b>Total</b>	<b>8</b>	<b>335</b>	<b>343</b>

	<b>Closed Work Orders 10/1/12 - 10/31/12</b>
Preventative	312
Corrective	23
<b>Total</b>	<b>335</b>

<b>Total Outstanding Work Orders as of November 1, 2012</b>	<b>8</b>
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**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
October 2012**

**General:**

For October 2012, after accounting for all leaves, the breakdown of Collection System department staff time, in terms of equivalent full-time employee (FTE) hours utilized, works out approximately as follows:

- 2.1 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.9 FTE field workers for Pump Station Maintenance
- 0.6 FTE field workers for CCTV work, and
- 2.4 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.

**Collection System Maintenance:**

A total of 64,226 feet of sewer pipelines were cleaned for the month. Staff completed 317 maintenance work orders generated by the ICOMMM3 CMMS system, with 10 outstanding work orders. The footage cleaned per hour, line cleaned/month, and outstanding work orders are within established parameters for the department. Graphs showing the length of line cleaned/month, footage cleaned/hour worked, along with the overflows/month are attached.

**Pump Station Maintenance:**

The collection systems department conducted 265 lift station inspections, with 141 of the inspection visits generated through the JobCal Plus CMMS system.

The breakdown of these inspections is as follows: 22 Flygt submersible pump stations, 1 time per month; 9 Gorman/Rupp dry well/wet well stations, 1 entry per month; and 4 main stations that are visited daily. District personnel installed a new Flygt submersible pump at the Bahia 4 pump station.

A Collection Systems Work Order Statistics summary is attached.

Note: In addition to scheduling and tracking pump station related maintenance work orders, the JobCal Plus program is also used for ladder inspections, reclamation maintenance work orders, SCADA backup scheduling, and vehicle maintenance scheduling.

**Pump Station Rehabilitation:**

As part of the District's continuing multi-year Pump Station Rehabilitation Project (Capital Improvement Project Account No. 72403), construction began on the Hanger Avenue pump station, and control of this station has been turned over to the contractor, W.R. Forde, until the project is complete.

**Safety and Training:**

General: The collection system crews attended weekly safety tailgate meetings.

**Novato Sanitary District  
Wastewater Operations Committee meeting  
Collection System Operations Report  
October 2012**

Specialized training: Collection System staff attended four hours of training on Electrical Energized Systems Safety (Arc Flash Safety).

Safety performance: Was excellent with no lost time accidents for a total of 565 accident-free days at the end of October 2012.

**Standard Operating Procedures:**

The Standard Operating Procedure (SOP) Index was created to include SOPs for the Collection System and Pump Stations as well as general SOPs for the District; the index was updated in October. Currently, collection system staff has prepared twenty-one (21) draft Periodic Station Check SOPs which will be finalized by year-end.

**Sanitary Sewer Overflows (SSOs):**

For the month of October 2012, there was one (1) SSO as discussed below.

No.	Date	Location	Amount, gal	Cause
1	10/22/2012	2290 Center Rd	2,900	Root intrusion

SSO at 2290 Center Rd.: This SSO was a Category I event with discharge estimated to have eventually reached Novato Creek. Given the prevailing wet weather conditions at the time, and high flows in Novato Creek, there was no potential for any overflow recovery. All required notifications were made to the Marin County Environmental Health Dept., Cal-EMA, and the State Water Board's CIWQS system.

The collection systems department had previously cleaned the impacted sewer main segment from which this SSO occurred in June 2010, and there was no debris rating for roots noted on the work order at that time. This line segment was on a 36-month cleaning schedule. Subsequent to the SSO, the cleaning schedule for this segment has been modified to a 12 month cleaning frequency. The discharge line segment was cleaned and televised immediately following the event. Also, this main line segment will be added to this year's chemical root abatement program.

The event caused minor flooding inside two homes at 2290 Center Rd and 39 Devonshire Drive. District staff contacted the residents immediately upon arrival on-site, documented the results of the flooding, and provided the residents with claim forms. In accordance with California Sanitation Risk Management (CSRMA) requirements and District policy, the District's Collection System Superintendent contacted Restoration Management Company to provide remediation services on the day of the event.

\*\*\*\*

**COLLECTION SYSTEM WORK ORDER STATISTICS**

October 1, 2012 - October 31, 2012

	Open Work Orders Due Prior to 10/1/2012	Open Work Orders 10/1/2012 - 10/30/2012	Total Open Work Orders
Preventive	0	141	141
Corrective	NA	0	0
<b>Total</b>	0	141	141

	Closed Work Orders 10/1/2012 - 10/31/2012
Preventive	122
Corrective	NA
<b>Total</b>	122

<b>Total Outstanding Work Orders as of 10/31/2012</b>	<b>19</b>
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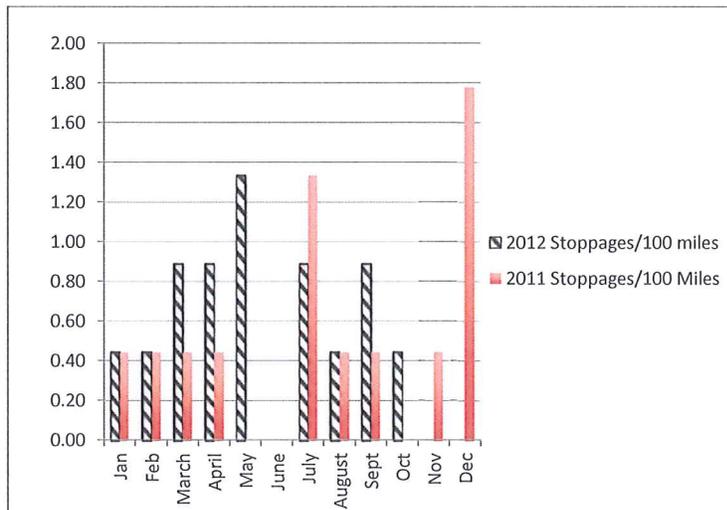
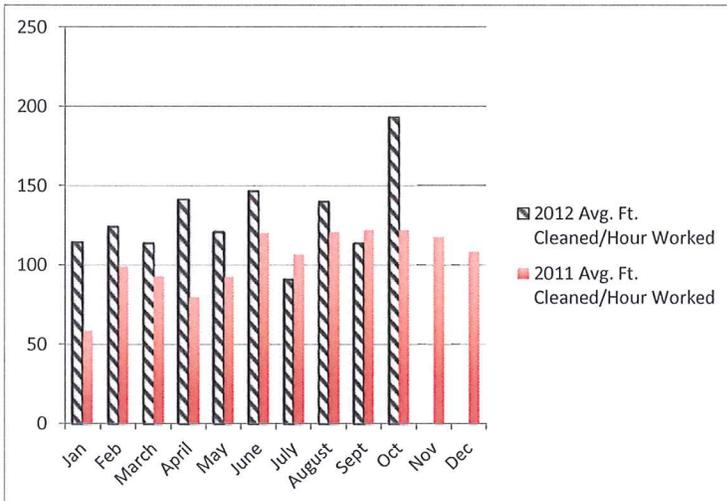
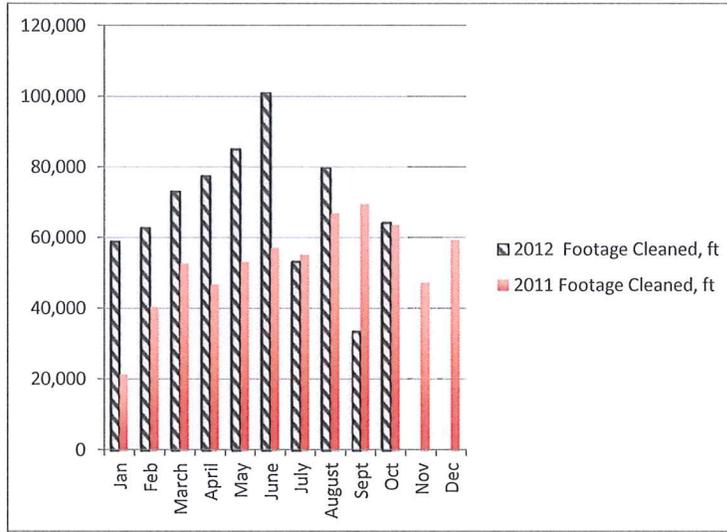
**Novato Sanitary District  
Collection System Monthly Report For 2012**

	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>	547	549	689	575	709	723	611	612	307	364	0	0	5,686	
Number of FTEs (main line cleaning)	3.2	3.2	4.0	3.3	4.1	4.2	3.5	3.5	1.8	2.1	0.0	0.0	5,376	
Regular Time Worked on Coll. Sys., hrs	514	505	640	547	703	688	584	569	295	332			2,443	
Regular Time Worked on Other, hrs <sup>(1)</sup>	69	148	174	189	153	232	341	336	383	419			104	
Regular Time Worked on CCTV <sup>(2)</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			2,331	
Vacation/Sick Leave/Holiday, hrs	221	357	292	365	371	77	194	257	142	55			310	
Overtime Worked on Coll. Sys., hrs	33	44	49	29	6	35	27	44	12	32			75	
Overtime Worked on Other, hrs <sup>(1)</sup>	1	0	3	13	1	7	1	10	30	10			0	
Overtime Worked on CCTV <sup>(2)</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA	0			5	
After Hours Callouts, #	1	2	0	0	0	1	0	1	0	0			69	
Service calls, normal hours, #	7	3	8	4	6	6	8	3	10	14			195	
Average S.C. response time, mins	29	30	23	13	14	14	18	20	19	15			20	
<b>Productivity</b>														
Rodder Work Orders Generated, ft	16	18	3	54	92	75	56	13	10	24			361	
Rodder 3203 Ft. Cleaned	1,626	1,064	708	10,369	12,117	12,886	8,995	3,071	2,936	2,920			56,692	
Flusher Work Orders Generated	275	286	299	344	428	452	235	454	151	303			3,227	
Truck 3205V Ft. Cleaned	7,667	23,744	0	2,364	2,125	0	6,892	24,699	6,366	10,305			84,162	
Truck 3206V Ft. Cleaned	49,636	37,928	59,307	64,640	70,815	88,100	37,294	51,970	24,190	51,001			534,881	
Camera Ft. Videoed	5,274	1,031	13,000	1,565	8,545	17,237	23,790	15,534	19,268	NA			105,244	
Work Orders Completed	291	304	302	398	520	527	291	467	161	327			3,588	
Work Orders backlog	14	42	67	41	27	28	16	0	0	10			245	
Total Footage Cleaned	58,929	62,736	73,015	77,373	85,057	100,986	53,181	79,740	33,492	64,226			688,735	
<b>Stoppages</b>														
Minor	1	1	2	2	3	0	2	1	2	1			15	
Major	0	1	2	2	3	0	1	1	0	0			10	
Overflow Gallons	75	26	398	316	68	0	3,385	5	14,184	2,900			21,357	
Volume Recovered	0	26	108	93	63	0	3,385	5	707	0			4,387	
Percent Recovered	0%	100%	27%	29%	93%	NA	100%	100%	5%	0%			21%	
<b>Benchmarks</b>														
Average Ft. Cleaned/Hour Worked	115	124	114	142	121	147	91	140	114	193			NA	
Total Stoppages/100 Miles	0.4	0.4	0.9	0.9	1.3	0.0	0.9	0.4	0.9	0.4			6.7	
Average spill response time (mins)	8	9	20	20	28	0	14	60	17	28			NA	
Callouts/100 Miles	0.4	0.9	0.0	0.0	0.0	0.4	0.0	0	0	0			2.2	
Overtime hours/100 Miles	15	20	22	13	3	16	12	19	5	14			138	
Overflow Gallons/100 Miles	33	12	177	140	30	0	1504	2	6304	1289			9492	

<sup>(1)</sup>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.

<sup>(2)</sup>This category separates time spent on CCTV from other Collection System maintenance activities beginning October 2012.

### Collection System 2011-12 Graphs



Novato Sanitary District  
Pump Station Monthly Report For 2012

	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>	334	263	336	276	401	331	352	307	284	324	0	0	3,207	
Number of Employees	1.9	1.5	1.9	1.6	2.3	1.9	2.0	1.8	1.6	1.9	0.0	0.0		1.5
Regular Time Worked on Pump Sta	254	236	280	246	281	277	294	283	234	303			2,687	
Overtime Worked on Pump Sta	80	27	56	30	120	54	58	25	50	21			520	
After Hours Callouts	4	2	6	2	3	4	4	4	4	2			35	
Average Callout response time (mins)	23	25	38	27	34	22	24	23	35	25			276	28
<b>Work Orders</b>														
Number generated in month	114	154	112	105	119	119	130	123	119	141	0	0	1236	
Number closed in month	87	73	88	80	92	93	103	97	137	122				
Backlog	27	81	24	25	27	26	27	26	8	19				

**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Reclamation Facilities Report**  
**October 2012**

**Summary:**

The rancher began preparing the cattle to move them off site for the winter. There were no significant changes in the irrigated parcels. Irrigation times have been shortened to prevent ponding in the parcels. Valves and actuators were replaced in Zones 262, 263 & 271. The recycled water irrigation amount was 59.25 MG. Pond depth at the end of the month averaged 2.9 feet. Sludge Lagoon No. 4 was pumped out to the Dedicated Land Disposal (DLD) area. Solids were also excavated out of Sludge Lagoon No. 2, 3, 4, 5 & 6 and spread in the DLD area. A total of 2.97 million gallons of sludge was pumped into the DLD and 5,460 cubic yards of solids excavated out of the lagoons and spread in the DLD this year.

**Ranch Operations:**

The rancher began preparing the cattle to move them off site for the winter. The rancher also performed sprinkler repairs and weed spraying as time permitted.

**Irrigation Systems:**

- **Site 2:** Valves and actuators were replaced and fenced with corral fencing in Zone 262, 263 & 271. Control wiring for these actuators will be completed in November. Zone 2 in Parcel 8 is also malfunctioning and staff cannot find the cause. A new control board will be installed in November when the new actuators are wired to see if that solves the problem. Irrigation in all Parcels was disabled due to wet conditions. Parcels 4 & 8 will be turned over this year and seeded with rye in preparation for leveling next year.
- **Site 3:** Staff found that the valve in Zone 312 is sticking sporadically causing over irrigation. The Parcel was disabled and the valve and actuator will be replaced and sent to the factory for troubleshooting & repair. All other zones in all Parcels are functioning normally. Irrigation times in all Parcels have been reduced to reduce ponding in the Parcels.
- **Site 7:** All zones in all Parcels are functioning normally. Zone 3 in Parcel 7 and Zone 3 in Parcel 8 were left off as these two Zones are in an area that gets too wet. Irrigation times in all Parcels have been reduced to prevent ponding in the Parcels. The culvert crossing into Parcel 78 was replaced early this month and irrigation of Parcels 1 thru 7 resumed afterwards. Parcel 8 was left off in preparation for pasture rehabilitation work.

**Irrigation Pump Station:**

As previously reported, the 400 HP motor for Pump 2 failed in July and staff has issued a purchase order for the work. This work will be completed after the irrigation season closes.

The recycled water irrigation amount was 59.25 MG for October. Pond depth at the end of the month averaged 2.9 feet between the two storage ponds, 3.3 feet lower than the previous month.

**NOVATO SANITARY DISTRICT**  
**Wastewater Operations Committee Meeting**  
**Reclamation Facilities Report**  
**October 2012**

**Sludge Handling & Disposal:**

The District's contractor (Custom Tractor Service) pumped approximately 487,500 gallons of sludge out of Lagoon No. 4 into the DLD. The contractor also excavated approximately 4,290 cubic yards of solids out of Sludge Lagoon Nos. 2, 3, 4, 5 & 6 and spread it in the DLD. The work in the sludge lagoons is complete for the year with a total of 2.97 million gallons of sludge pumped to the DLD and 5,460 cubic yards of solids excavated out of the lagoons and spread in the DLD.

In addition to the sludge lagoon work, Veolia's contractor (Synagro, Inc.), which is cleaning out Digester No. 2 at the Novato Treatment Plant (NTP) & the digester at the Ignacio Treatment Plant (ITP), disposed of approximately 560,000 gallons of sludge from the Digester No. 2 at NTP into the DLD, prior to the October 30<sup>th</sup> deadline mandated by section VI.C.5.b.(2) (page 27) of the District's NPDES permit. In addition, Veolia/Synagro also placed approximately 410,000 gallons of sludge from the ITP digester into Sludge Lagoon No. 1 at the reclamation area; this sludge will be disposed into the DLD next year, i.e. between May 1, 2013 and October 30, 2013.

The sludge lagoons were topographically surveyed and staff gauges were installed in each lagoon. This work was completed so staff can more accurately determine the quantity of sludge stored in each lagoon in the future.

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