

THE FOLLOWING APPENDICES ARE TO BE ATTACHED TO THE RESPONSE TO NOTICE  
OF VIOLATION FOR UNAUTHORIZED DISCHARGE EVENTS

**NOTICE OF VIOLATION LETTER**





## Central Coast Regional Water Quality Control Board

December 10, 2013

**CERTIFIED MAIL  
NO. 7008 1140 0003 4708 8797**

Craig Murray, General Manager  
Carpinteria Sanitary District  
5300 Sixth Street  
Carpinteria, CA 93013

Dear Mr. Murray:

### **NOTICE OF VIOLATION FOR UNAUTHORIZED DISCHARGE EVENTS TO WATERS OF THE UNITED STATES; REQUIREMENT TO SUBMIT TECHNICAL REPORT PURSUANT TO SECTION 13267 OF THE CALIFORNIA WATER CODE**

The Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board) issues this Notice of Violation to the Carpinteria Sanitation District (District) for unauthorized discharges of wastewater into waters of the United States during calendar years 2012 and 2013. Pursuant to the requirements of section 13267 of the California Water Code (CWC), the District is required to submit a technical report addressing subject violations by **January 28, 2014**.

### **NOTICE OF VIOLATION**

The District is regulated by the Central Coast Water Board Waste Discharge Requirements (WDRs) Order No. R3-2011-0003, National Pollutant Discharge Elimination System (NPDES) No. CA0047364. Prohibition III.B prohibits the discharge of any waste in any manner other than described in the WDRs. The District violated this provision on October 3, 2012, when it discharged 281,250 gallons of "non-chlorinated" wastewater when its disinfection system failed.

The WDRs also require compliance with effluent limitations contained within WDRs. The District violated the effluent limits on January 3, 2013, and January 7, 2013, when its dechlorination system failed. The instantaneous maximum limit for Total Residual Chlorine is 5,600 µg/L (Table 7 Effluent Limitations for the Protection of Marine Aquatic Life on pg. 7 of the WDRs), while the concentration on these dates were 10,400 µg/L and 7,800 µg/L, respectively.

### **WATER CODE SECTION 13267 ORDER**

The technical report required by this Order must address all the issue areas outlined below. The information contained in the technical report required by this Order is needed to enable the Central Coast Water Board and the State Water Board to effectively evaluate the nature, circumstances, extent, and gravity of the violations. Based on the nature and possible

consequences of the discharges, the burden of providing the required reports, including the costs, bears a reasonable relationship to the need for the reports, and the benefits to be obtained from the reports.

**The District is hereby required to submit the following information for each discharge event (October 3, 2012, January 3, 2013, and January 7, 2013):**

*Causes and Circumstances of the Discharge*

1. A detailed explanation of how and when the discharge event was discovered.
2. An estimate of the total volume discharged. Include the engineering methods, diagrams, models, calculations and assumptions used to estimate the total volume.
  - a. Tabular and graphical summaries of total influent and effluent flows at the District's WWTP one week before and one week after the violations.
  - b. For the two Total Residual Chlorine violations, include methods, assumptions and calculations for estimating chlorine usage (total pounds per day) along with all appropriate supporting records.
3. A detailed description of the causes and/or equipment failures that led to the discharge event. Include any analyses or forensic studies performed by the District or its consultants to determine the reasons for the failures.
  - a. Where applicable, include the original installation date and any subsequent rebuild date(s) for the installation of the failed pumps and/or electrical control systems. Also include the design and construction standards, specifications, and recommended operations and maintenance procedures from equipment manufacturers.

*District's Response to the Discharge*

4. A detailed chronological description of all actions taken by the District to terminate the discharge, including any bypasses or diversions to minimize the discharge. The narrative description must include an evaluation of the results of all actions.
  - a. Copies of any field response documentation during and/or after the discharge, including site photos, interview notes and plant log information related to the discharge. This should include, but not limited to, records of the District's notification information to other regulatory agencies, public and/or other organizations affected by the discharge.
  - b. Copies of service call records, SCADA alarm records, plant daily logs and maintenance records (including any invoices received by outside contractors conducting maintenance, cleaning, and/or repairs) related to the discharge.
5. A detailed description of the final corrective actions, including an update of the status of the final repair, documentation of associated costs involved in the project, sources of funding for the project, and plans and specifications for the repair. You may include the email information submitted on November 6, 2013, by Mr. Mark Bennett regarding the installation of alarm system for low chlorine residual and any supporting documents/diagrams related to the installation, testing, and preventive maintenance of this system.
6. Documentation discussing any planned or proposed capital improvement and/or Operation/Maintenance projects for the District's WWTP (e.g. pumps, motors, electrical

system equipment upgrades). Include any proposed budgets generated for upgrades related to the failed equipment.

- a. Copies of the District's annual operating/fiscal year budget report (discussion of Capital Improvement Projects) since year 2012.

#### Monitoring and Analysis of the Discharge

7. A description of all water quality sampling and analytical activities conducted by the District and/or other agencies for the discharge. This should include, but not limited to, all sampling and analytical activities during and after the discharge as required by Order No. R3-2011-0003.
8. A diagram of the affected receiving waters such as; creeks, rivers, lagoons and the Pacific Ocean showing the areas of these waters that were closed or restricted to the public as a result of the discharge, including the dates these areas were closed to public use and communication logs/information with state and local regulatory agencies.

#### Impacts of the Discharge

9. Any assessment of the potential short and long term impacts of the discharge events on public health, animal and plant communities (including sensitive and/or endangered species), and on the overall ecosystem downstream of the discharge. The assessment must include:
  - a. A summary of all threatened and endangered species located downstream of the unauthorized discharge event sites or receiving water bodies and the Pacific Ocean.
  - b. A description of all observations and sampling activities conducted by or on behalf of the District associated with potential short-term and long-term impacts to human health, vegetation and wildlife from the spill and an evaluation of these impacts. This assessment must be prepared by a technical professional qualified to evaluate the short and long term impacts of the discharge events on ecological receptors.
10. A detailed discussion of the District's efforts to date to obtain the necessary permits, develop mitigation plans, and restore any environmental impacts as a result of the discharge. This discussion shall include any correspondence or applications submitted to other resource/regulatory agencies.

#### Additional Information

11. Any other pertinent information that will assist the evaluation of the nature, circumstances, extent, and gravity of the violations.

### **PROVISIONS**

1. Use of Registered Professionals: The District shall provide documentation that its technical report was prepared under the direction of appropriately qualified professionals. In preparing the technical report required by this Order, any engineering or geologic evaluations and judgments must be performed by or under the direction of registered professionals. A statement of qualifications and registration numbers of the responsible lead professional shall be included in the report submitted by the District. The lead professional shall sign and affix his or her registration stamp to the report.

2. Use of Qualified Technical Professionals: The District shall ensure that plans and reports required under this Order are prepared under the direction of technical professionals who are appropriately qualified to evaluate short- and long-term effects to ecological receptors.
3. Signatory Requirements: The technical report shall be signed and certified by either a principal executive officer, ranking elected official, or the person with overall responsibility for environmental matters for the District. Additional reports submitted in support of the technical report must be signed by the principal author.
4. Certification Statement: Any person signing a document under this provision shall make the following certification:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

5. Report Submittal: The report required under this Order shall be submitted electronically to:

James Fischer, Water Resource Control  
Engineer Office of Enforcement/Special  
Investigations Unit State Water Resources  
Control Board  
[Jim.Fischer@waterboards.ca.gov](mailto:Jim.Fischer@waterboards.ca.gov)

An electronic copy shall also be submitted to the Central Coast Water Board, specifically to:

Harvey Packard, Supervising Engineer  
Enforcement Coordinator  
Central Coast Water Board [harvey.packard@waterboards.ca.gov](mailto:harvey.packard@waterboards.ca.gov)

## NOTIFICATIONS

1. Enforcement Discretion: The Central Coast Water Board and the State Water Board reserve their rights to take any enforcement action authorized by law for violations of the terms and conditions of this Order. Furthermore, compliance with this Order is wholly distinct from any possible enforcement that may follow from the discharges themselves, pursuant to violations of the California Water Code or other orders issued by the State Water Resources Control Board or Central Coast Water Board.
2. Enforcement Notification: Water Code section 13268(a)(1) provides that any person failing or refusing to furnish technical or monitoring report information as required by Water Code section 13267(b), or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly for an administered imposed liability of up to \$1,000 per day for each day in which the violation occurs.

3. Cost Recovery: Pursuant to Water Code section 13304, and consistent with other statutory and regulatory requirements, including not but limited to Water Code section 13365, the Central Coast Water Board and/or State Water Board may seek reimbursement for all reasonable costs actually incurred to investigate illegal discharges of wastes and to oversee cleanup of such wastes, abatement of the effects thereof, or other necessary enforcement actions.

Failure to submit this technical report may subject the District to further enforcement action by the Central Coast Water Board and/or the State Water board, including the imposition of administrative civil liability, adoption of a cease and desist order or time schedule order, issuance of a cleanup and abatement order, or referral of the matter to the District Attorney or State Attorney General.

If you have any questions, please contact James Fischer, Water Resource Control Engineer, State Water Resources Control Board, Office of Enforcement, at (916) 341-5548 or email him at [jfischer@waterboards.ca.gov](mailto:jfischer@waterboards.ca.gov).

Sincerely,

Michael J. Thomas  
Assistant Executive Officer

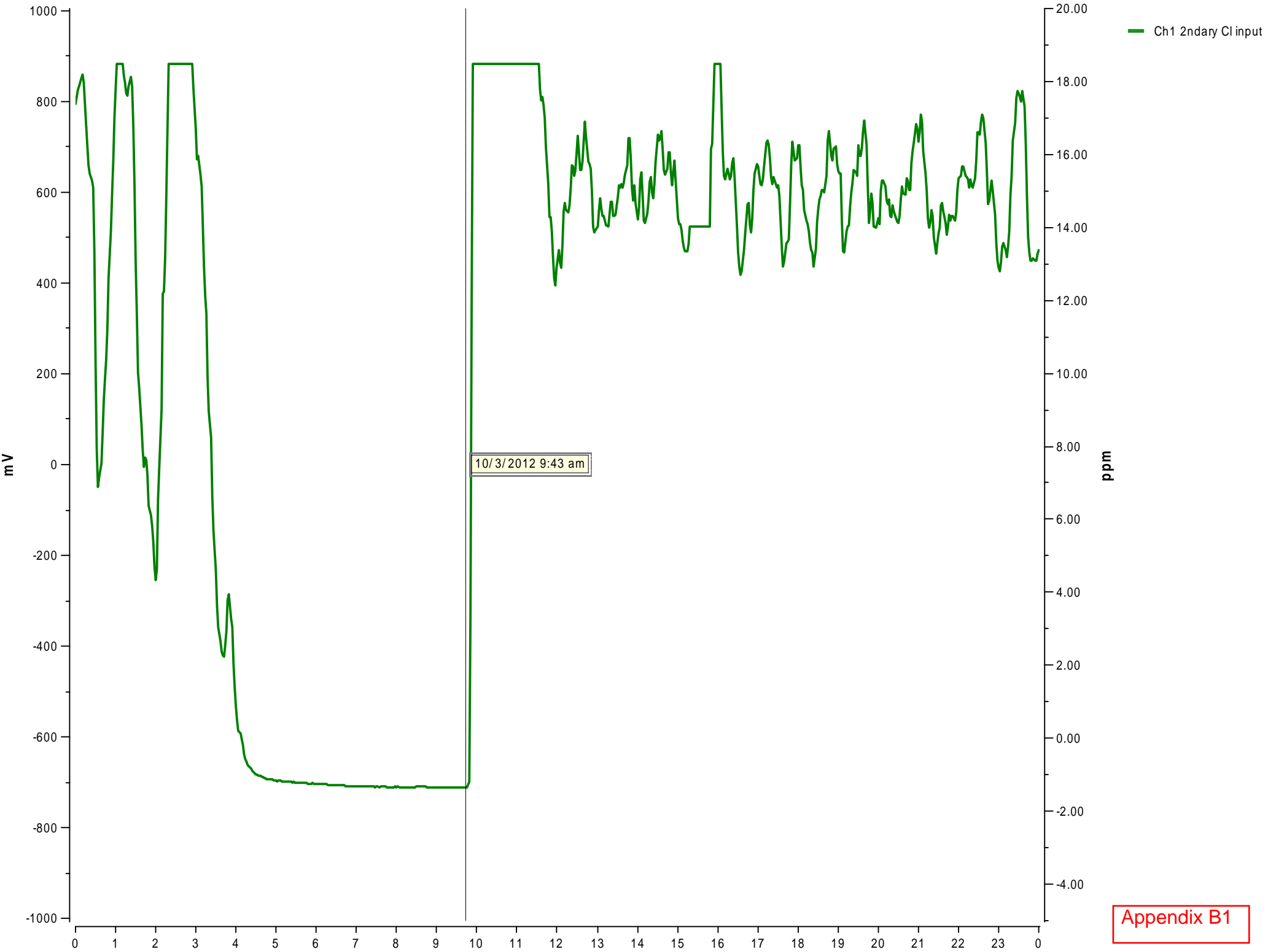
cc via E-Mail

Craig Murraray, [CraigM@carpsan.com](mailto:CraigM@carpsan.com)  
March Bennett, [Markb@carpsan.com](mailto:Markb@carpsan.com)  
Matthew Buffleben, [matthew.buffleben@waterboards.ca.gov](mailto:matthew.buffleben@waterboards.ca.gov)  
Julie Macedo, [julie.macedo@waterboards.ca.gov](mailto:julie.macedo@waterboards.ca.gov)  
Jim Fischer, [jim.fischer@waterboards.ca.gov](mailto:jim.fischer@waterboards.ca.gov)  
Leo Sarmiento, [leo.sarmiento@waterboards.ca.gov](mailto:leo.sarmiento@waterboards.ca.gov)  
Harvey Packard, [Harvey.packard@waterboards.ca.gov](mailto:Harvey.packard@waterboards.ca.gov)  
Peter von Langen, [Peter.vonlangen@waterboards.ca.gov](mailto:Peter.vonlangen@waterboards.ca.gov)

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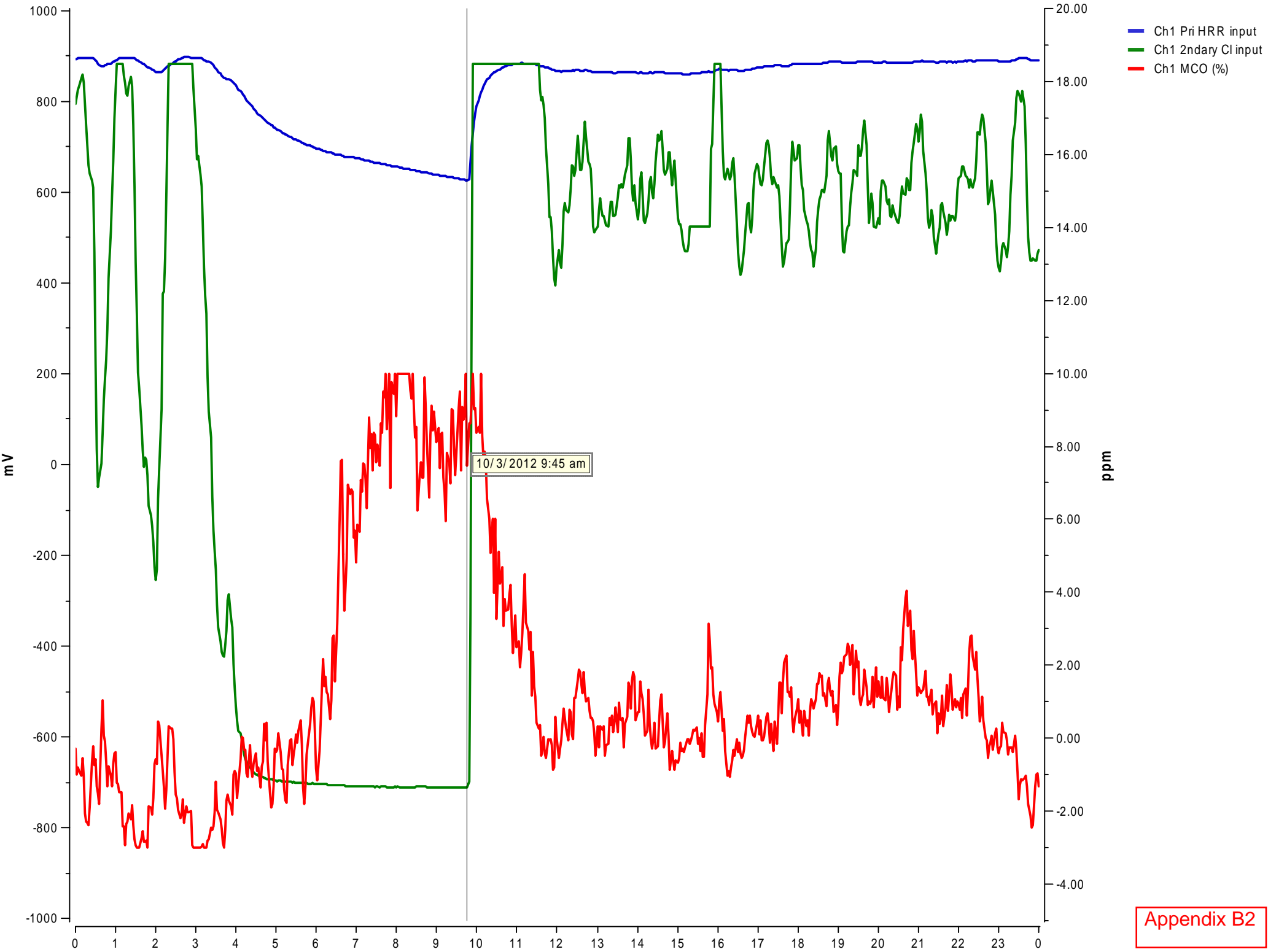
**CHLORINE RESIDUAL TRENDS**

2012: 10/03/2012



Appendix B1

2012: 10/03/2012





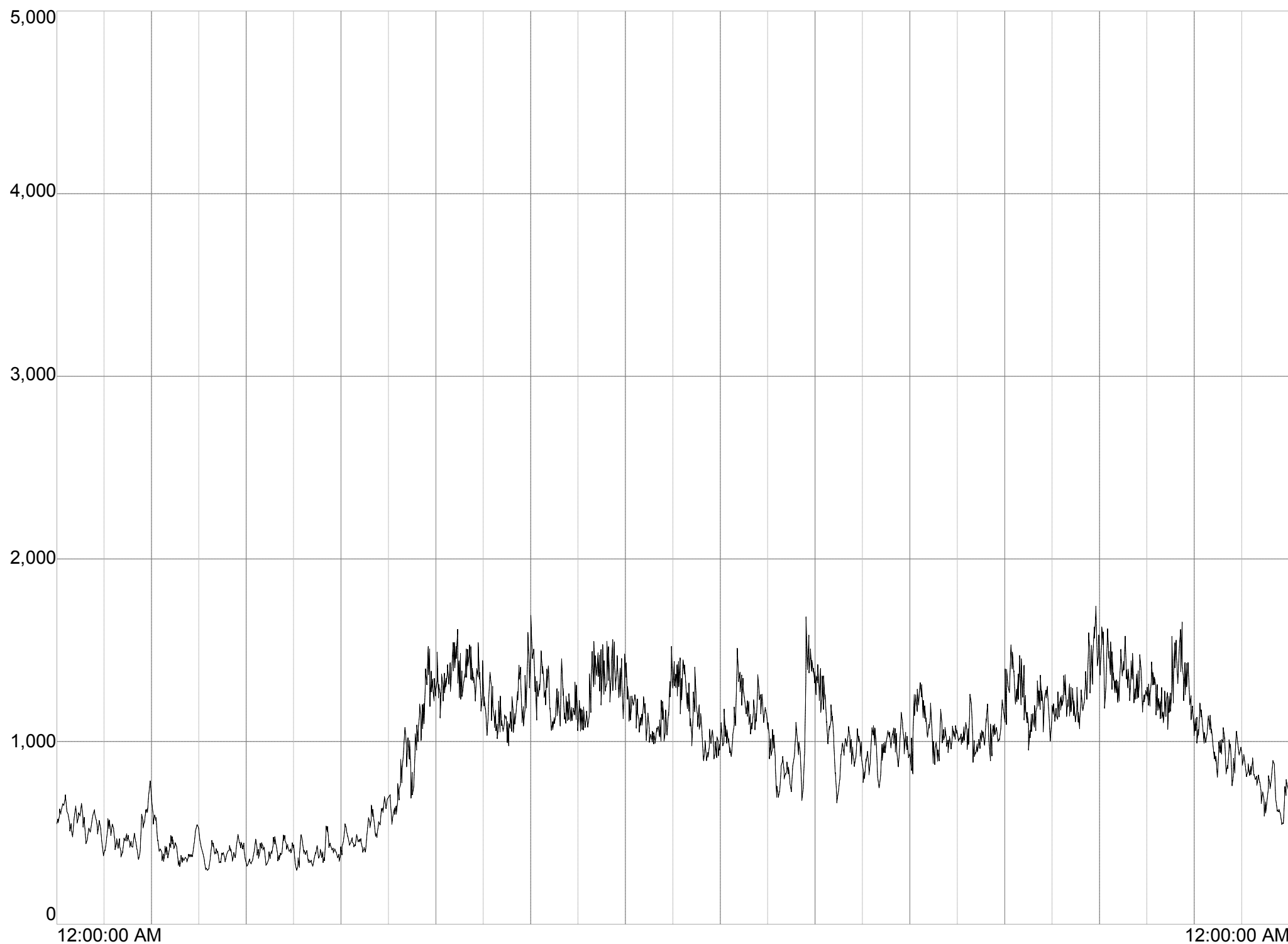
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**FLOW TRENDING AND CHEMICAL USE (OCT 3)**

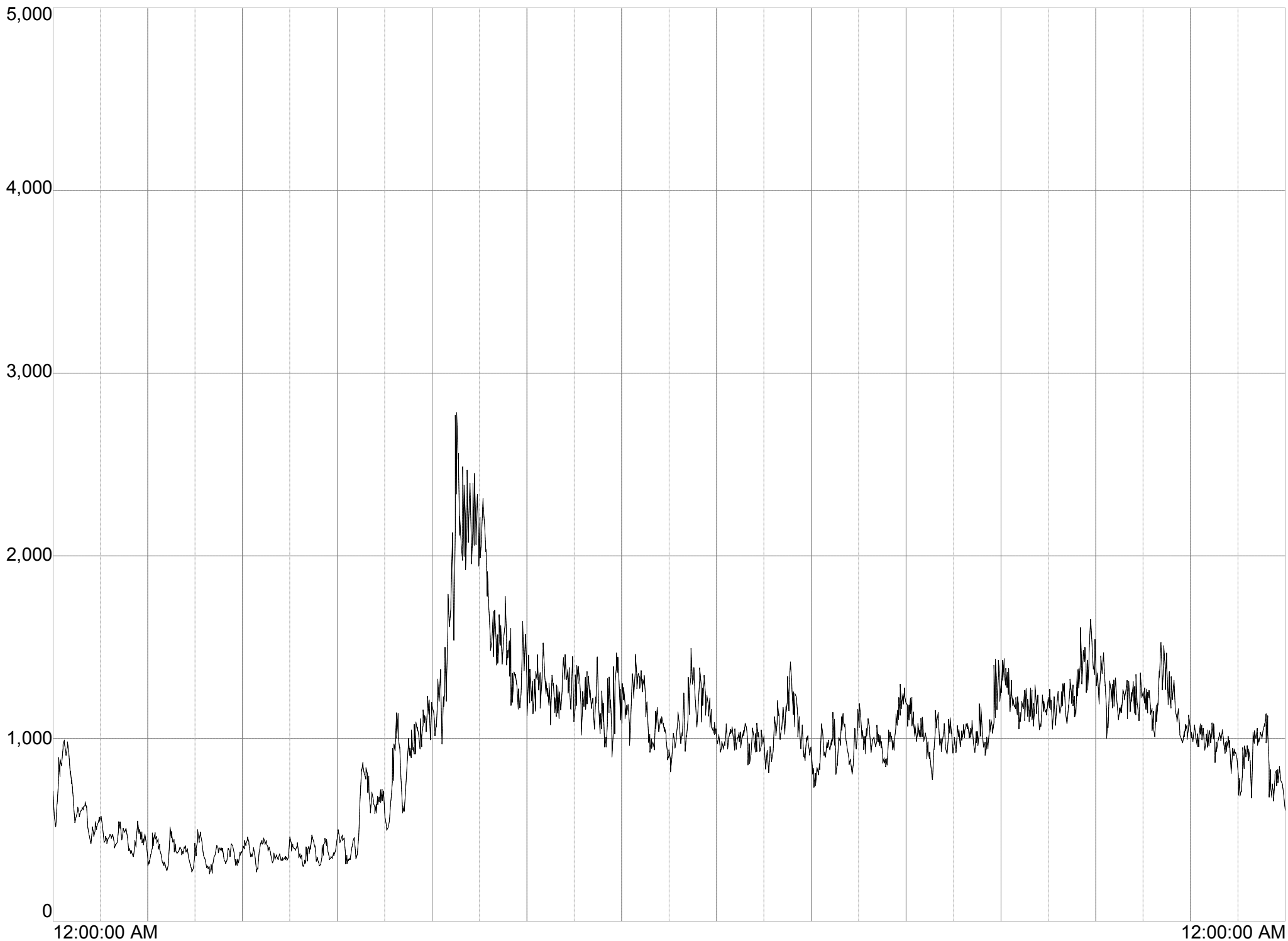
# Monthly Totalzer Report

October-13

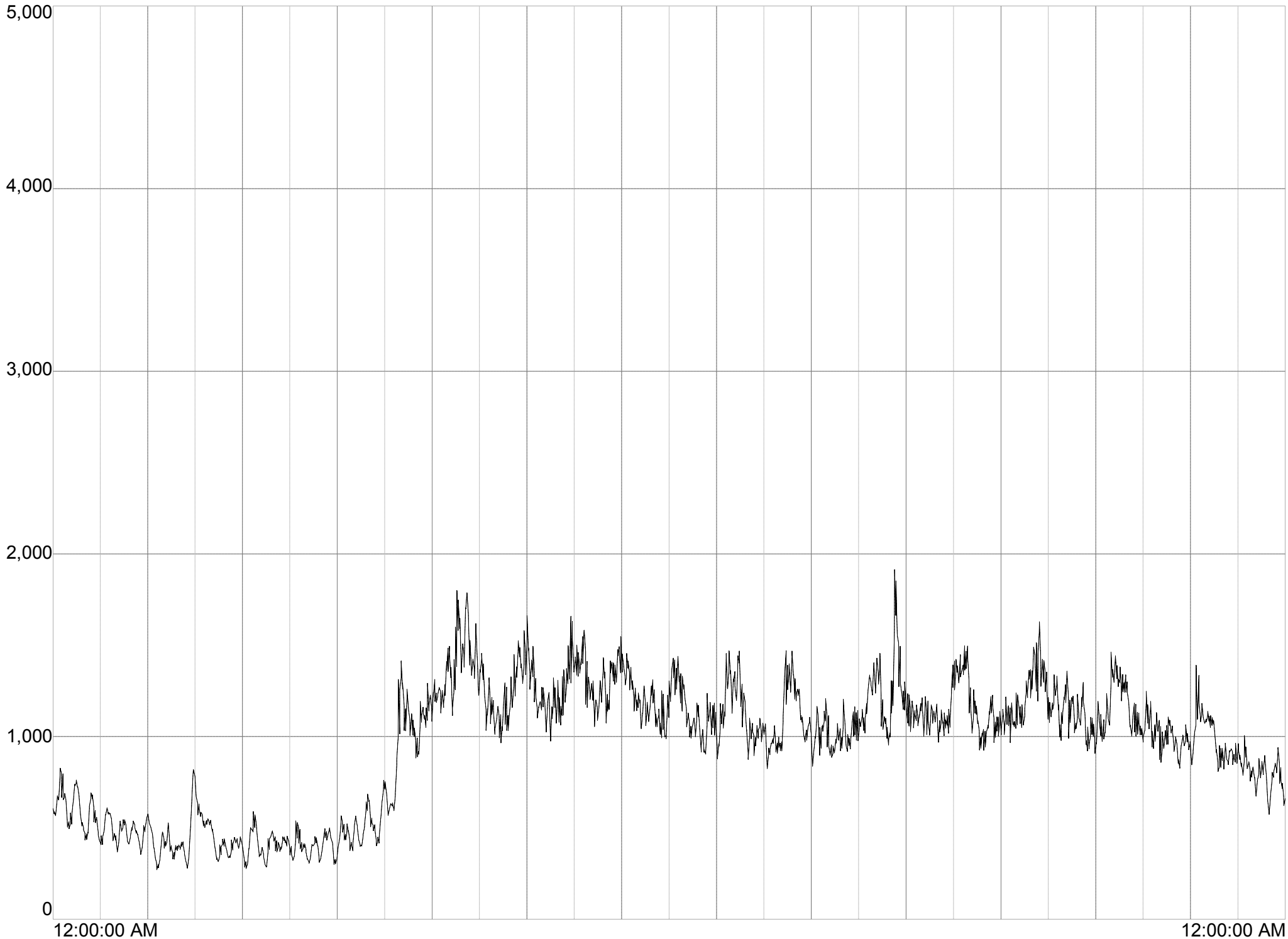
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9/26/2012	1.288	2.824	1.373	2.511	2,339	215	3,567	298	10	0.01	0.60
9/27/2012	1.303	2.160	1.395	1.987	2,164	205	3,448	259	10	0.01	1.00
9/28/2012	1.290	2.968	1.382	2.759	1,998	215	3,345	259	8	0.00	0.71
9/29/2012	1.318	2.542	1.421	2.680	1,824	234	3,242	259	9	0.00	0.40
9/30/2012	1.342	2.656	1.442	2.804	1,633	253	3,139	259	7.8	0.15	0.00
10/1/2012	1.296	2.903	1.392	2.766	1,435	244	3,028	279	9.3	0.00	0.01
10/2/2012	1.279	2.440	1.371	2.661	1,245	234	2,933	239	10	0.00	0.00
10/3/2012	1.258	2.425	1.349	2.544	5,398	239	2,830	259	8.8	0.00	0.29
10/4/2012	1.283	2.410	1.367	2.429	5,224	215	2,727	259	10	0.00	0.28
10/5/2012	1.284	2.541	1.369	2.515	5,073	185	2,616	279	10	0.00	0.44
10/6/2012	1.358	2.660	1.451	2.913	4,915	195	2,497	298	10	0.01	0.70
10/7/2012	1.298	2.806	1.389	3.083	4,764	195	2,370	318	10	0.01	0.68
10/8/2012	1.295	2.370	1.380	2.488	4,605	195	2,259	279	10	0.01	0.42
10/9/2012	1.338	2.448	1.424	2.710	4,447	195	2,132	318	8.9	0.09	0.30
10/10/2012	1.357	2.232	1.442	2.160	4,288	195	2,013	298	10	0.01	0.45



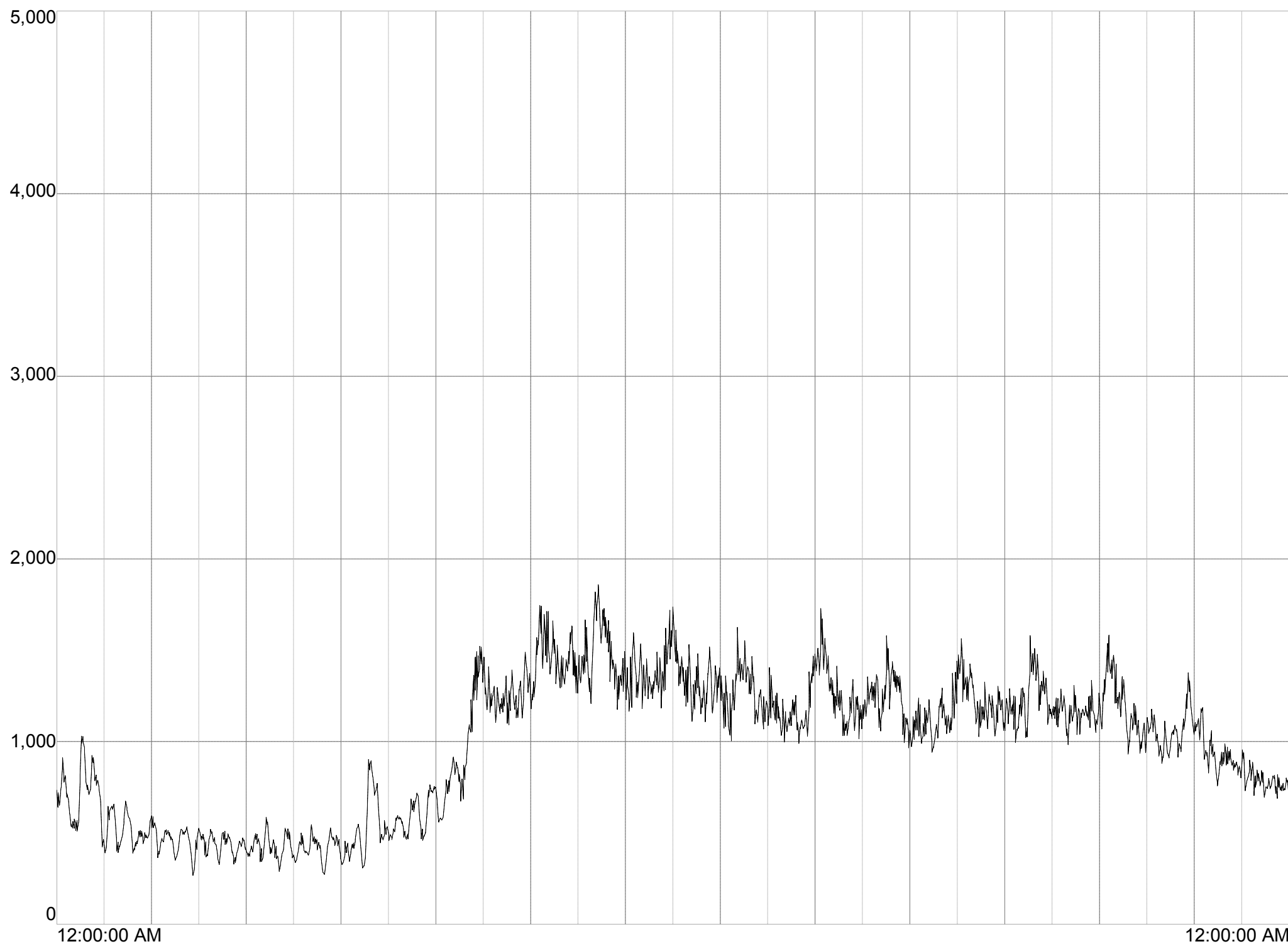
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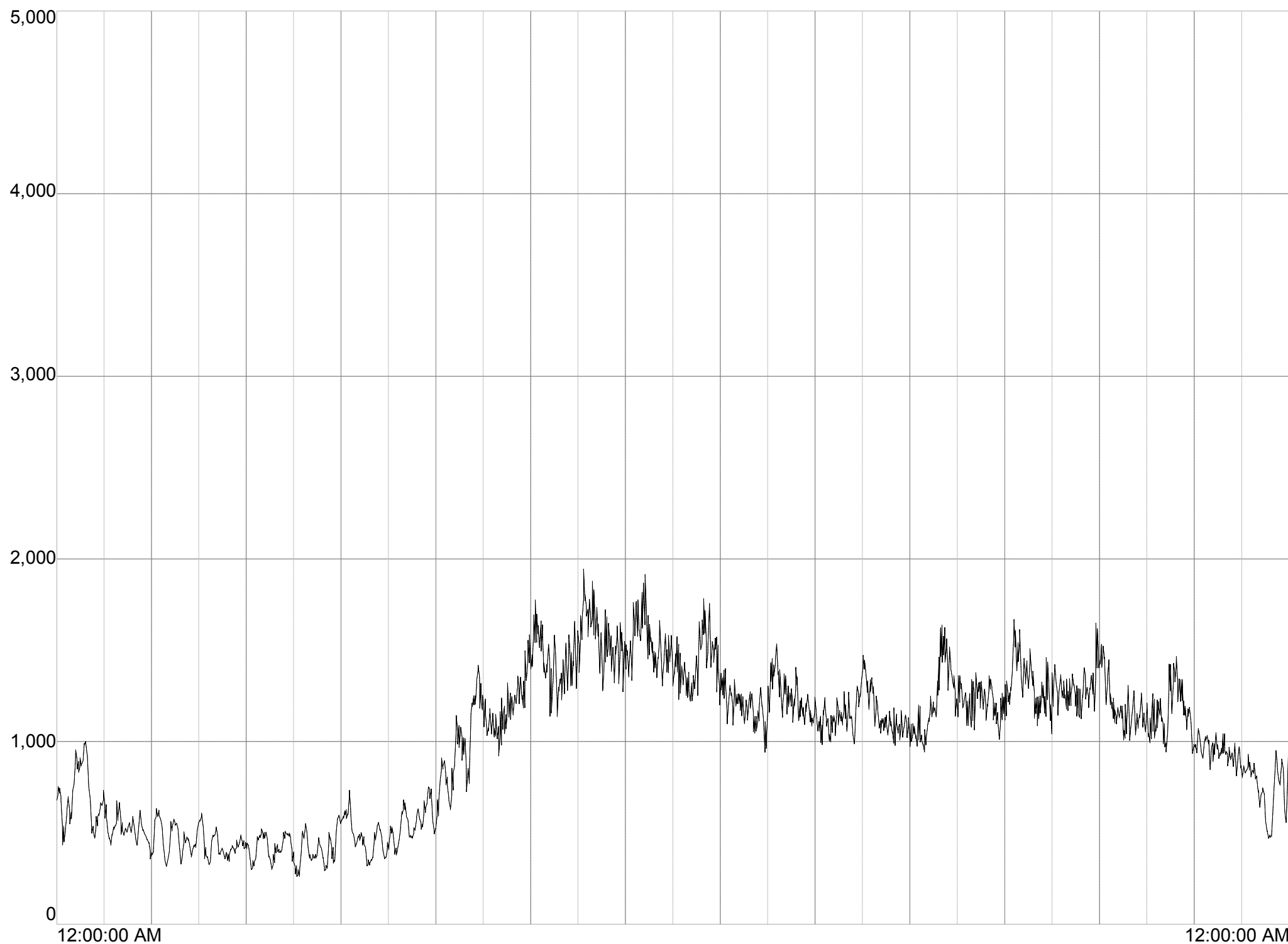


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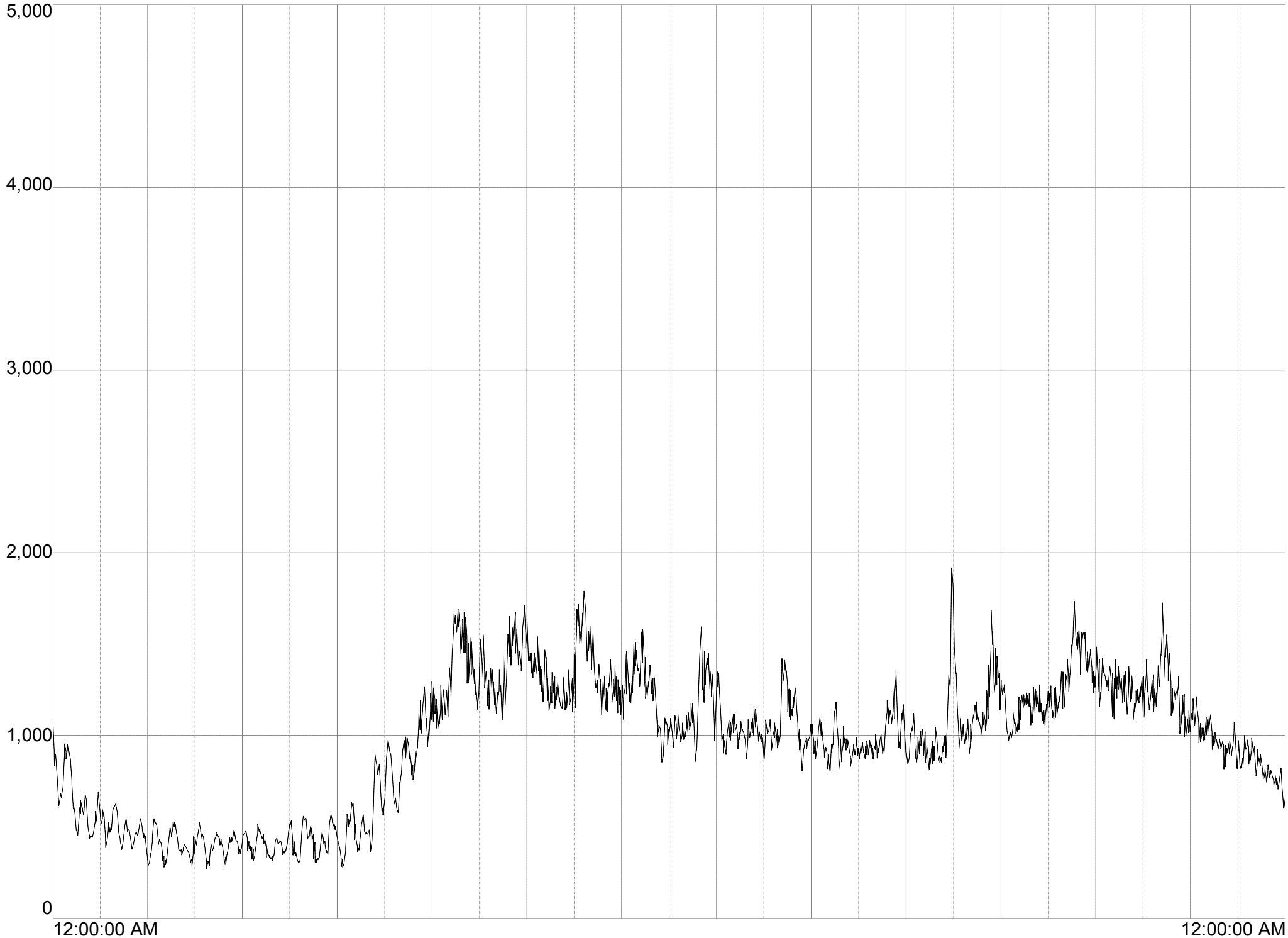


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Flow 24 Hour Trend Sunday, September 30, 2012 - Monday, October 01, 2012 - -

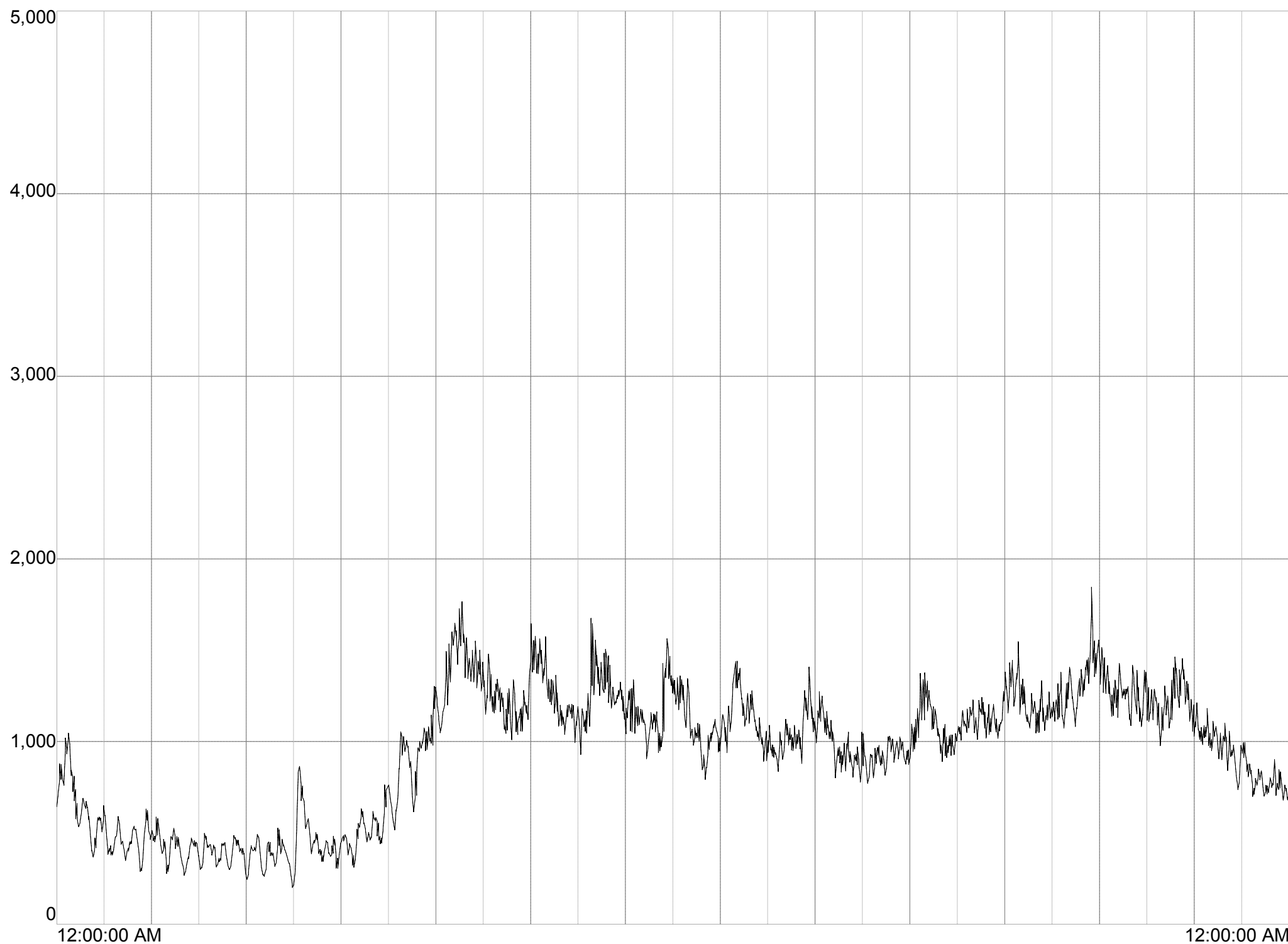


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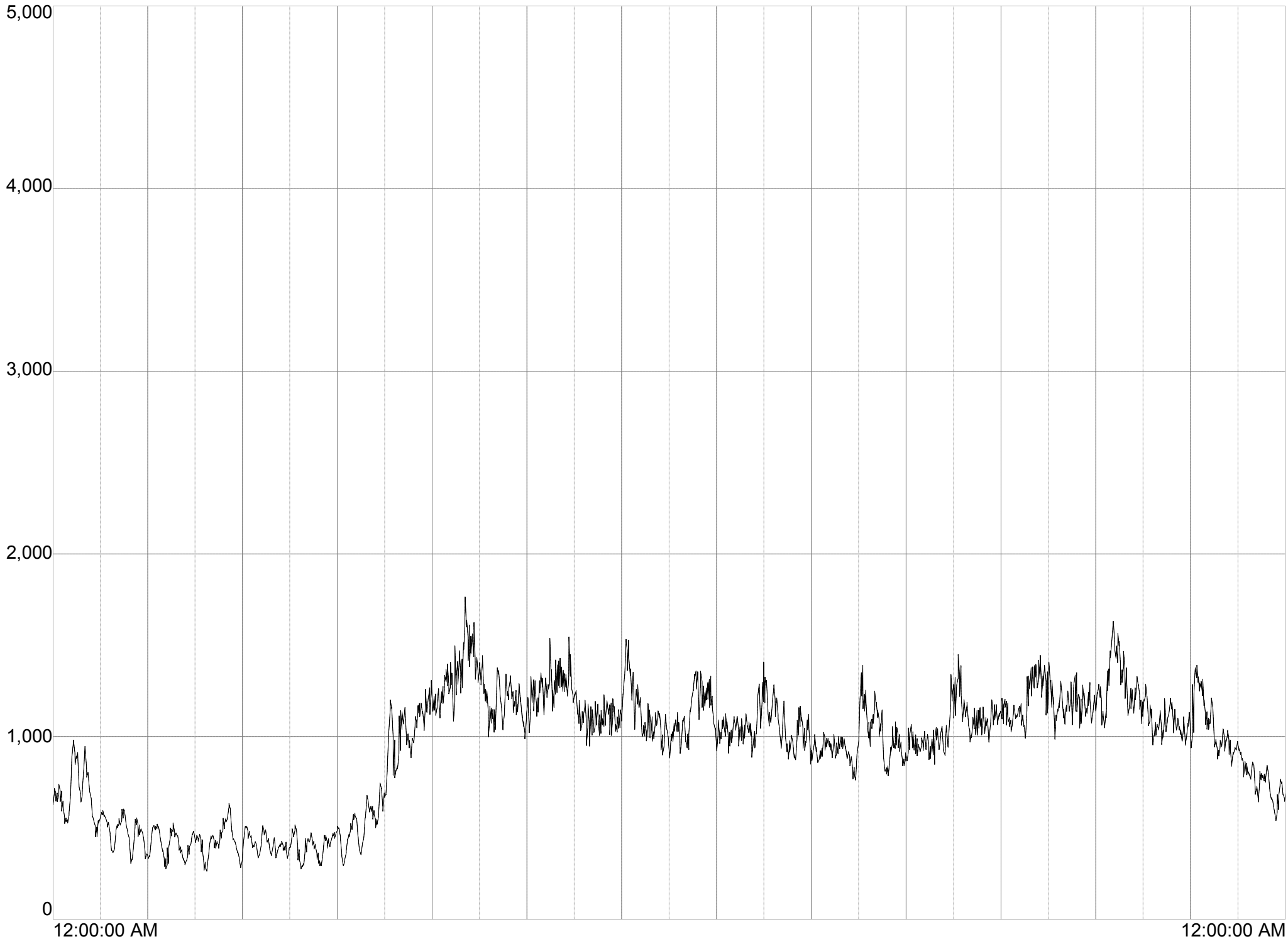


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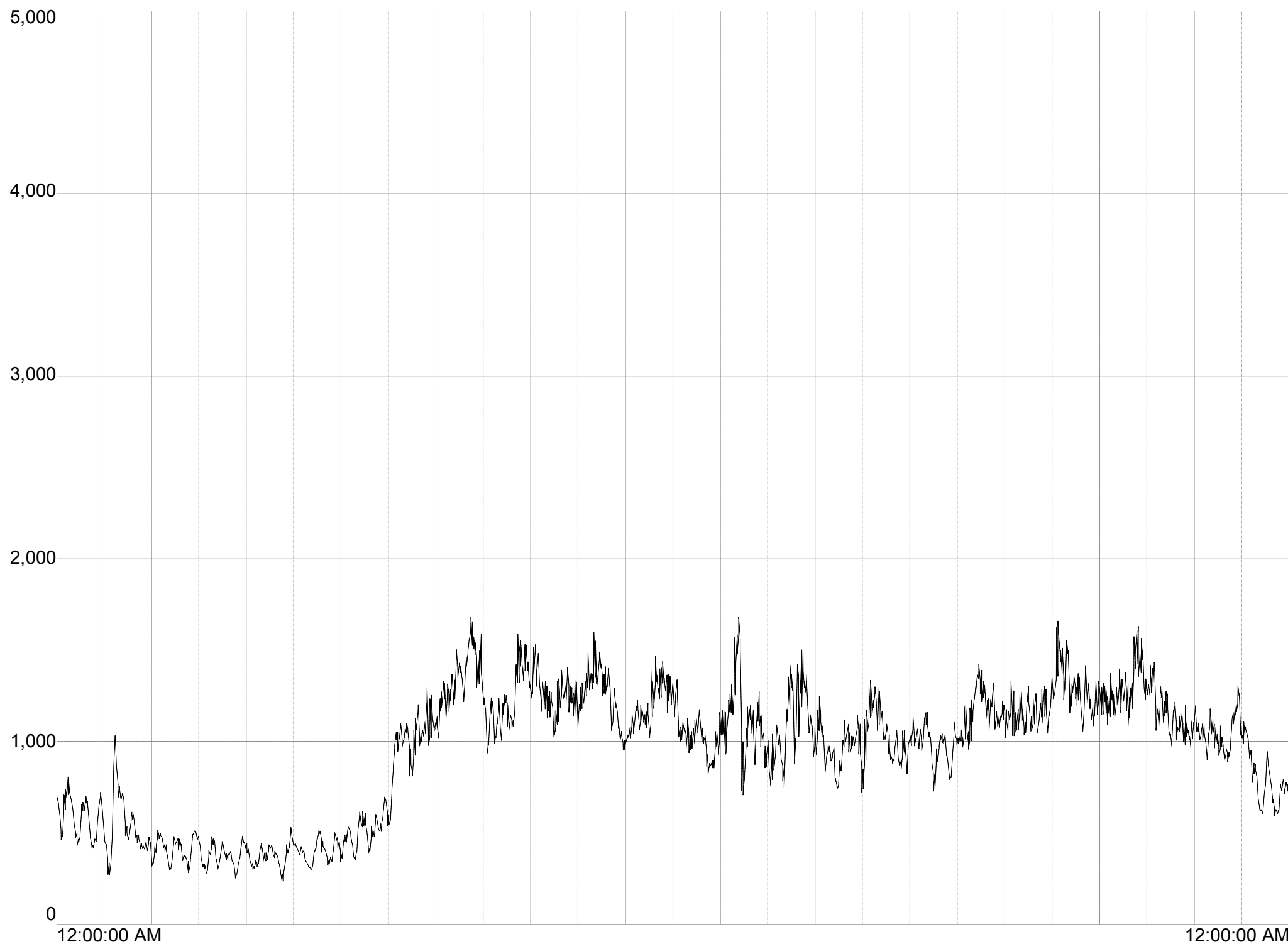




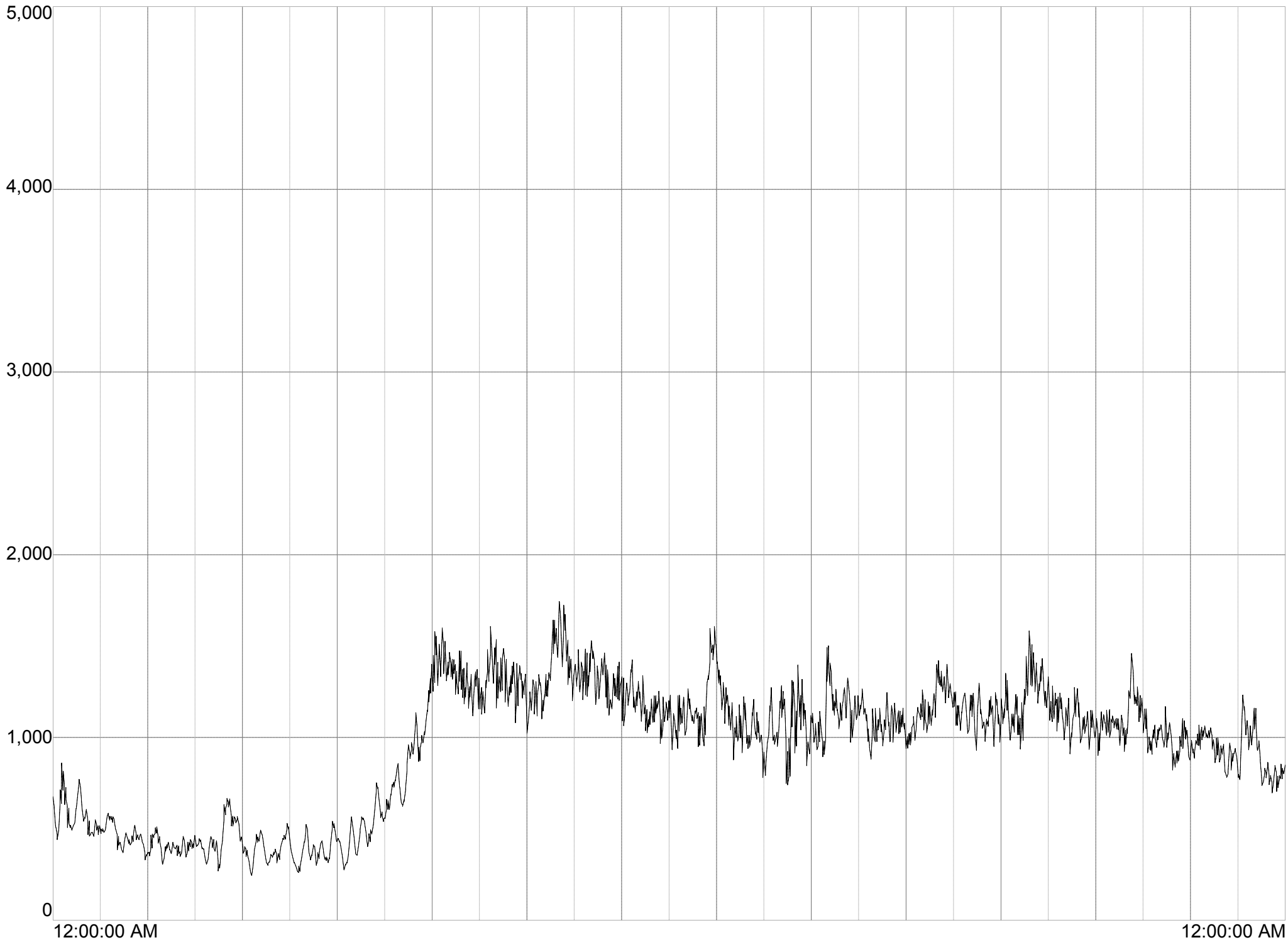
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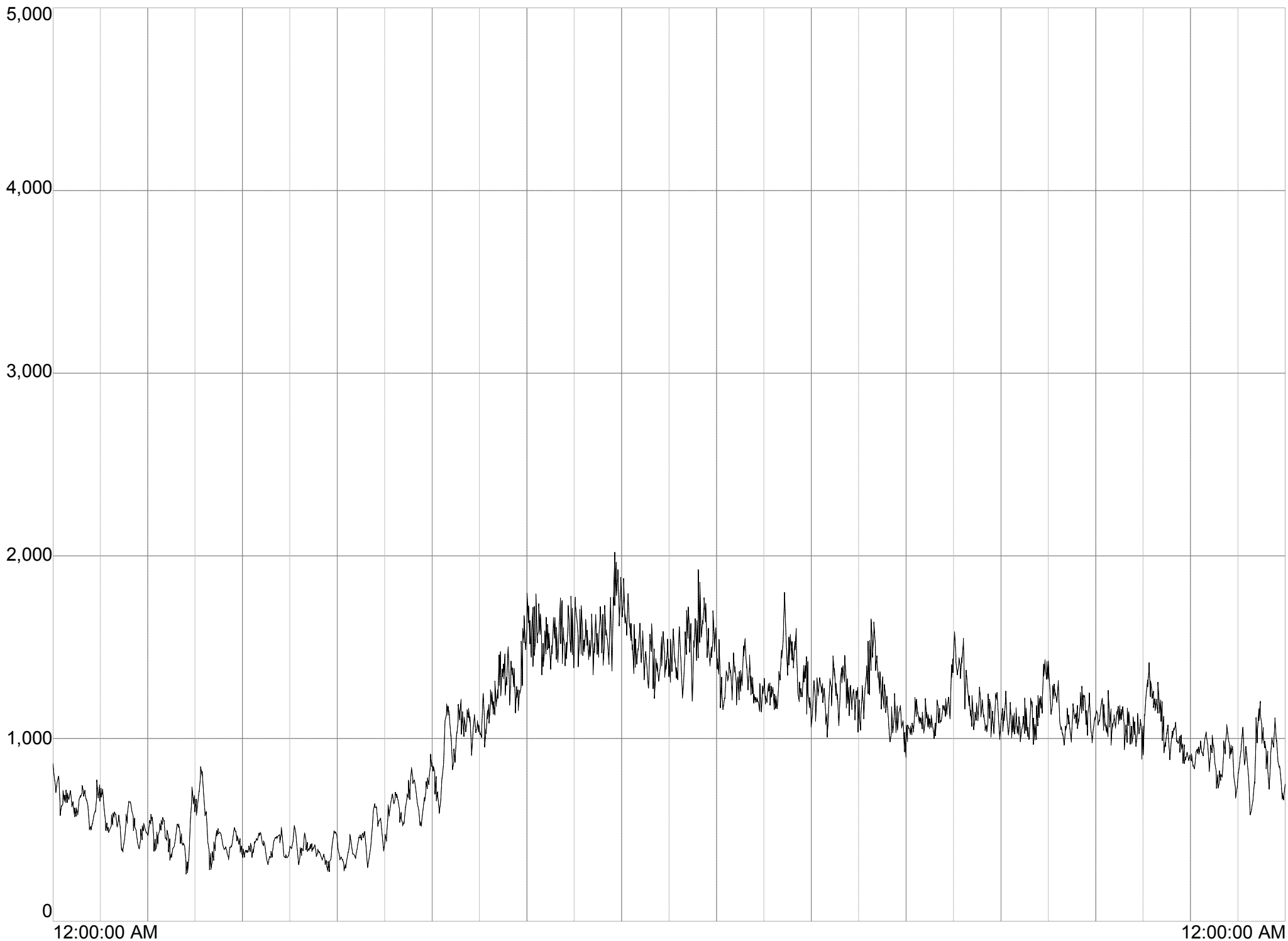
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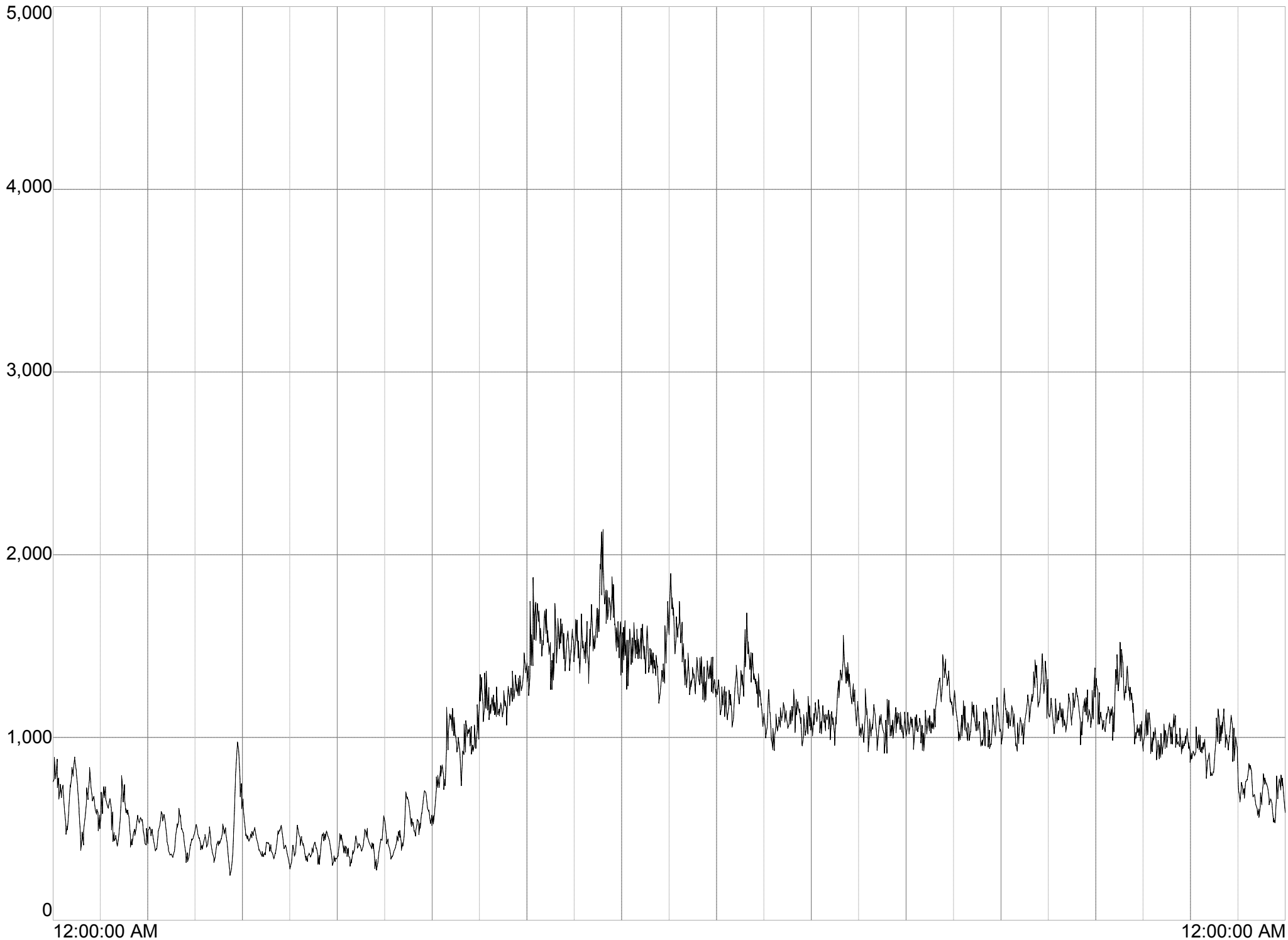
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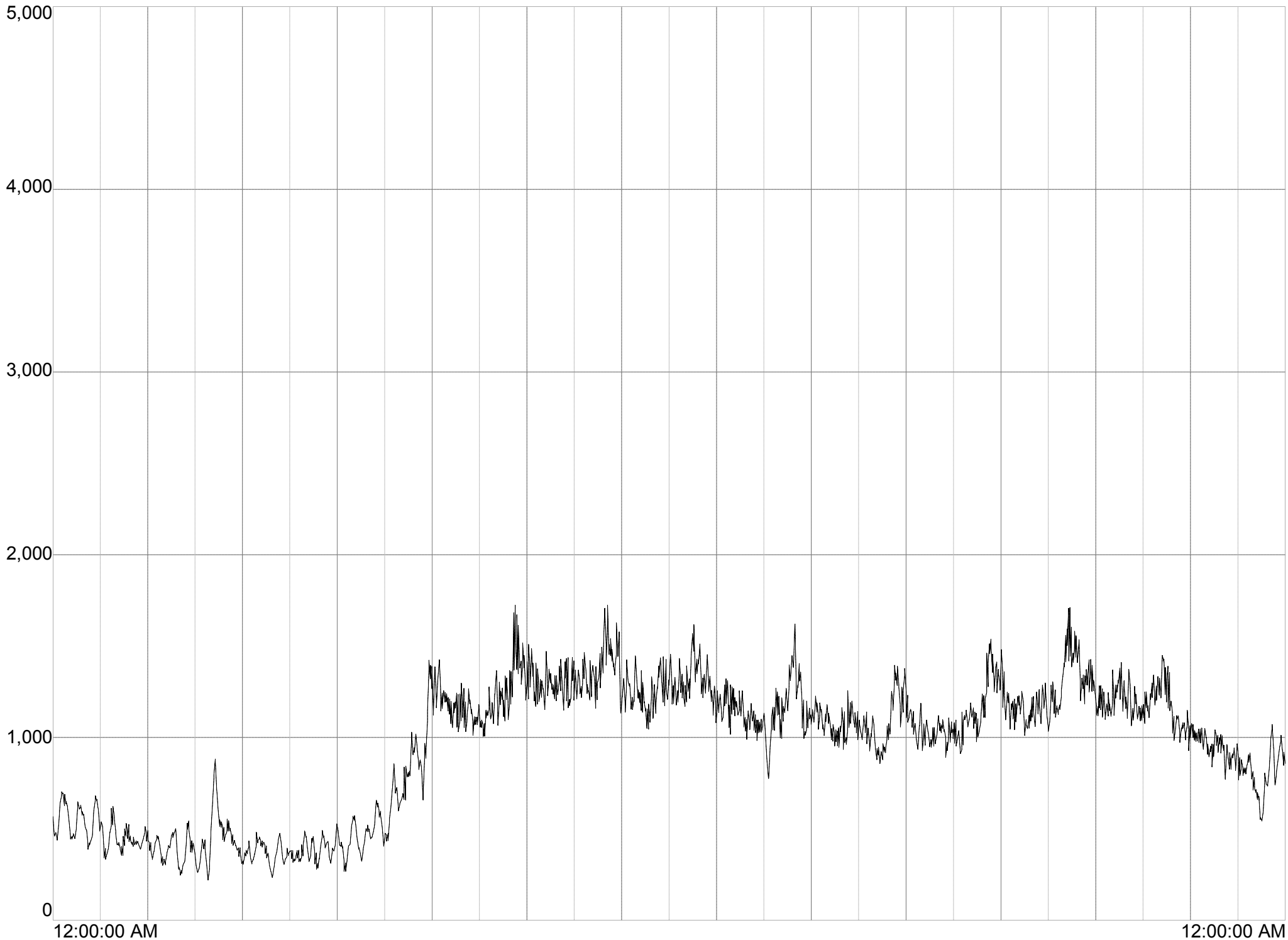
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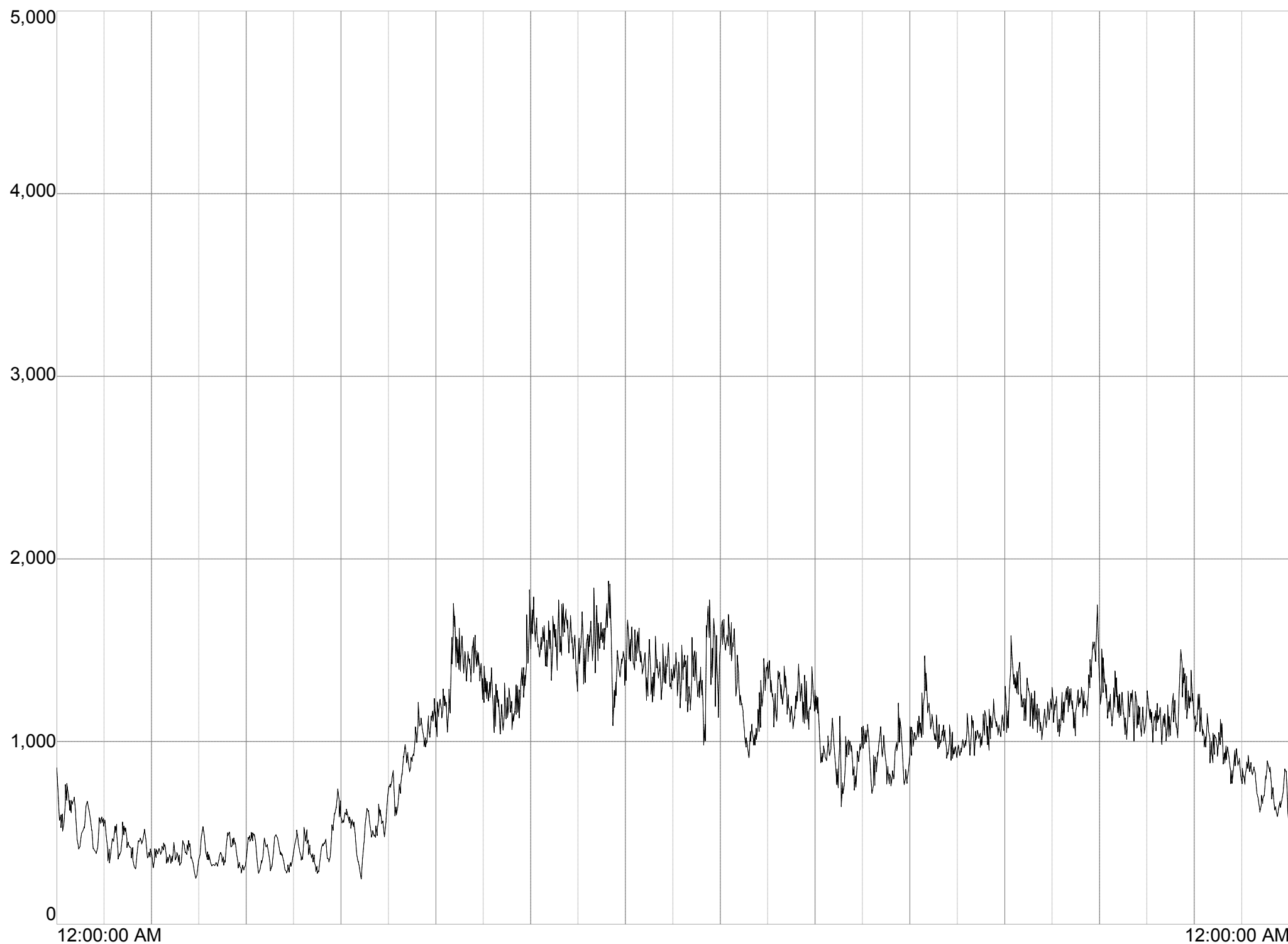
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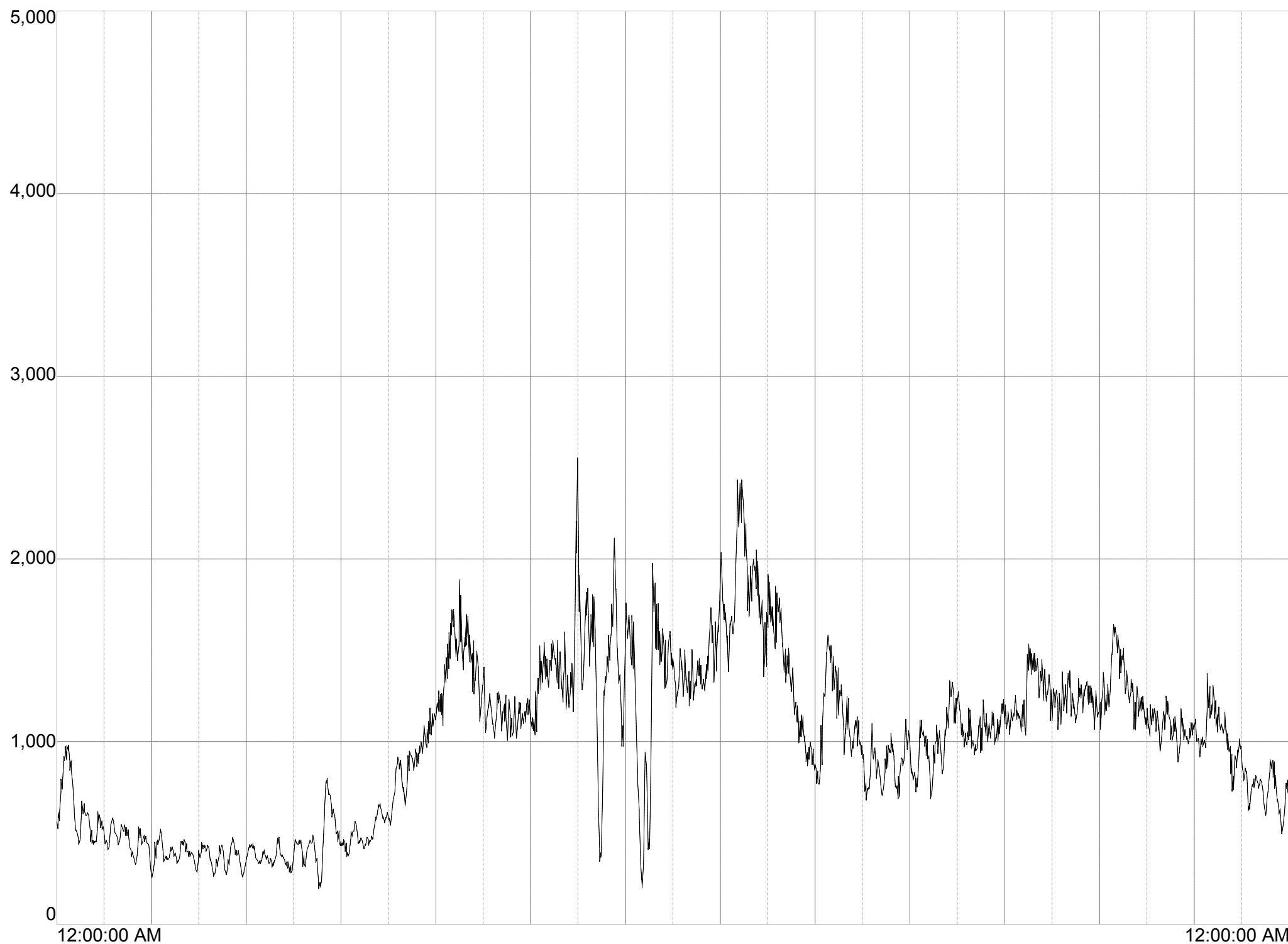


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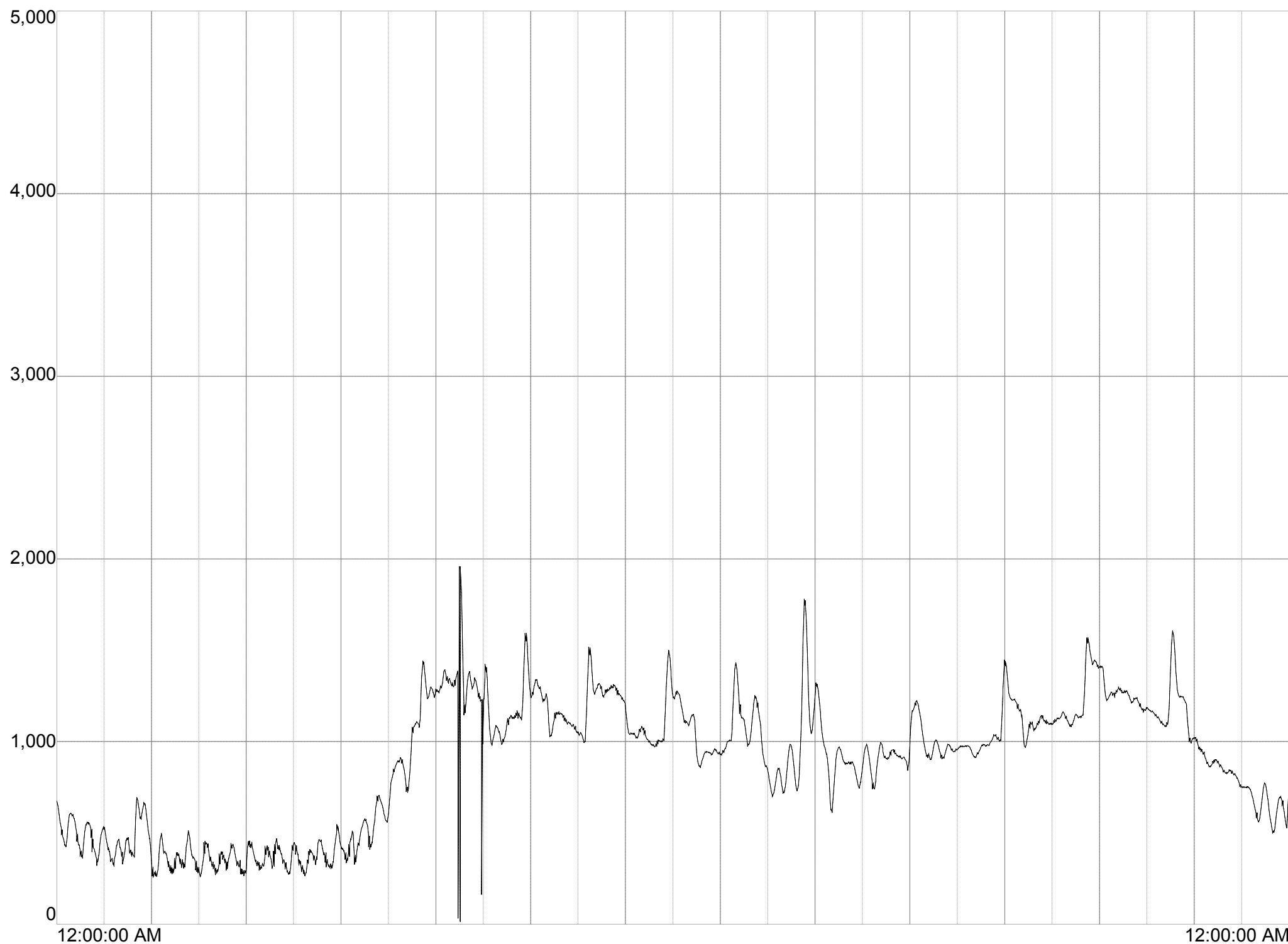


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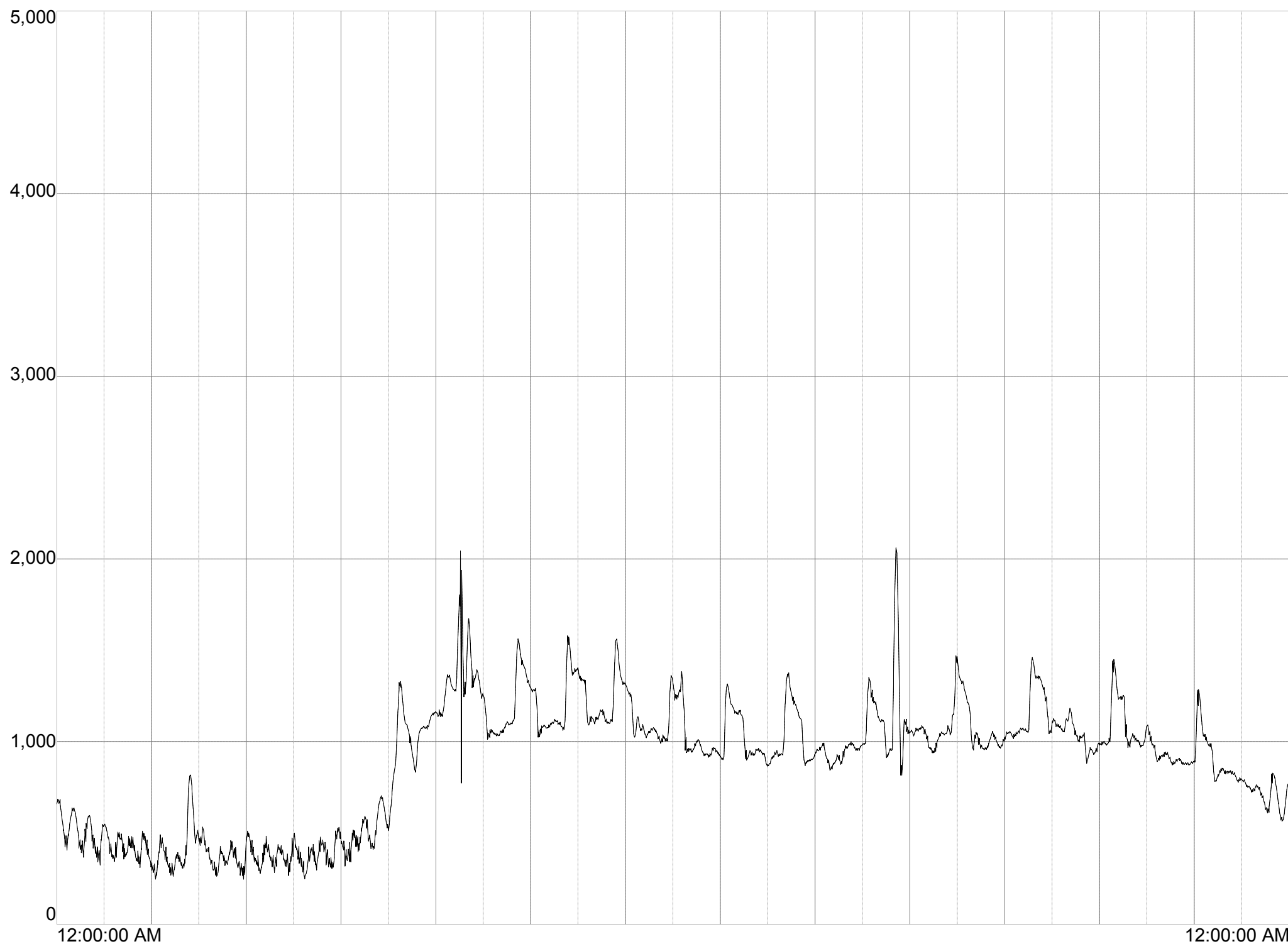


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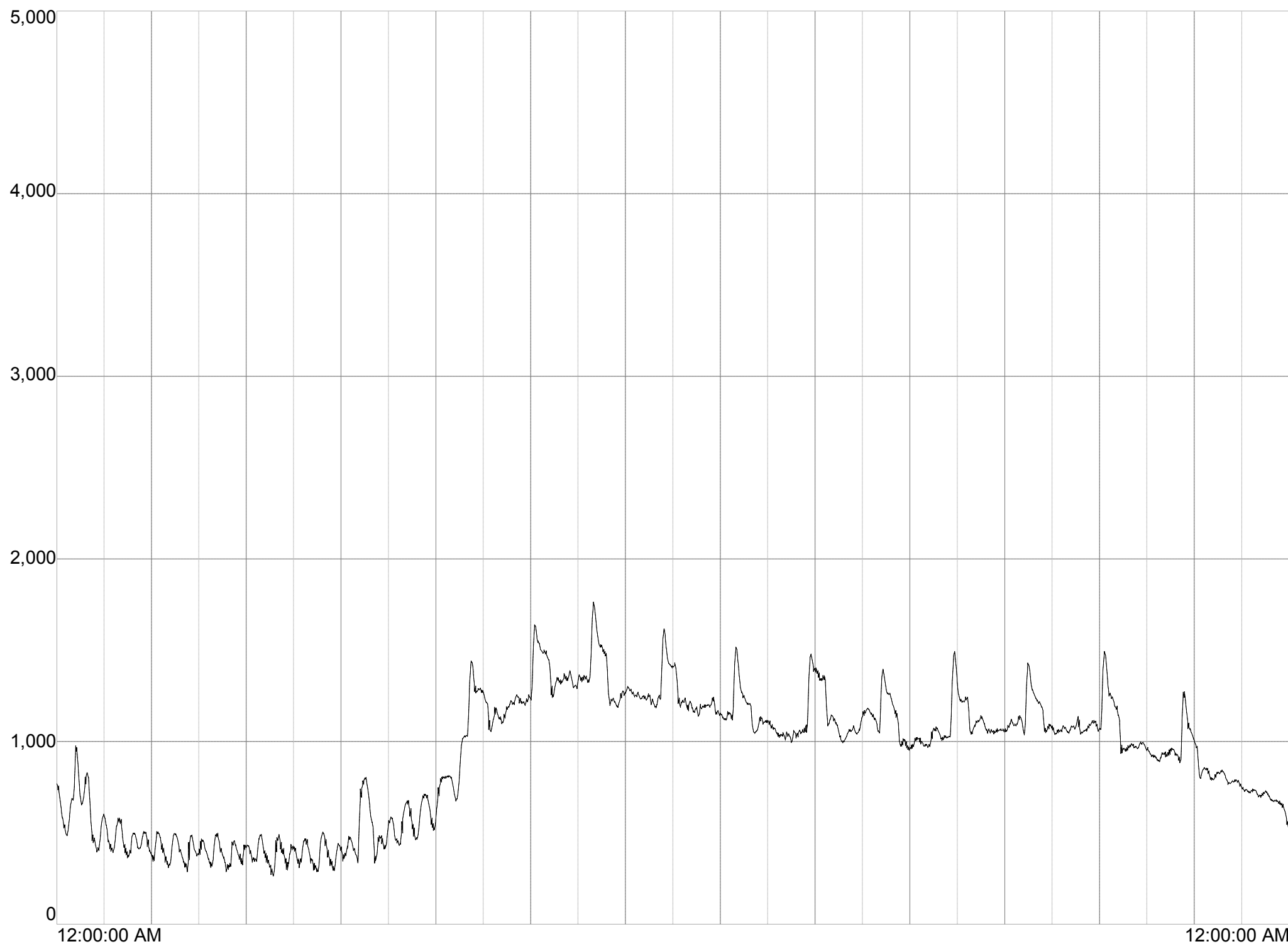


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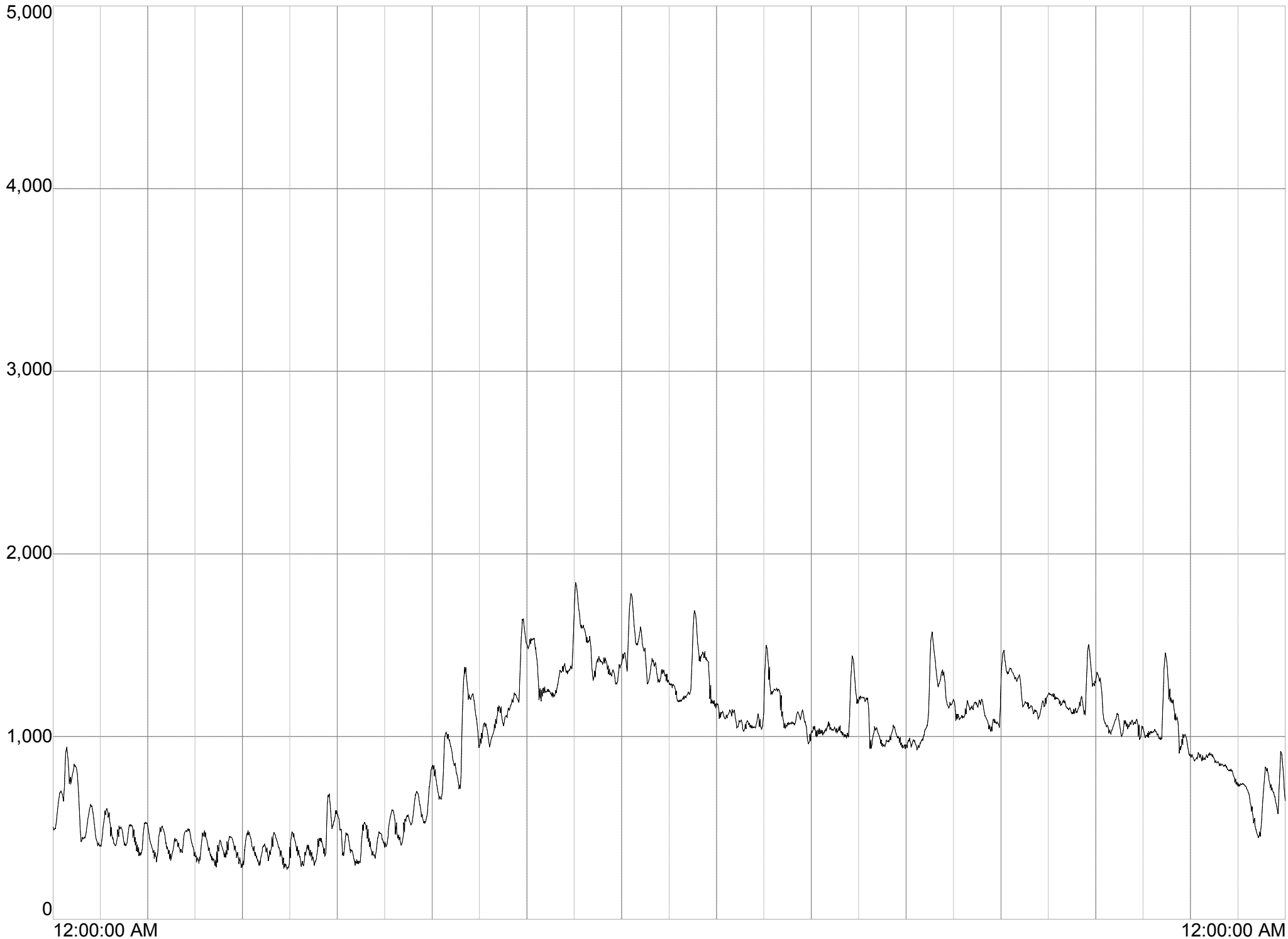




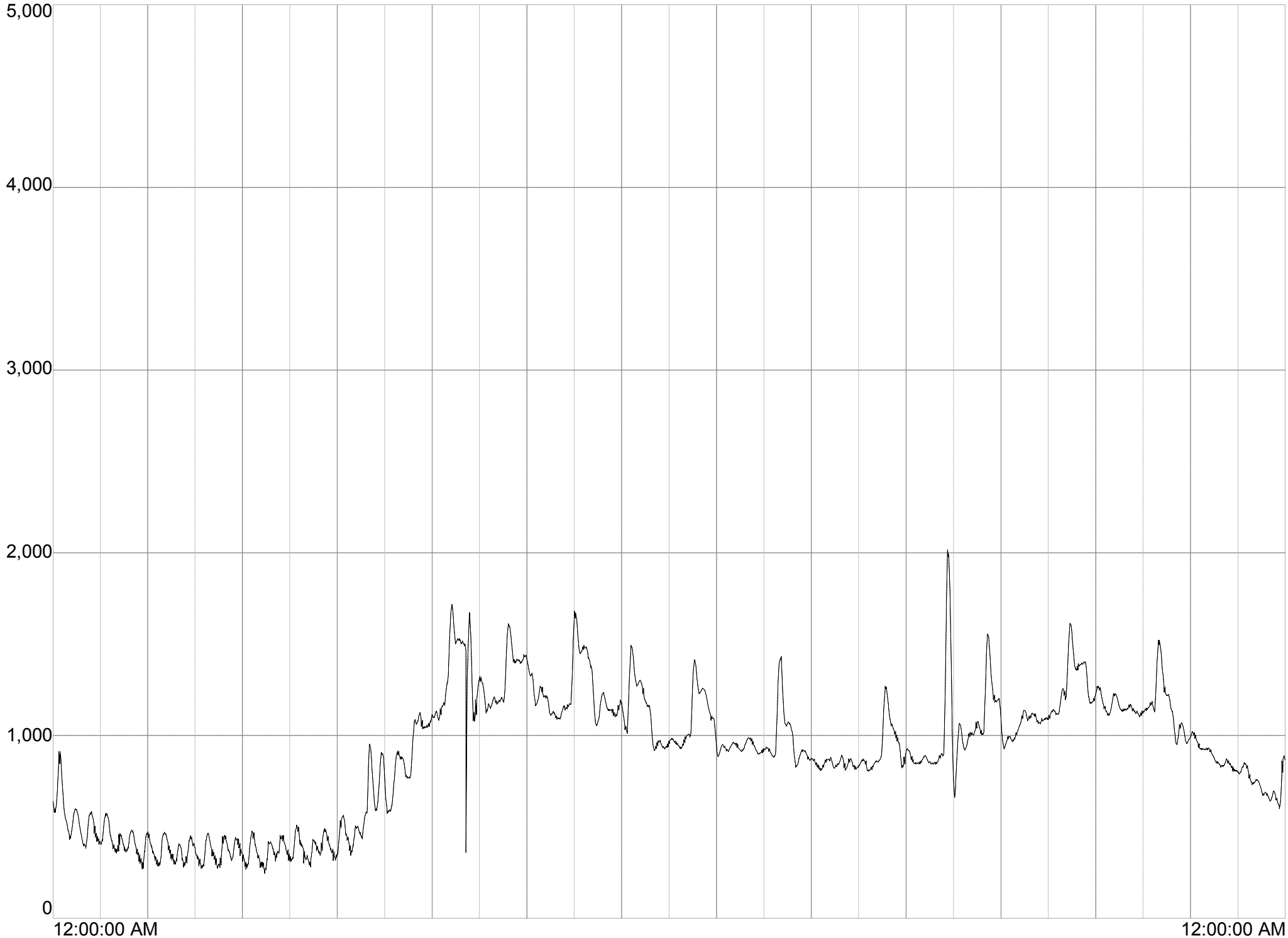
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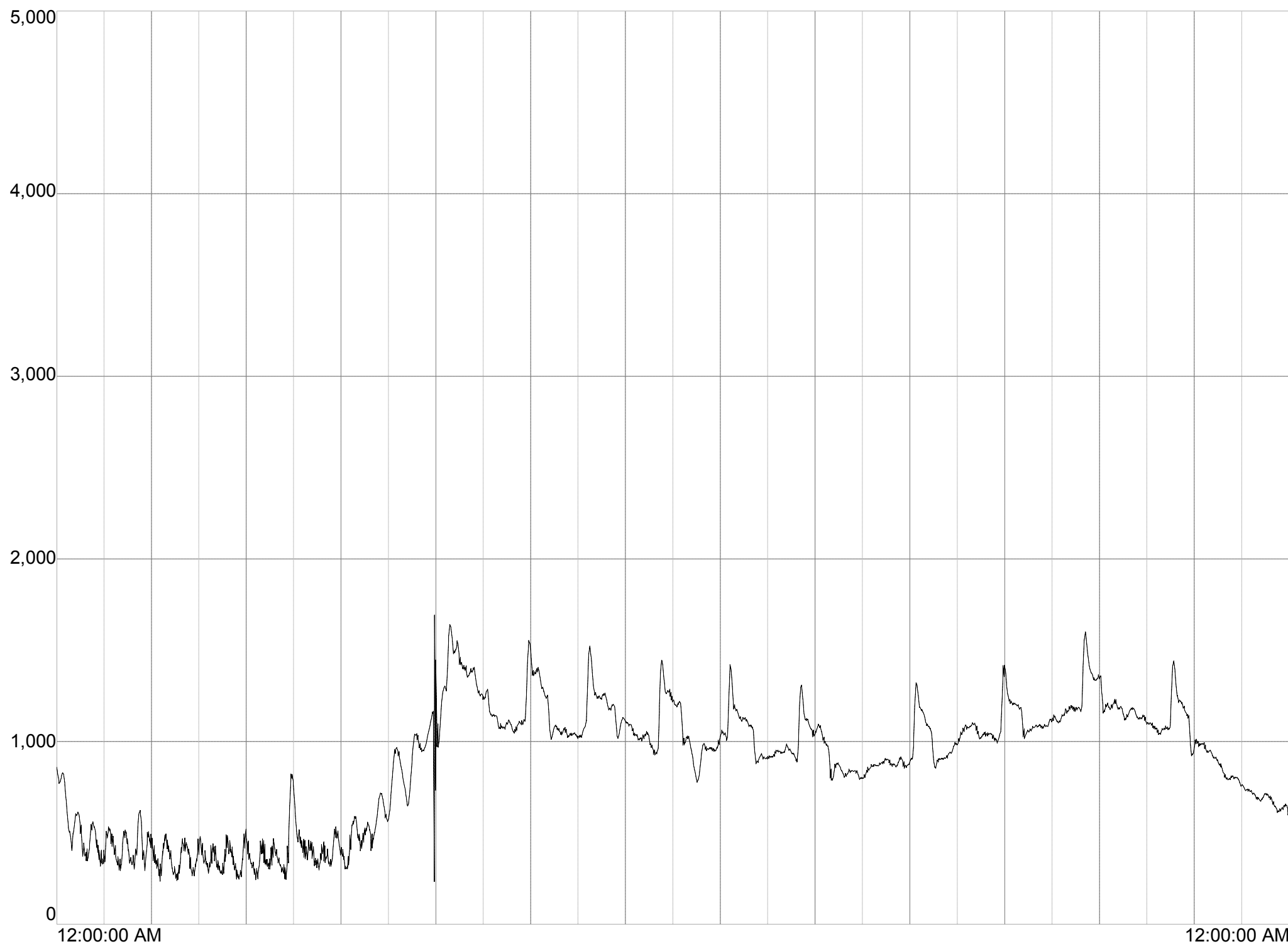
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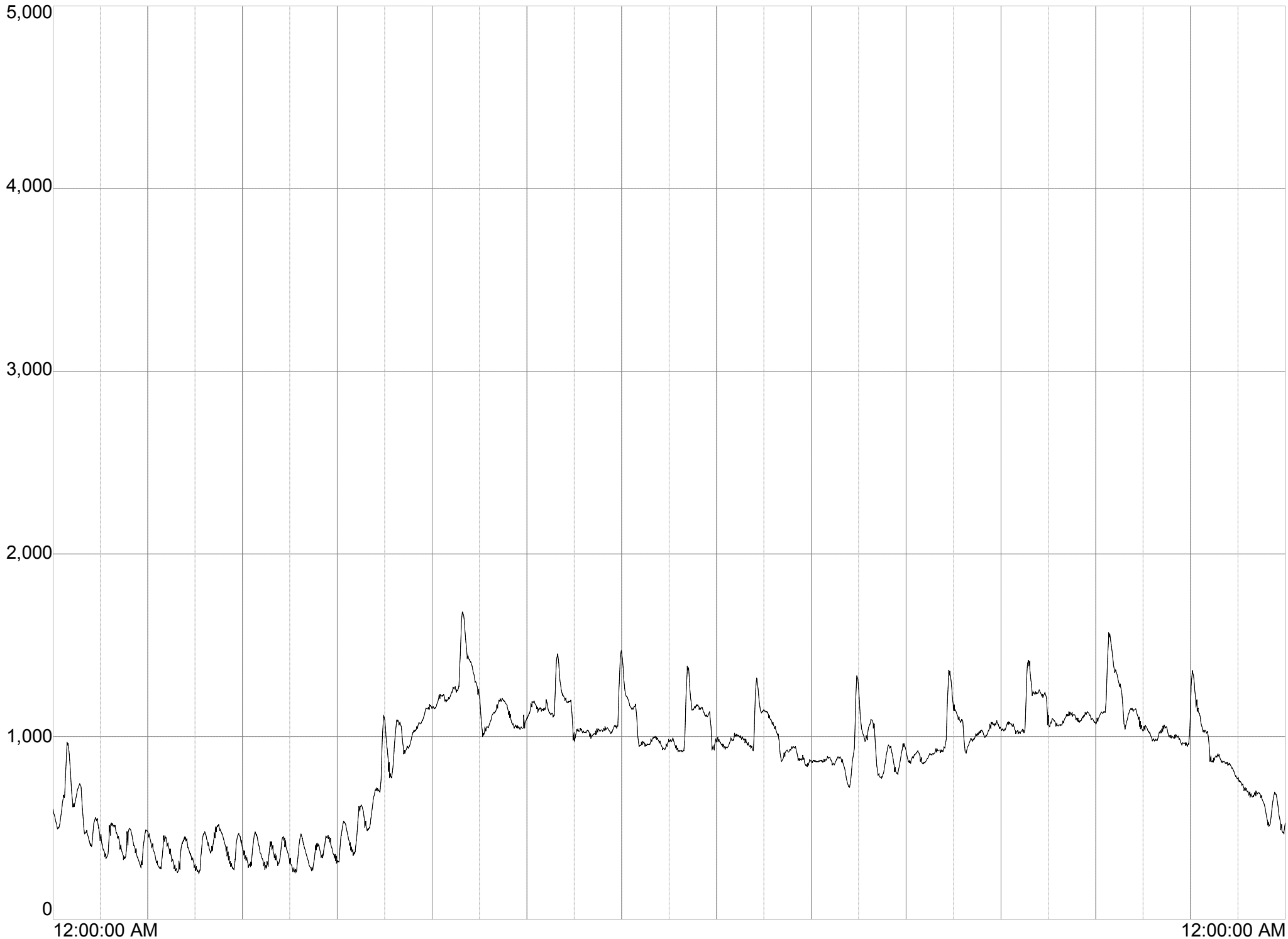


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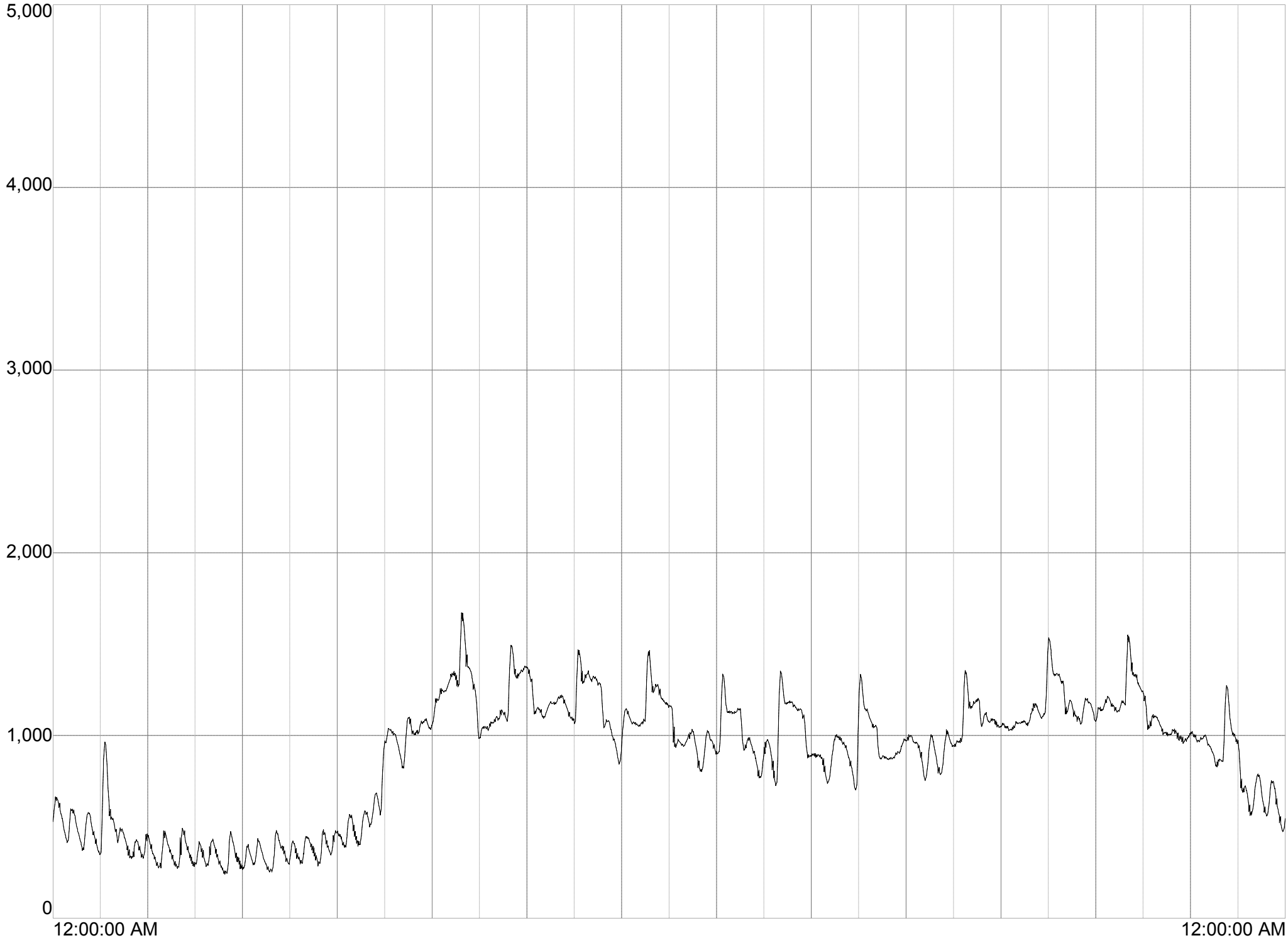


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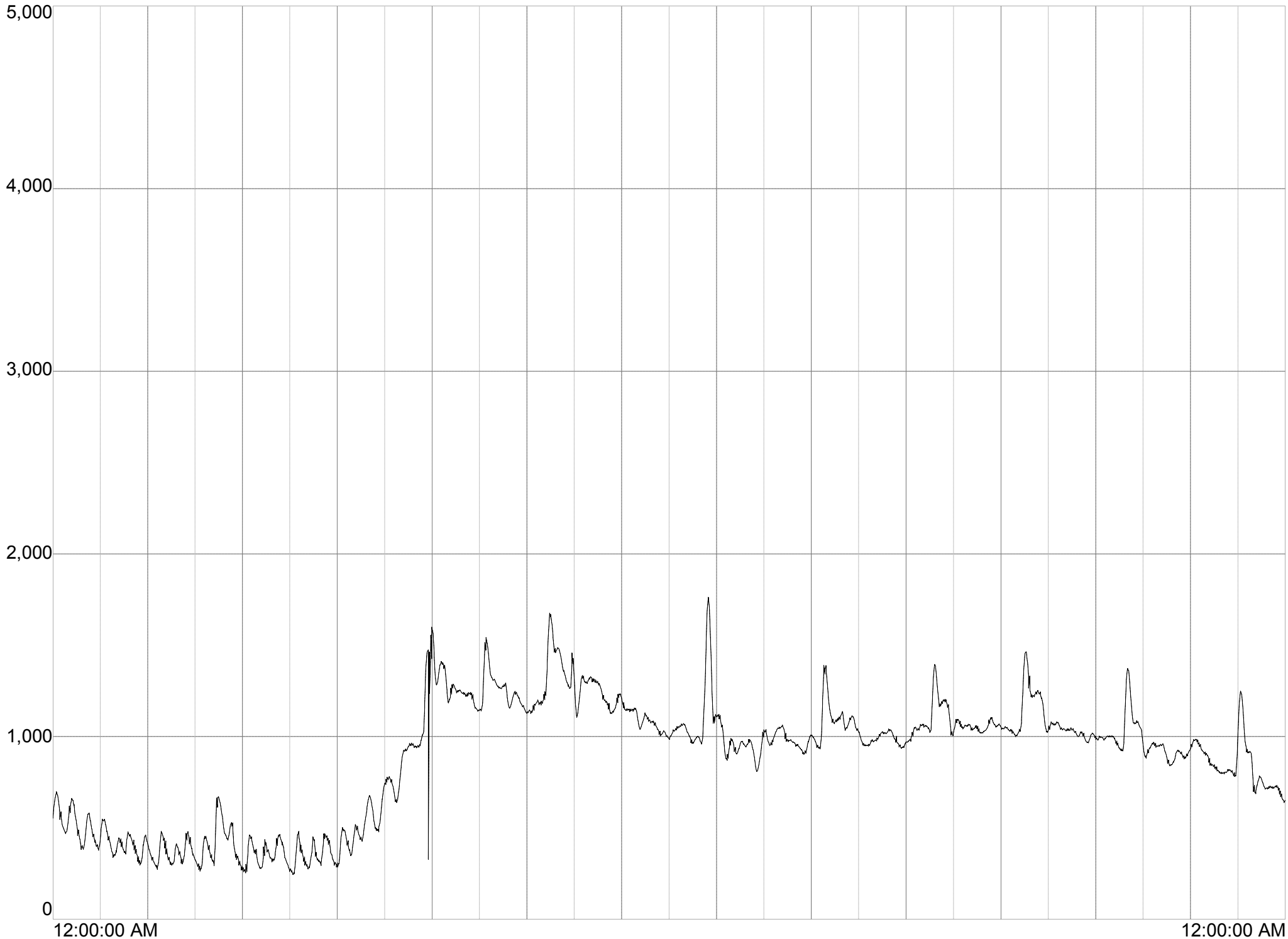




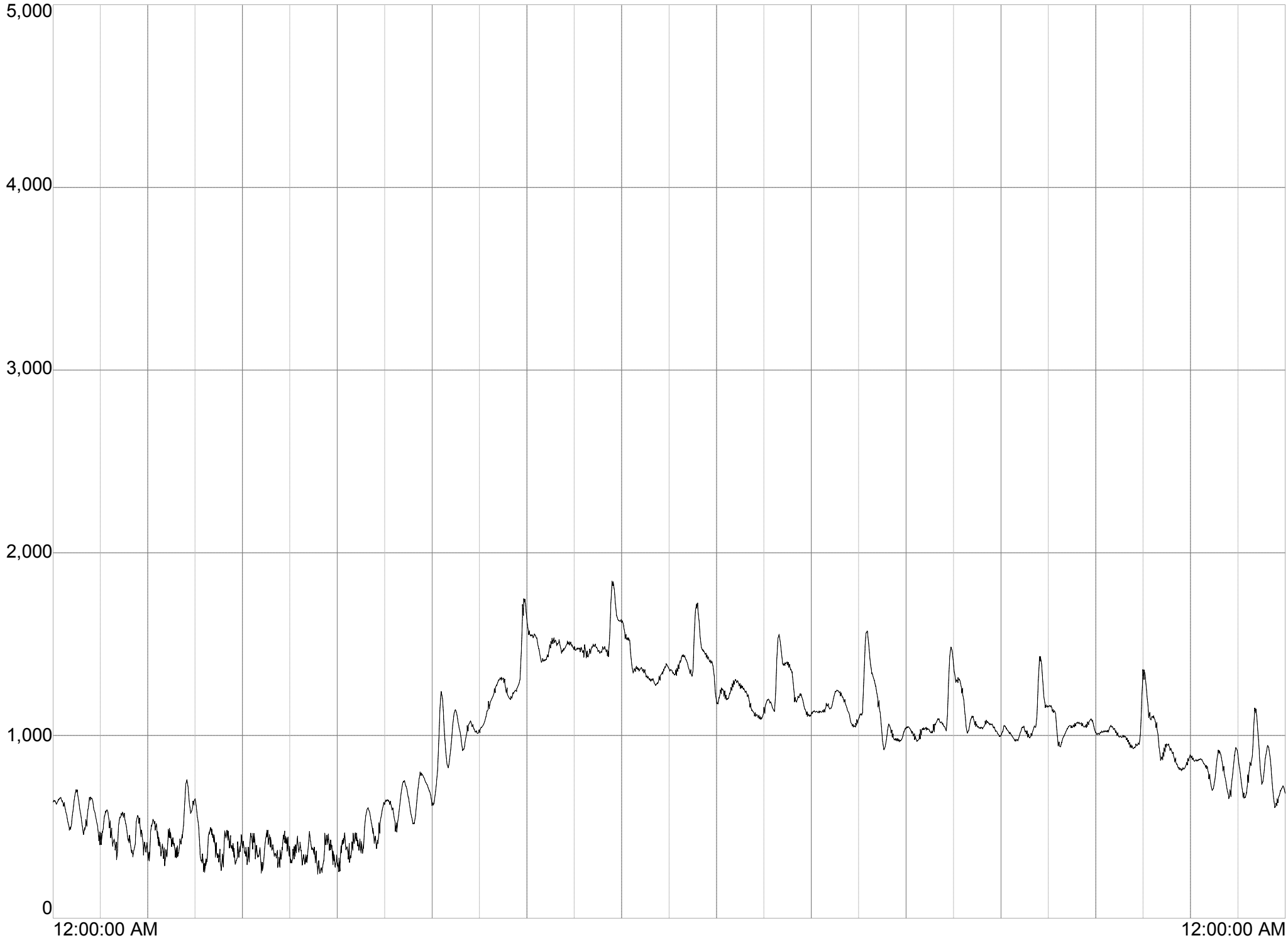
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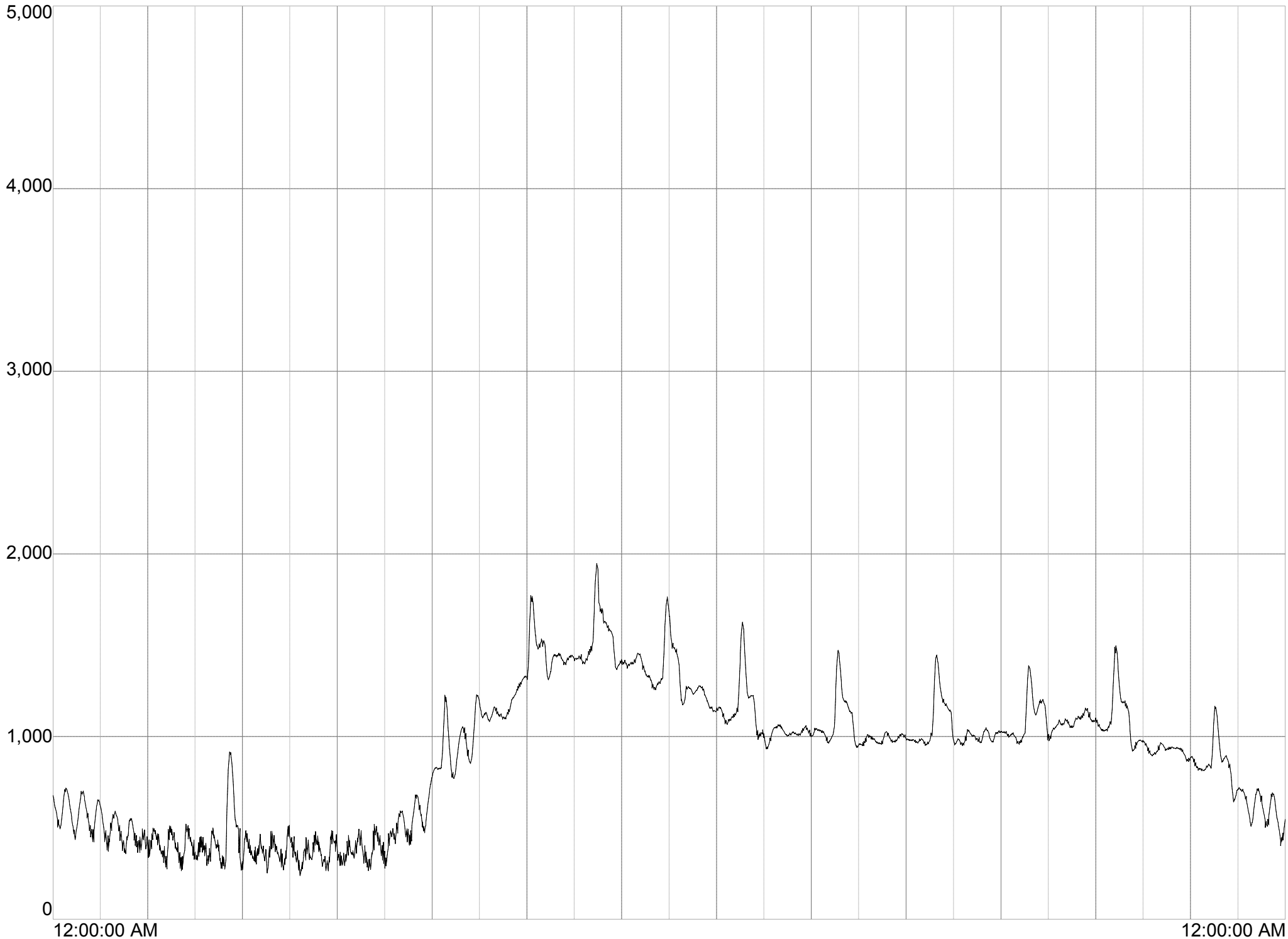
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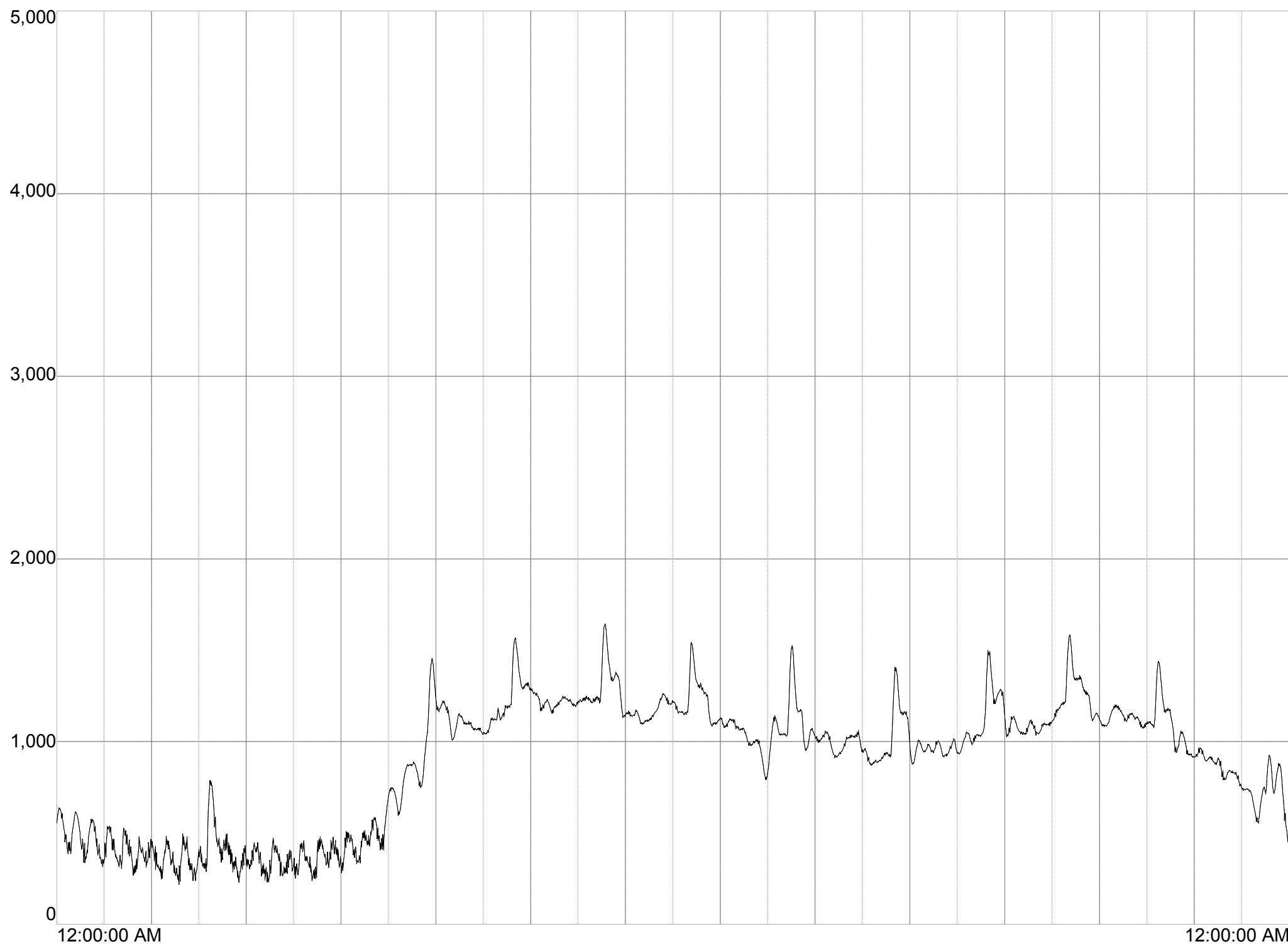
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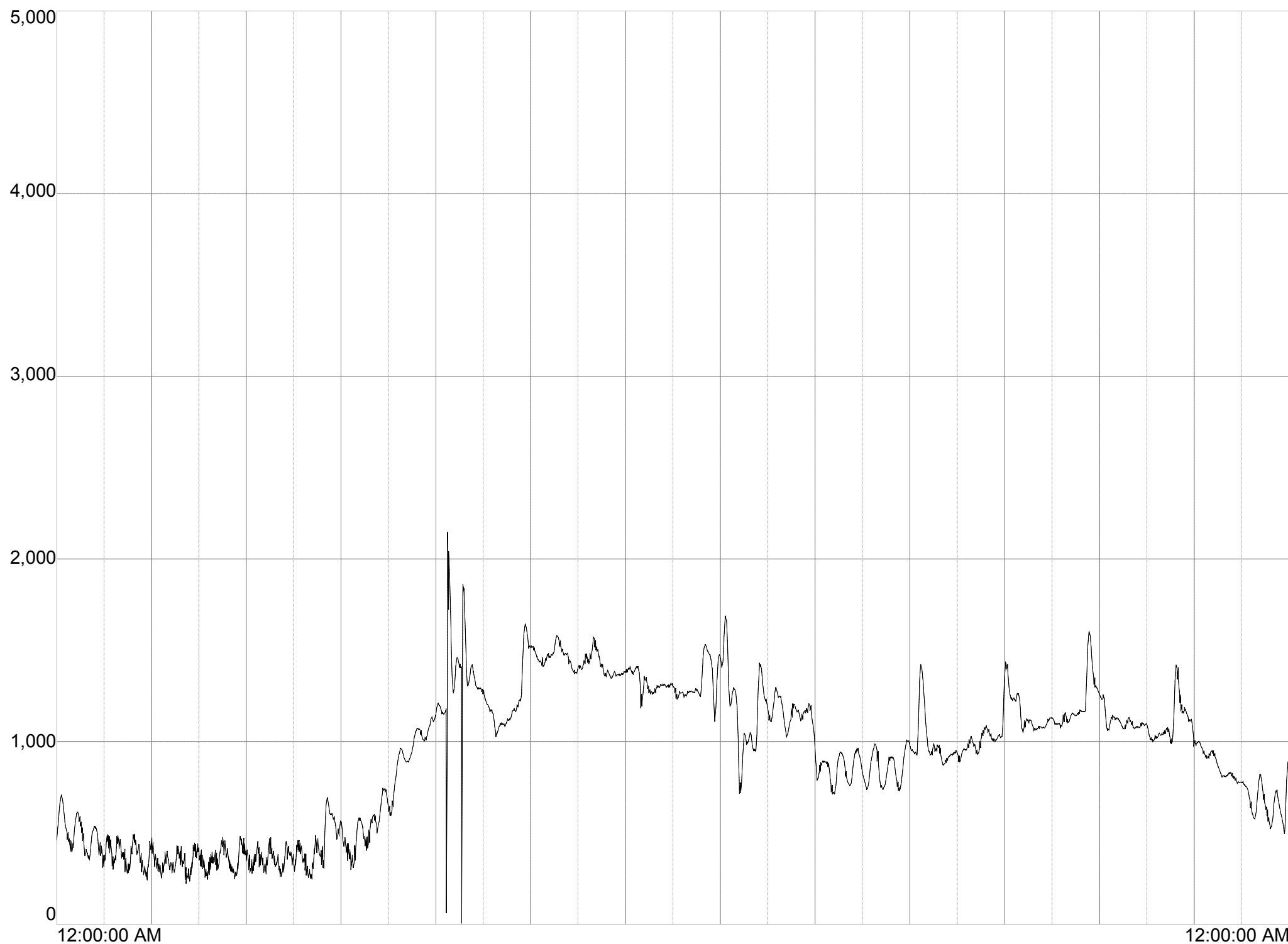
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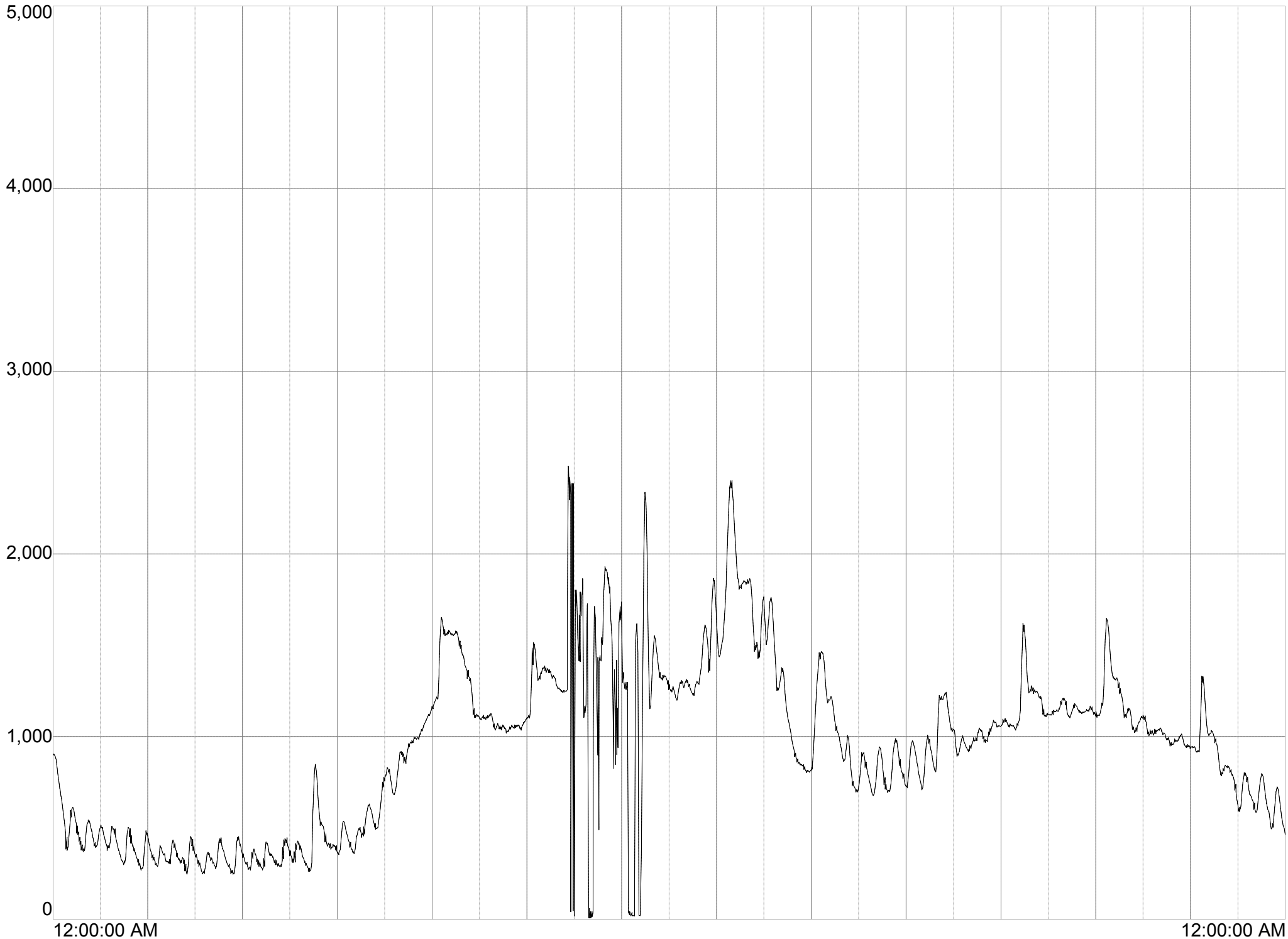
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**DISCHARGE VOLUME CALCULATIONS**

**Discharge Volume Calculations  
Non Chlorinated Wastewater (October 3, 2012)**

<b>Time</b>	<b>Duration (mins)</b>	<b>Flow<sup>1</sup> (Gal/Day)</b>	<b>Flow<sup>2</sup> (GPM)</b>	<b>Total volume<sup>3</sup> (gallons)</b>
4:08		500000	347	
4:30	22	500000	347	7,639
5:00	30	500000	347	10,417
5:30	30	550000	382	11,458
6:00	30	600000	417	12,500
6:30	30	650000	451	13,542
7:00	30	750000	521	15,625
7:30	30	1250000	868	26,042
8:00	30	1500000	1042	31,250
8:30	30	1600000	1111	33,333
9:00	30	1450000	1007	30,208
9:30	30	1200000	833	25,000
9:45	15	1350000	938	14,063
<b>Total</b>				<b>231,076</b>

Notes:

1. Highest approximate flow from effluent flow data trend line on October 3, 2012 at time listed.
2. Flow in gallons per minute (GPM) = flow in gal/day divided by (24 [hour/day] x 60 [mins per hour])
3. Total gallons = duration (mins) x flow (GPM)

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**PUMP OPERATION AND MAINTENANCE INFORMATION**

Work Order Number: 48795  
 Date Opened: 3/23/2007  
 Date Scheduled: 3/28/2007  
 Date Completed: 4/2/2007  
 Date Closed: 4/2/2007 by mark r

Appendix E1

Template: CHEMICAL PUMP GEAR OIL CHANGE  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHANGE GEAR OIL - Change chemical pump gear oil. Use 90 wt gear oil.

COMPLETED BY : \_\_\_\_\_ TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
DEPARTMENT	OPERATIONS	3/23/2007	4/3/2007	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-722**

Field	Value	Comments
Comments		
ID_NUMBER	P-722	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-723**

Field	Value	Comments
Comments		
ID_NUMBER	P-723	
DESCRIPTION	SODIUM BISULFITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		

Field	Value	Comments
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_I TEM	QUANTI TY	UNIT_O F_MEA SURE	COST_MULTIP LIER_T YPE	COST_MULTIP LIER	UNIT_C OST	TOTAL_COST	COMME NTS
48795	LABOR	4/2/2007	7:22:42 AM	OPERA TOR-CK	2	HOUR	REGUL AR	1	\$25.75	\$51.50	
										LABOR Subtotal	\$51.50
										Cost Total	\$51.50

**Grand Total Cost: \$51.50**

Work Order Number: 51475  
 Date Opened: 8/14/2007  
 Date Scheduled: 8/14/2007  
 Date Completed: 8/14/2007  
 Date Closed: 8/14/2007 by mark r

Template: WORK ORDER  
 Type: PROJECT  
 Priority: 2  
 Status:

Comments: Repair leak on hypochlorite line. Use the correct PPE as outlined on MSDS sheets.

COMPLETED BY : \_\_\_\_\_ TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
DEPARTMENT	OPERATIONS	8/14/2007	8/14/2007	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2 MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_I TEM	QUANTI TY	UNIT_O F_MEASURE	COST_MULTIP LIER_T YPE	COST_MULTIP LIER	UNIT_C OST	TOTAL_COST	COMME NTS
51475	LABOR	8/14/2007	2:47:11 PM	OPERA TOR-CK	2.5	HOUR	REGUL AR	1	\$27.29	\$68.23	
										LABOR Subtotal	\$68.23
										Cost Total	\$68.23

**Grand Total Cost: \$68.23**

Work Order Number: 52864  
 Date Opened: 10/26/2007  
 Date Scheduled: 10/31/2007  
 Date Completed: 11/1/2007  
 Date Closed: 11/1/2007 by mark r

Template: CHEMICAL FEED PUMP CALIBRATION  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHEMICAL FEED PUMP CALIBRATION - Calibrate the chemical feed pump with potable water. Follow the instructions in the metering pump manual. Enter pump out put into the ORP controller. Flush the chemical discharge line to the injection point. Inspect for proper operation. Wipe down pumps and piping, keep area clean.

COMPLETED BY : \_\_\_\_\_

TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
ACTIVITY	CALIBRATE	10/26/2007	11/1/2007	
DEPARTMENT	OPERATIONS	10/26/2007	11/1/2007	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_ITEM	QUANTITY	UNIT_OF_MEASURE	COST_MULTIPLIER_TYPE	COST_MULTIPLIER	UNIT_COST	TOTAL_COST	COMMENTS
52864	LABOR	11/1/2007	10:16:09 AM	TREAT SUP	1	HOUR	REGULAR	1	\$34.41	\$34.41	
										LABOR Subtotal	\$34.41
										Cost Total	\$34.41

**Grand Total Cost: \$34.41**



Work Order Number: 54043  
 Date Opened: 12/28/2007  
 Date Scheduled: 12/30/2007  
 Date Completed: 1/2/2008  
 Date Closed: 1/2/2008 by mark r

Template: CHEMICAL FEED PUMP CALIBRATION  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHEMICAL FEED PUMP CALIBRATION - Calibrate the chemical feed pump with potable water. Follow the instructions in the metering pump manual. Enter pump out put into the ORP controller. Flush the chemical discharge line to the injection point. Inspect for proper operation. Wipe down pumps and piping, keep area clean.

COMPLETED BY : \_\_\_\_\_

TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
ACTIVITY	CALIBRATE	12/28/2007	1/2/2008	
DEPARTMENT	OPERATIONS	12/28/2007	1/2/2008	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_ITEM	QUANTITY	UNIT_OF_MEASURE	COST_MULTIPLIER_TYPE	COST_MULTIPLIER	UNIT_COST	TOTAL_COST	COMMENTS
54043	LABOR	1/2/2008	7:51:20 AM	TREAT SUP	1	HOUR	REGULAR	1	\$36.13	\$36.13	
										LABOR Subtotal	\$36.13
										Cost Total	\$36.13

**Grand Total Cost: \$36.13**

Work Order Number: 55167  
 Date Opened: 2/22/2008  
 Date Scheduled: 2/28/2008  
 Date Completed: 2/28/2008  
 Date Closed: 2/28/2008 by mark r

Template: CHEMICAL FEED PUMP CALIBRATION  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHEMICAL FEED PUMP CALIBRATION - Calibrate the chemical feed pump with potable water. Follow the instructions in the metering pump manual. Enter pump out put into the ORP controller. Flush the chemical discharge line to the injection point. Inspect for proper operation. Wipe down pumps and piping, keep area clean.

COMPLETED BY : \_\_\_\_\_

TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
ACTIVITY	CALIBRATE	2/22/2008	2/28/2008	
DEPARTMENT	OPERATIONS	2/22/2008	2/28/2008	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_ITEM	QUANTITY	UNIT_OF_MEASURE	COST_MULTIPLIER_TYPE	COST_MULTIPLIER	UNIT_COST	TOTAL_COST	COMMENTS
55167	LABOR	2/28/2008	1:29 PM	TREAT SUP	1.25	HOUR	REGULAR	1	\$36.13	\$45.16	
										LABOR Subtotal	\$45.16
										Cost Total	\$45.16

**Grand Total Cost: \$45.16**

Work Order Number: 55659  
 Date Opened: 3/21/2008  
 Date Scheduled: 3/27/2008  
 Date Completed: 5/14/2008  
 Date Closed: 5/14/2008 by mark r

Template: CHEMICAL PUMP GEAR OIL CHANGE  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHANGE GEAR OIL - Change chemical pump gear oil. Use 90 wt gear oil.

COMPLETED BY : \_\_\_\_\_ TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
DEPARTMENT	OPERATIONS	3/21/2008	5/14/2008	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-722**

Field	Value	Comments
Comments		
ID_NUMBER	P-722	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-723**

Field	Value	Comments
Comments		
ID_NUMBER	P-723	
DESCRIPTION	SODIUM BISULFITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		

Field	Value	Comments
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_I TEM	QUANTI TY	UNIT_O F_MEA SURE	COST_MULTIP LIER_T YPE	COST_MULTIP LIER	UNIT_C OST	TOTAL_COST	COMME NTS
55659	LABOR	4/11/2008	10:40 AM	OIT 1 - PS	2	HOUR	REGULAR	1	\$26.19	\$52.38	
										LABOR Subtotal	\$52.38
										Cost Total	\$52.38

**Grand Total Cost: \$52.38**

Work Order Number: 62481  
 Date Opened: 3/20/2009  
 Date Scheduled: 3/27/2009  
 Date Completed: 4/14/2009  
 Date Closed: 4/14/2009 by mark r

Template: CHEMICAL PUMP GEAR OIL CHANGE  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHANGE GEAR OIL - Change chemical pump gear oil. Use 90 wt gear oil.

COMPLETED BY : \_\_\_\_\_ TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
DEPARTMENT	OPERATIONS	3/20/2009	4/14/2009	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-722**

Field	Value	Comments
Comments		
ID_NUMBER	P-722	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-723**

Field	Value	Comments
Comments		
ID_NUMBER	P-723	
DESCRIPTION	SODIUM BISULFITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		

Field	Value	Comments
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_I TEM	QUANTI TY	UNIT_O F_MEA SURE	COST_MULTIP LIER_T YPE	COST_MULTIP LIER	UNIT_C OST	TOTAL_COST	COMME NTS
62481	LABOR	4/14/2009	1:49 PM	OP 2 - PS	1.75	HOUR	REGULAR	1	\$29.60	\$51.80	
										LABOR Subtotal	\$51.80
										Cost Total	\$51.80

**Grand Total Cost: \$51.80**



Work Order Number: 69462  
 Date Opened: 3/26/2010  
 Date Scheduled: 3/27/2010  
 Date Completed: 3/30/2010  
 Date Closed: 3/30/2010 by mark r

Template: CHEMICAL PUMP GEAR OIL CHANGE  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHANGE GEAR OIL - Change chemical pump gear oil. Use 90 wt gear oil.

COMPLETED BY : \_\_\_\_\_ TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
DEPARTMENT	OPERATIONS	3/26/2010	3/30/2010	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-722**

Field	Value	Comments
Comments		
ID_NUMBER	P-722	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-723**

Field	Value	Comments
Comments		
ID_NUMBER	P-723	
DESCRIPTION	SODIUM BISULFITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		

Field	Value	Comments
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_I TEM	QUANTI TY	UNIT_O F_MEA SURE	COST_MULTIP LIER_T YPE	COST_MULTIP LIER	UNIT_C OST	TOTAL_COST	COMME NTS
69462	LABOR	3/30/2010	10:07 AM	OIT- BT	1	HOUR	REGUL AR	1	\$20.69	\$20.69	
69462	LABOR	3/30/2010	10:07 AM	OP 2 - PS	1	HOUR	REGUL AR	1	\$29.60	\$29.60	
										LABOR Subtotal	\$50.29
										Cost Total	\$50.29

**Grand Total Cost: \$50.29**

Work Order Number: 77186  
 Date Opened: 3/25/2011  
 Date Scheduled: 3/27/2011  
 Date Completed: 3/30/2011  
 Date Closed: 3/30/2011 by mark r

Template: CHEMICAL PUMP GEAR OIL CHANGE  
 Type: SCHED\_OP  
 Priority:  
 Status:

Comments: CHANGE GEAR OIL - Change chemical pump gear oil. Use 90 wt gear oil.

COMPLETED BY : \_\_\_\_\_ TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
DEPARTMENT	OPERATIONS	3/25/2011	3/30/2011	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-722**

Field	Value	Comments
Comments		
ID_NUMBER	P-722	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-723**

Field	Value	Comments
Comments		
ID_NUMBER	P-723	
DESCRIPTION	SODIUM BISULFITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		

Field	Value	Comments
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_I TEM	QUANTI TY	UNIT_O F_MEA SURE	COST_MULTIP LIER_T YPE	COST_MULTIP LIER	UNIT_C OST	TOTAL_COST	COMME NTS
77186	LABOR	3/30/2011	2:46 PM	OP 2 - PS	1.75	HOUR	REGULAR	1	\$29.60	\$51.80	
										LABOR Subtotal	\$51.80
										Cost Total	\$51.80

**Grand Total Cost: \$51.80**

Work Order Number: 84814  
 Date Opened: 3/23/2012  
 Date Scheduled: 3/26/2012  
 Date Completed: 3/26/2012  
 Date Closed: 3/26/2012 by mark r

Template: CHEMICAL PUMP GEAR OIL CHANGE  
 Type: SCHED\_OP  
 Priority: 2  
 Status:

Comments: CHANGE GEAR OIL - Change chemical pump gear oil. Use 90 wt gear oil.

COMPLETED BY : \_\_\_\_\_ TIME TO COMPLETE : \_\_\_\_\_ HOURS

COMMENTS : \_\_\_\_\_

TYPE	VALUE	HISTORY_DATE	DATE_CLOSED	COMMENTS
DEPARTMENT	OPERATIONS	3/23/2012	3/26/2012	

**\*\*\* ASSETS \*\*\***

**Component: DISINFECTION P-721**

Field	Value	Comments
Comments		
ID_NUMBER	P-721	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-722**

Field	Value	Comments
Comments		
ID_NUMBER	P-722	
DESCRIPTION	SODIUM HYPOCHLORITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-723**

Field	Value	Comments
Comments		
ID_NUMBER	P-723	
DESCRIPTION	SODIUM BISULFITE PUMP #1	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		

Field	Value	Comments
Updated_By		
Data_Group		
Expired		

**Component: DISINFECTION P-724**

Field	Value	Comments
Comments		
ID_NUMBER	P-724	
DESCRIPTION	SODIUM BISULFITE PUMP #2	
AREA	CL2_MAZE	Chlorine Contact Maze
LOCATION	CHEMICAL PUMP ROOM	
MANUFACTURER	WALLACE AND TIERNAN	
Last_Updated		
Updated_By		
Data_Group		
Expired		

WORK_ORDER_NUMB ER	COST_TYPE	COST_DATE	COST_TIME	COST_I TEM	QUANTI TY	UNIT_O F_MEA SURE	COST_MULTIP LIER_T YPE	COST_MULTIP LIER	UNIT_C OST	TOTAL_COST	COMME NTS
84814	LABOR	3/26/2012	3:03 PM	OP 2 - PS	1	HOUR	REGULAR	1	\$29.60	\$29.60	
										LABOR Subtotal	\$29.60
										Cost Total	\$29.60

**Grand Total Cost: \$29.60**





# Instruction Manual





EQUIPMENT SERIAL NO. \_\_\_\_\_

DATE OF START-UP \_\_\_\_\_

START-UP BY \_\_\_\_\_

Prompt service available from regional offices in principal cities.

## ORDERING INFORMATION

In order for us to fill your order immediately and correctly, please order material by description and part number, as shown in this book. Also, please specify the serial number of the equipment on which the parts will be installed.

## WARRANTY

Seller warrants for a period of one year after shipment that the equipment or material of its manufacture is free from defects in workmanship and materials. Corrosion or other decomposition by chemical action is specifically excluded as a defect covered hereunder, except this exclusion shall not apply to chlorination equipment. Seller does not warrant (a) damage caused by use of the items for purposes other than those for which they were designed, (b) damage caused by unauthorized attachments or modifications, (c) products subject to any abuse, misuse, negligence or accident, (d) products where parts not made, supplied, or approved by Seller are used and in the sole judgement of the Seller such use affects the products' performance, stability or reliability, and (e) products that have been altered or repaired in a manner in which, in the sole judgement of Seller, affects the products' performance, stability or reliability. **SELLER MAKES NO OTHER WARRANTY OF ANY KIND, AND THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS OF THE MATERIAL OR EQUIPMENT FOR ANY PARTICULAR PURPOSE EVEN IF THAT PURPOSE IS KNOWN TO SELLER.** If Buyer discovers a defect in material or workmanship, it must promptly notify Seller in writing; Seller reserves the right to require the return of such defective parts to Seller, transportation charges prepaid, to verify such defect before this warranty is applicable. In no event shall such notification be received by Seller later than 13 months after the date of shipment. No action for breach of warranty shall be brought more than 15 months after the date of shipment of the equipment or material.

**LIMITATION OF BUYER'S REMEDIES.** The **EXCLUSIVE REMEDY** for any breach of warranty is the replacement f.o.b. shipping point of the defective part or parts of the material or equipment. Any equipment or material repaired or replaced under warranty shall carry the balance of the original warranty period, or a minimum of three months. Seller shall not be liable for any liquidated, special, incidental or consequential damages, including without limitation, loss of profits, loss of savings or revenue, loss of use of the material or equipment or any associated material or equipment, the cost of substitute material or equipment, claims of third parties, damage to property, or goodwill, whether based upon breach of warranty, breach of contract, negligence, strict tort, or any other legal theory; provided, however, that such limitation shall not apply to claims for personal injury.

Statements and instructions set forth herein are based upon the best information and practices known to Wallace & Tiernan, Inc., but it should not be assumed that every acceptable safety procedure is contained herein. Of necessity this company cannot guarantee that actions in accordance with such statements and instructions will result in the complete elimination of hazards and it assumes no liability for accidents that may occur.



**WALLACE & TIERNAN, INC.**  
**25 MAIN ST., BELLEVILLE, N.J. 07109-3057**

## INTRODUCTION

This book provides installation, operating and maintenance instructions for the Wallace & Tiernan Encore™ 700 - 44 Series Diaphragm Metering Pumps; here-in-after referred to as the pump or metering pump. The pump provides accurate metering and transfer of a wide variety of chemicals. It is available in five head sizes, three gear ratios, direct pulley drive configurations and a single and double simplex configuration. A non-loss-of motion, stroke adjustment is used to vary the stroke for a more smooth pumping action. Non-loss-of motion is achieved through the use of a variable eccentric mechanism. Stroke adjustment is done either manually or with an optional electric stroke length positioner.

An optional Silicon Control Rectifier (SCR) controls drive motor speed variations through signals received from external sources.

When an electric stroke length positioner or variable speed drive is used with the pump, a separate instruction manual covering the particular equipment used will be furnished.

**WARNING:** To avoid possible severe personal injury or damage to the equipment, this equipment should be installed, operated and serviced only by trained, qualified personnel who are thoroughly familiar with the entire contents of this instruction book. When dealing with hazardous material it is the responsibility of the equipment user to become familiar with the safety precautions listed in the Safety Summary on pages SP-1 and SP-2 and follow all safety precautions recommended by the material manufacturer/supplier. Avoid contacting electrically hot meter posts and circuit board components while making meter adjustments.

**When submitting correspondence or ordering material, always specify model and serial number of equipment.**

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REGIONAL OFFICES

INSTALLATION, OPERATION, MAINTENANCE AND SERVICE INFORMATION

Direct any questions concerning this equipment which are not answered in the instruction book to the Reseller from whom the equipment was purchased. If the equipment was purchased directly from Wallace & Tiernan, Inc. contact the nearest office indicated below.

UNITED STATES

Suite 160  
1301 Hightower Trail  
Atlanta, GA 30350  
TEL:- (770) 641-7570  
FAX:- (770) 641-7696

P. O. Box 875  
Shawnee Mission, KS 66201  
TEL:- (913) 384-3933  
FAX:- (913) 677-5753

Suite L  
1809 North Mill St.  
Naperville, IL 60563  
TEL:- (708) 717-6900  
FAX:- (708) 717-6906

Suite 200  
10050 N. 25th Avenue  
Phoenix, AZ 85021  
TEL:- (602) 997-2115  
FAX:- (602) 997-4733

CANADA

If the equipment was purchased directly from Wallace & Tiernan Canada, Inc. contact the nearest office indicated below.

ONTARIO

925 Warden Avenue  
Scarborough, Ontario  
M1L 4C5  
J6A 6M4  
(416) 751-7561

HALIFAX

P.O. BOX 2818, DEPS.,  
Dartmouth, Nova Scotia  
B2W 4R4  
(902) 468-1964

QUEBEC

243 Blvd. Brien  
Bureau 210  
Repentigny, Quebec  
(514) 582-4266

MEXICO

If the equipment was purchased directly from Wallace & Tiernan de Mexico. contact the nearest office indicated below.

MEXICO CITY

Via Jose Lopez Portillo No.321  
Sta. Maria Cuauhtepac  
Tlaxitlan, Edo. Mexico 54900  
(5) 875-5060

CUERNAVACA

Av. Morelos No.882 Local A5  
Plaza Esmeralda  
Col. Centro  
62270 Cuernavaca, Morelos  
(73) 12-2606

GUADALAJARA

Av. Guadalupe No.4567  
Col.Jardines de Guadalupe  
Guadalajara, Jalisco  
(3) 628-3712

COATZACOALCOS

Independencia No. 500 Depto 101  
Esq. 18 de Marzo  
96400 Coatzacoalcos, Veracruz  
(921) 521-68

MONTERREY

Fray Bartolome de las Casa No.739  
Co. Robie Norte  
San Nicolas de los Garza  
(8) 332-1150

## VERY IMPORTANT SAFETY PRECAUTIONS

This page, titled "Very Important Safety Precautions" provides, in brief, information of urgent importance relative to SAFETY, INSTALLATION, OPERATION, and MAINTENANCE of this equipment.

### WARNING

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TO AVOID POSSIBLE SEVERE PERSONAL INJURY OR EQUIPMENT DAMAGE, OBSERVE THE FOLLOWING:

THIS EQUIPMENT SHOULD BE INSTALLED, OPERATED AND SERVICED ONLY BY TRAINED, QUALIFIED PERSONNEL WHO ARE THOROUGHLY FAMILIAR WITH THE ENTIRE CONTENTS OF THIS INSTRUCTION BOOK.

AVOID CONTACTING ELECTRICALLY HOT METER POSTS AND CIRCUIT BOARD COMPONENTS WHILE MAKING METER ADJUSTMENTS.

WHEN DEALING WITH HAZARDOUS MATERIALS, IT IS THE RESPONSIBILITY OF THE EQUIPMENT USER TO OBTAIN AND FOLLOW ALL SAFETY PRECAUTIONS RECOMMENDED BY THE MATERIAL MANUFACTURER/SUPPLIER.

CONSULT YOUR W&T REPRESENTATIVE IF THE PUMP IS TO BE USED UNDER CONDITIONS OTHER THAN ORIGINALLY SPECIFIED AND IF THERE IS ANY QUESTION REGARDING THE SIZE OF THE DISCHARGE LINE.

USE RIGID PIPE WHEN HAZARDOUS CHEMICALS ARE PUMPED AND/OR ELEVATED PRESSURE/TEMPERATURES ARE ENCOUNTERED.

USE EXTREME CARE TO AVOID CONTACT WITH THE MATERIAL AND POSSIBLE SEVERE PERSONAL INJURY. CONSULT YOUR CHEMICAL SUPPLIER FOR INSTRUCTIONS IN THE PREPARATION OF SOLUTIONS AND THE HANDLING OF CHEMICALS. OBSERVE ALL RECOMMENDED SAFETY PRECAUTIONS.

DO NOT SPILL SOLUTION. IF ANY SOLUTION IS SPILLED, DILUTE OR WASH AWAY WITH WATER IMMEDIATELY OR FOLLOW SUPPLIERS INSTRUCTIONS FOR HAZARDOUS MATERIALS.

AVOID BEING SPRAYED WITH LIQUID UNDER PRESSURE. PRIOR TO DISASSEMBLY OF PIPE CONNECTIONS REFER TO DETAILED INSTRUCTIONS ON RELIEVING PRESSURE AND DRAINING. ALLOW SYSTEM TO DRAIN FULLY BEFORE ATTEMPTING TO DISASSEMBLE PIPING AND REMOVING VALVES AND/OR HEAD.

SINCE THE STORAGE AND HANDLING OF SODIUM CHLORITE PRESENTS VERY SPECIFIC HAZARDS, THE USER MUST SEEK THE ADVICE OF HIS SUPPLIER WITH REFERENCE TO STORAGE FACILITIES, HANDLING PRECAUTIONS AND HEALTH HAZARDS.

SODIUM CHLORITE, WHEN FINELY DIVIDED IN THE PRESENCE OF ORGANIC COMPOUNDS, IS A POSSIBLE FIRE HAZARD. FOR THIS REASON, EXTREME CARE MUST BE EXERCISED TO PREVENT SOLUTIONS FROM DRYING OUT IN THE THREADED PORTIONS OF THE PUMP BODY AND RELATED PARTS. OBSERVE CAREFULLY THE MANUFACTURER/SUPPLIERS RECOMMENDED SAFETY PROCEDURES AND THE HANDLING AND STORAGE PROCEDURES IN THIS BOOK.

## VERY IMPORTANT SAFETY PRECAUTIONS (Cont'd)

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WHEN SERVICING HEADS AND/OR VALVES, FOLLOW PROCEDURES IN THE SECTION FOR DISASSEMBLY.

USE EXTREME CARE TO AVOID CONTACT WITH THE MATERIAL AND POSSIBLE SEVERE PERSONAL INJURY. WHEN USING HAZARDOUS MATERIAL, OBSERVE ALL SAFETY PRECAUTIONS RECOMMENDED BY THE MATERIAL MANUFACTURER/SUPPLIER. USE APPROPRIATE PROTECTIVE CLOTHING AND EYE PROTECTION WHEN HANDLING HAZARDOUS MATERIAL.

USE EXTREME CARE TO AVOID CONTACT WITH LIQUID PRESENT IN HEAD. ALLOW SUCTION VALVE TO FALL INTO SUITABLE CONTAINER AND CATCH LIQUID.

USE EXTREME CARE TO AVOID CONTACT BECAUSE LIQUID IS PRESENT BETWEEN DISCHARGE DRAIN VALVE AND UNION ELBOW. FLUSH SPILLED LIQUID IMMEDIATELY.

TURN POWER OFF BEFORE SERVICING.

DO NOT RUN THE PUMP WITH THE BELT GUARD REMOVED.

USE ONLY W&T LISTED PARTS EXCEPT FOR COMMERCIALY AVAILABLE PARTS WHICH ARE IDENTIFIED BY COMPLETE DESCRIPTION ON PARTS LIST. THE USE OF UNLISTED PARTS CAN RESULT IN EQUIPMENT MALFUNCTIONS HAVING HAZARDOUS CONSEQUENCES.

THIS EQUIPMENT SHOULD BE INSTALLED, OPERATED AND SERVICED ONLY BY TRAINED, QUALIFIED PERSONNEL WHO ARE THOROUGHLY FAMILIAR WITH THE ENTIRE CONTENTS OF THE INSTRUCTION BOOK.

DO NOT DISCARD THIS INSTRUCTION BOOK UPON COMPLETION OF INSTALLATION. INFORMATION PROVIDED IS ESSENTIAL FOR PROPER & SAFE OPERATION AND MAINTENANCE.

ADDITIONAL OR REPLACEMENT COPIES OF THIS INSTRUCTION BOOK ARE AVAILABLE FROM:

WALLACE & TIERNAN, INC.  
25 MAIN STREET  
BELLEVILLE, NEW JERSEY 07109-3057

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### NOTE

Minor part number changes may be incorporated into W&T products from time to time that are not immediately reflected in the instruction book. If such a change has apparently been made in our equipment and does not appear to be reflected in your instruction book, contact your local W&T Sales Office for information.

Please include the equipment serial number in all correspondence. It is essential for effective communication and proper equipment identification.



## **Protect Your Equipment Investment Minimize Downtime**

**Reorder a Preventive Maintenance Kit Now...Keep One On Hand**

**Quality Equipment + Preventive Maintenance = Dependable Operation  
Minimum Downtime**

**There's no question about it  
Equipment that is properly maintained is dependable equipment.  
It will give optimum performance with minimum unscheduled downtime.**

Wallace & Tiernan manufactures quality equipment designed for performance and reliability. Each product is carefully tested and inspected before shipment, to ensure that it meets our high standards.

Our equipment is engineered for easy maintenance. To ensure maximum service life and minimize unscheduled repairs, we recommend a program of regular preventive maintenance, as described in the Service section of this book. To support this program, we developed standard parts kits. These kits can also be used for minor emergency repairs to minimize downtime.

We recommend that these kits be available in your stock at all times. When the complete kit or any of its parts are used, the kit should be replaced immediately.

Preventive maintenance kits may be ordered directly from the company which supplied your equipment, or they may be ordered directly from Wallace & Tiernan. For ordering numbers, refer to the parts list at the rear of this book.

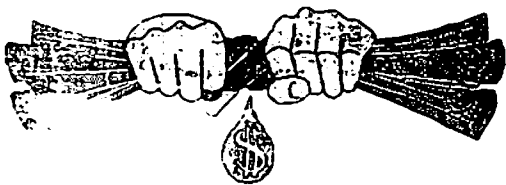
## PREVENTIVE MAINTENANCE SCHEDULE AND RECORD OF PERFORMANCE

This equipment should receive scheduled preventive maintenance on a one (1) year cycle.\* It is recommended that the following table be used to plan, schedule and record this important work.

<b>Date of Installation</b>	
-----------------------------	--

<b>Preventive Maintenance Log</b>	
<b>Schedule Date</b>	<b>Date Performed</b>

\* Note: This is the recommended cycle. Your local operating conditions may call for more frequent preventive maintenance.



**Protect Your Equipment Investment  
Minimize Downtime**

**Order a Preventive Maintenance Kit Now...Keep One On Hand**







## NOTES ON PROTECTIVE EQUIPMENT AND CLOTHING

The following Warning appears in several locations in this book. It is general in nature due to the variety of hazardous liquids this pump is capable of handling.

**WARNING: WHEN DEALING WITH HAZARDOUS MATERIAL IT IS THE RESPONSIBILITY OF THE EQUIPMENT USER TO OBTAIN AND FOLLOW ALL SAFETY PRECAUTIONS RECOMMENDED BY THE MATERIAL MANUFACTURER/SUPPLIER.**

*It is good general practice to make use of protective equipment when handling any hazardous liquid.*

***IT IS RECOMMENDED THAT SUCH PROTECTIVE EQUIPMENT BE USED BY ALL PERSONS SERVICING THIS PUMP, ASSOCIATED PIPING, TUBING, VALVES AND ACCESSORIES, WHEN THE PUMP IS HANDLING ANY HAZARDOUS LIQUID.***

1. Goggles, flexible fitting, hooded ventilation (per ANSI Z87.1)	
2. Face Shield (per ANSI Z87.1)	
3. Chemical Apron	
4. Chemical Gloves	

NOTE:(1) ANSI Z87.1 "practice for occupational...eye and face protection" recommends goggles (#1 above) as the "preferred protection" when handling chemicals which present a hazard from splash, acid burns or fumes; for severe exposure, a face shield (#2 above) over the goggles is recommended.

(2) An eye flushing fountain and a deluge type shower may be recommended or required by insurance carriers or governmental safety agencies which should be consulted for specific requirements.

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# SECTION 1 - TECHNICAL DATA

## LIST OF CONTENTS

PARA./DWG. NO.

Technical Data .....	1.1
Material Identification/Composition.....	1.2
Pump Capacity .....	1.3
Pump Compatibility .....	1.4

### 1.1 TECHNICAL DATA

The overall technical characteristics of the Encore 700 Series Metering Pump are listed in Table 1-1.

### 1.2 MATERIAL IDENTIFICATION/COMPOSITION

The chemical composition of materials used in the manufacture of the Metering Pump are listed in Table 1-2.

### 1.3 PUMP CAPACITY

The pump capacity for the direct and pulley drive configurations are listed in Table 1-3.

### 1.4 PUMP COMPATIBILITY

The compatibility of the Encore 700 Series Metering Pump with various liquid materials are listed on Dwg. 440.050.190.010A-F, located at the end of this section. The table identifies the various materials that can enter and come in contact with component materials in the wetted end of the pump and its effect on pump performance.

**TABLE 1-1. ENCORE 700 SERIES METERING PUMP - TECHNICAL CHARACTERISTICS**

<b>PARAMETER</b>	<b>SPECIFICATION</b>
Pump Type:	Non-Loss of Motion, Mechanical Diaphragm Metering pump. Simplex and double simplex capabilities.
Diaphragm Type:	Teflon faced single piece mechanical diaphragm. Five sizes: 1-3/8, 2, 3, 4 and 5 inches.
Service:	Metering of mild to very corrosive chemicals; polyelectrolytes and slurries.
Drive Unit:	Directly coupled or Pulley coupled motor. Three stroking speeds 36, 72, 144 spm. Four step pulley coupled motor provides 4:1 turn down for each speed- 36, 72, 144 spm. Refer to the Capacity Chart for additional information.
Variable Speed:	AC and DC speed control available.
Capacity Range:	Up to 180 gph with single head. Refer to the Capacity Chart for additional information.
Pressure Range:	Up to 175 psi. Refer to the Capacity Chart for additional information.
Stroke Length:	Ten turn stroke control. Adjustable over 10:1 range.
Accuracy:	± 2% full scale over 10:1 range under constant suction & discharge conditions.
Suction Lift:	Up to 10 feet water lift.
Motor Voltage:	115/230 Vac, 50/60 Hz.
Ambient Temperature Limits:	35 - 125° F (2-52° C)
Process Fluid temperature Limits:	125° F (52° C) Max, 180° F (83° C) for Kynar liquid ends.
Viscosity Limits for Polyelectrolytes:	5000 centipoise @ 144 strokes per minute (SPM)

**TABLE 1-1. ENCORE 700 SERIES METERING PUMP - TECHNICAL CHARACTERISTICS**  
(Cont'd.)

PARAMETER	SPECIFICATION
Viscosity Limits for Slurries:	Hydrated Lime: Up to 3.8 lbs/gallon of Activated Carbon: Up to 1.1 lbs/gallon of Diatomaceous Earth: Up to 1.7 lbs/gallon of
Lubrication:	Gear oil, SAE90 with antifoam agent or Shell 85W-90
Weight:	110 lbs - average

**TABLE 1-2. ENCORE 700 SERIES METERING PUMP - MATERIAL IDENTIFICATION / COMPOSITION.**

COMMON TERM	COMPOSITION
Ceramic	99% aluminum oxide.
Hypalon*	A chlorosulphonated polyethylene.
Kynar**	Polyvinylidene fluoride.
PVC	Polyvinyl chloride.
Stainless 316	AISI 316 - Cr 16-18% Ni 10-14%, C 0.08%, Mn 2% Si 1%, P 0.045%, S 0.03% Mo 2-3%.  Fluorocarbon resin of tetrafluoroethylene polymer.  Copolymer of vinylidene fluoride and perfluoropropylene or hexafluoropropylene.

\*Trade names of E.I. DuPont de Nemours & Co., Inc.

\*\*Trade name of Atochem North American, Inc.

# Table 1-3 Encore 700 Series Pump Capacity Specification

Diaphragm Size inches	Direct Drive						Pulley Drive						Maximum Discharge Pressure				Connection		
	60 Hz 1725 RPM			50 Hz 1450 RPM			60 Hz 1725 RPM			50 Hz 1450 RPM			psi		bar		Cartridge Valves NPT	Threaded Valves	
	Stroke Frequency strokes/min	Capacity gph	lph	Stroke Frequency strokes/min	Capacity gph	lph	Stroke Frequency strokes/min	Capacity gph	lph	Stroke Frequency strokes/min	Capacity gph	lph	Motor Horsepower @1725 RPM Induction (Variable Speed)	Motor Horsepower @1450 RPM Induction (Variable Speed)					
1-3/8	36	1.3	4.7	30	1.0	3.9	1	36	1.3	4.7	30	1.0	3.9	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	72	2.5	9.5	60	2.1	7.9	2	72	2.5	9.5	60	2.1	7.9	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	144	5.0	18.9	120	4.2	15.8	1	144	5.0	18.9	120	4.2	15.8	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	36	6.0	22.7	30	5.0	18.9	1	36	6.0	22.7	30	5.0	18.9	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	72	12.0	45.4	60	10.0	37.9	1	72	12.0	45.4	60	10.0	37.9	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	144	24.0	90.8	120	20.0	75.7	1	144	24.0	90.8	120	20.0	75.7	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	36	1.5	5.7	8	1.2	4.7	4	36	1.5	5.7	8	1.2	4.7	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	72	3.0	11.4	15	2.4	9.5	3	72	3.0	11.4	15	2.4	9.5	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	144	6.0	22.7	30	4.7	17.0	2	144	6.0	22.7	30	4.7	17.0	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	36	6.0	22.7	30	5.0	18.9	1	36	6.0	22.7	30	5.0	18.9	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	72	12.0	45.4	60	10.0	37.9	1	72	12.0	45.4	60	10.0	37.9	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE
	144	24.0	90.8	120	20.0	75.7	1	144	24.0	90.8	120	20.0	75.7	175	12	0.18 (0.37)	0.37 (0.75)	1/2" NPT	3/8 O.D. HOSE

NOTE: \* Pulley Step 1 is the top position of the belt.

**Table 1-3 Encore 100 Series Full Capacity Specification**

Dia. Size inches	Direct Drive				Pulley Drive				Maximum Discharge Pressure				Connection Cartridge Valves NPT	
	60 Hz 1725 RPM		50 Hz 1450 RPM		60 Hz 1725 RPM		50 Hz 1450 RPM		psi		bar			
	Stroke Frequency strokes/min	Capacity gph	Stroke Frequency strokes/min	Capacity gph	Stroke Frequency strokes/min	Capacity gph	Stroke Frequency strokes/min	Capacity gph	Motor Horsepower @ 1725 RPM Induction (Variable Speed)	Motor Horsepower @ 1450 RPM Induction (Variable Speed)	Motor Horsepower @ 1725 RPM Induction (Variable Speed)	Motor Horsepower @ 1450 RPM Induction (Variable Speed)		
3	36	11.3	42.8	9.4	35.5	4	4	2.8	10.6	8	2.3	8.9	10	
			18			15	5.6	21.3	15	4.7	17.7			
			27			23	8.4	31.9	23	7.0	26.6			
		72	22.5	85.2	1	1	36	11.3	42.6	30	8.4	35.5		
					4	4	18	5.6	21.3	15	4.7	17.7		
					3	3	36	11.3	42.6	30	9.4	35.5		
	144	45.0	170.3	1	1	144	45.0	170.3	120	37.5	141.9	150		
				2	2	108	33.8	127.7	90	28.1	106.5			
				4	4	36	11.3	42.6	30	18.8	71.0			
		144	45.0	170.3	1	1	144	45.0	170.3	120	37.5		141.9	150
					2	2	108	33.8	127.7	90	28.1		106.5	
					4	4	36	11.3	42.6	30	18.8		71.0	
4	36	18.3	72.8	16.0	60.7	4	4	9.6	38.4	15	8.0	30.4	9	
			3			3	18.3	72.9	30	16.0	60.7			
			2			2	54	28.8	108.3	45	24.1	81.1		
		72	38.5	145.7	1	1	72	38.5	145.7	60	32.1	121.4		130
					4	4	36	18.3	72.9	30	16.0	60.7		
					3	3	72	38.5	145.7	60	32.1	121.4		
	144	77.0	281.4	120	120	64.2	242.8	120	64.2	242.8	120	64.2	242.8	130
				4	4	38	18.3	72.9	30	16.0	60.7			
				3	3	72	38.5	145.7	60	32.1	121.4			
		144	77.0	281.4	1	1	144	77.0	281.4	144	77.0	281.4	144	
					2	2	108	57.8	218.6	90	48.1	182.2		
					4	4	36	18.3	72.9	30	16.0	60.7		
5	36	45.0	170.3	37.5	141.9	1	1	36	45.0	170.3	30	37.5	141.9	75
			4			4	18	22.5	85.2	15	18.8	71.0		
			2			2	54	67.5	255.5	45	58.3	212.9		
		72	90.0	340.7	1	1	72	90.0	340.7	60	75.0	283.9	75	
					4	4	36	45.0	170.3	30	37.5	141.9		
					3	3	72	90.0	340.7	60	75.0	283.9		
	144	180.0	681.3	120	120	150.0	567.8	120	150.0	567.8	120	150.0	567.8	75
				4	4	36	45.0	170.3	30	37.5	141.9			
				3	3	72	90.0	340.7	60	75.0	283.9			
		144	180.0	681.3	1	1	144	180.0	681.3	144	180.0	681.3	144	
					2	2	108	135.0	511.0	90	112.5	425.8		
					4	4	36	45.0	170.3	30	37.5	141.9		
5	144	180.0	681.3	150.0	567.8	1	1	144	180.0	681.3	120	150.0	567.8	75
			4			4	36	45.0	170.3	30	37.5	141.9		
			3			3	72	90.0	340.7	60	75.0	283.9		
		144	180.0	681.3	1	1	144	180.0	681.3	144	180.0	681.3	144	
					2	2	108	135.0	511.0	90	112.5	425.8		
					4	4	36	45.0	170.3	30	37.5	141.9		
	144	180.0	681.3	120	120	150.0	567.8	120	150.0	567.8	120	150.0	567.8	75
				4	4	36	45.0	170.3	30	37.5	141.9			
				3	3	72	90.0	340.7	60	75.0	283.9			
		144	180.0	681.3	1	1	144	180.0	681.3	144	180.0	681.3	144	
					2	2	108	135.0	511.0	90	112.5	425.8		
					4	4	36	45.0	170.3	30	37.5	141.9		
5	144	180.0	681.3	150.0	567.8	1	1	144	180.0	681.3	120	150.0	567.8	75
			4			4	36	45.0	170.3	30	37.5	141.9		
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			4	4	36	45.0	170.3	30	37.5	141.9				
			3	3	72	90.0	340.7	60	75.0	283.9				
	144	180.0	681.3											



## SECTION 2 - INSTALLATION

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Typical Installation - Flooded Suction.....	440.400.110.040
Installation Wiring.....	440.400.130.010

#### 2.1 GENERAL INFORMATION

To provide satisfactory service, the Encore 700 metering pump must be installed properly in accordance with the following instructions. These instructions must be followed or operational difficulties, lack of accuracy and possible damage to the pump mechanism may occur.

#### 2.2 UNPACKING

When the pump is unpacked, check all items against the packing list to make sure that no parts are discarded with the packaging material. Whenever possible, unpack the equipment at the installation site.

#### 2.3 MOUNTING THE PUMP

Pump location is important to the operation of the pump. Select a place that is dry and provides a level base for the pump. Allow work space around the pump for inspection, adjustments and servicing. Be sure it is near a power supply and located where the discharge line may be conveniently run to the point of application. It is recommended that the pump be installed with a flooded suction (see Dwg. 440.400.110.040). A carefully considered and correct installation will help provide satisfactory performance.

When installing the equipment, proceed as follows:

- a. Select the appropriate dimension and/or installation drawing to be sure the location selected will meet all requirements. See the Typical Installation drawings.
- b. Mount the pump on the bench or shelf on which it will be located.
- c. Connect the pump to a power supply matching the characteristics specified on the motor nameplate in accordance with local code requirements. Sufficient flexibility must be provided in the connection to permit adjustments. Be sure to provide a shut-off switch in the power supply.

**NOTE:** Field wiring supplied by user must conform to local electrical codes.

**WARNING:** To avoid possible severe personal injury or damage to the equipment consult your W&T representative if the pump is to be used under conditions other than originally specified and if there is any question regarding the size of the discharge line.

- d. If a pulsation dampener is required to reduce pressure peaks, install it in the discharge line. See the Typical Installation drawing. The dampener will minimize vibrations and wear due to long lines and/or high stroking speeds.
- e. Connect rigid pipe to the suction connection on the pump and run a line without traps to the bottom of the solution container. Install a strainer.

## 2.4 PIPE LINE DIAMETER

**General guidelines:** To determine the proper diameter of the suction line and discharge lines, the following should be taken into consideration; cavitation and high pressure drop.

**To avoid cavitation:**

- a. For shorter runs of pipe (less than 10 feet) use pipe diameter at least equal to the valve connection.
- b. For longer runs of pipe (greater than 10 feet) use pipe diameter at least one size larger than valve connection.

**OR**

Use this formula to compute fluid velocity in meters/second

$$\text{Velocity} = \{\text{Discharge (Q)} \times 0.35\} / d^2$$

where Q = feed rate in liters/hour

d = inside diameter of pipe in mm.

V = velocity of fluid in meters/second

Select pipe diameter so that the velocity in the suction line does not exceed 0.2 meters/second.

## 2.5 TUBING

When tubing is required, select size and material according to the pressure and temperature limits as specified in Table 2-1.

**TABLE 2-1 PRESSURE/TEMPERATURE RATINGS FOR SUCTION AND DISCHARGE TUBING**

HEAD	TUBE SIZE	MATERIAL	Maximum Working Pressure (psi) at			
			60°F	73°F	100°F	120°F
1-3/8"	1/4" x 3/8"	Polyethylene	100	100	90	70
2"	3/8" X 1/2"	Polyethylene	100	90	70	53

**NOTE:** Tubing connection is available on 1-3/8" and 2" heads only.

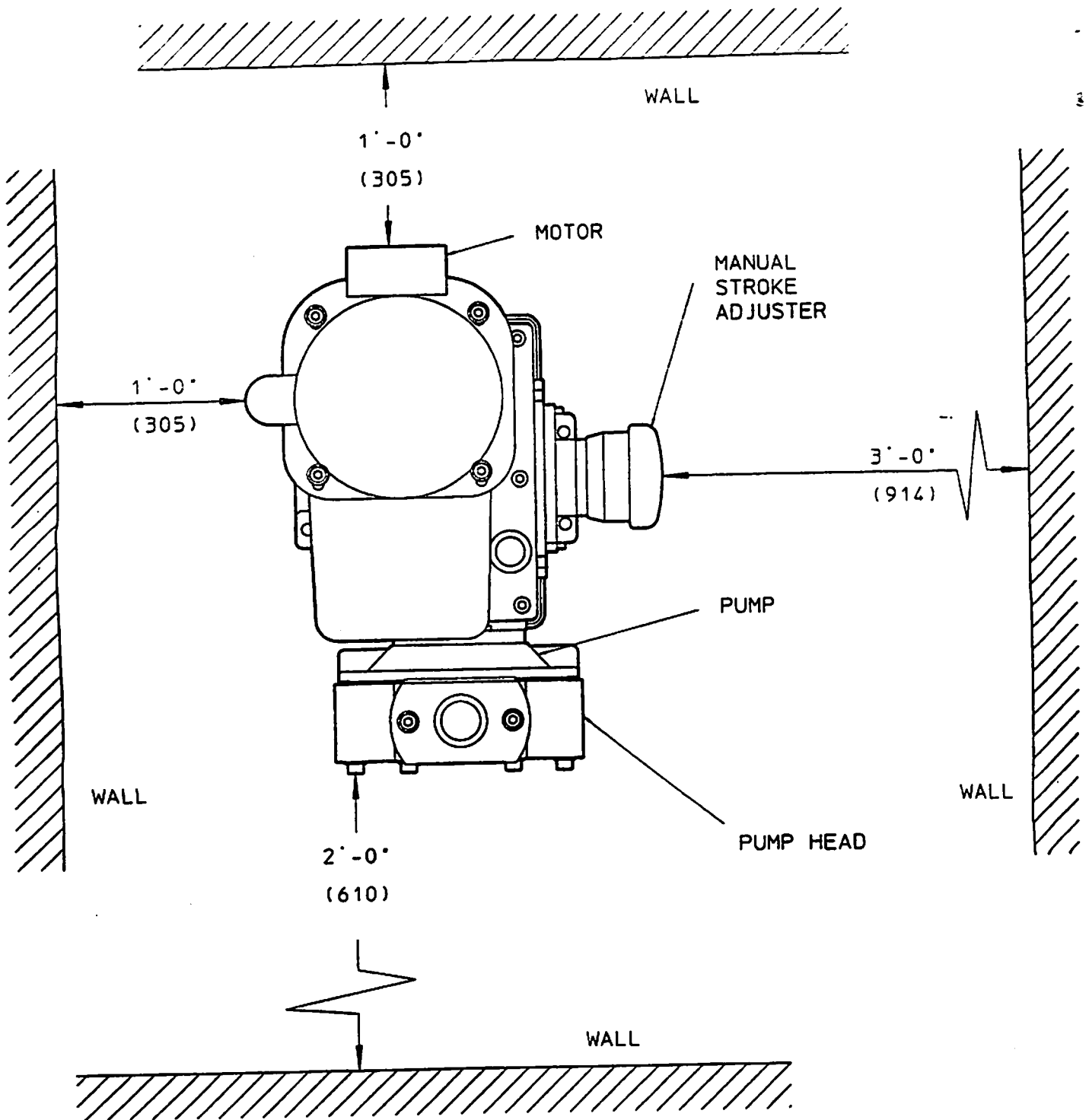
**WARNING:** To avoid possible severe personal injury when hazardous chemicals are pumped and/or elevated pressure/temperatures are encountered, use rigid pipe.

## 2.6 INSTALLATION

The installation drawings (see Dwgs. 400.110.010, .020, .030 and .040) and associated wiring diagram (see Dwg. 440.400.130.010) for the various pump configurations are located at the end of this section.

Avoid operating problems by preventing the following:

- a. Unnecessary restrictions in piping.
- b. Thin walled hose, which may collapse due to a small cross-sectional area during suction stroke, thereby causing both a high pressure drop and velocity.
- c. Difficult to vent bends in the line, where air may be trapped, impairing the accuracy of feed rate.
- d. If a storage container is used, the suction line should be connected above the container's bottom to avoid any deposits on the bottom which can enter the suction line. Such deposits may damage the pump valves and impair the function of the pump.
- e. If the liquid to be pumped contains undissolved particles, it is recommended that an adequately dimensioned strainer be installed in the suction line. It is preferred that one size larger than the pipe diameter be used.



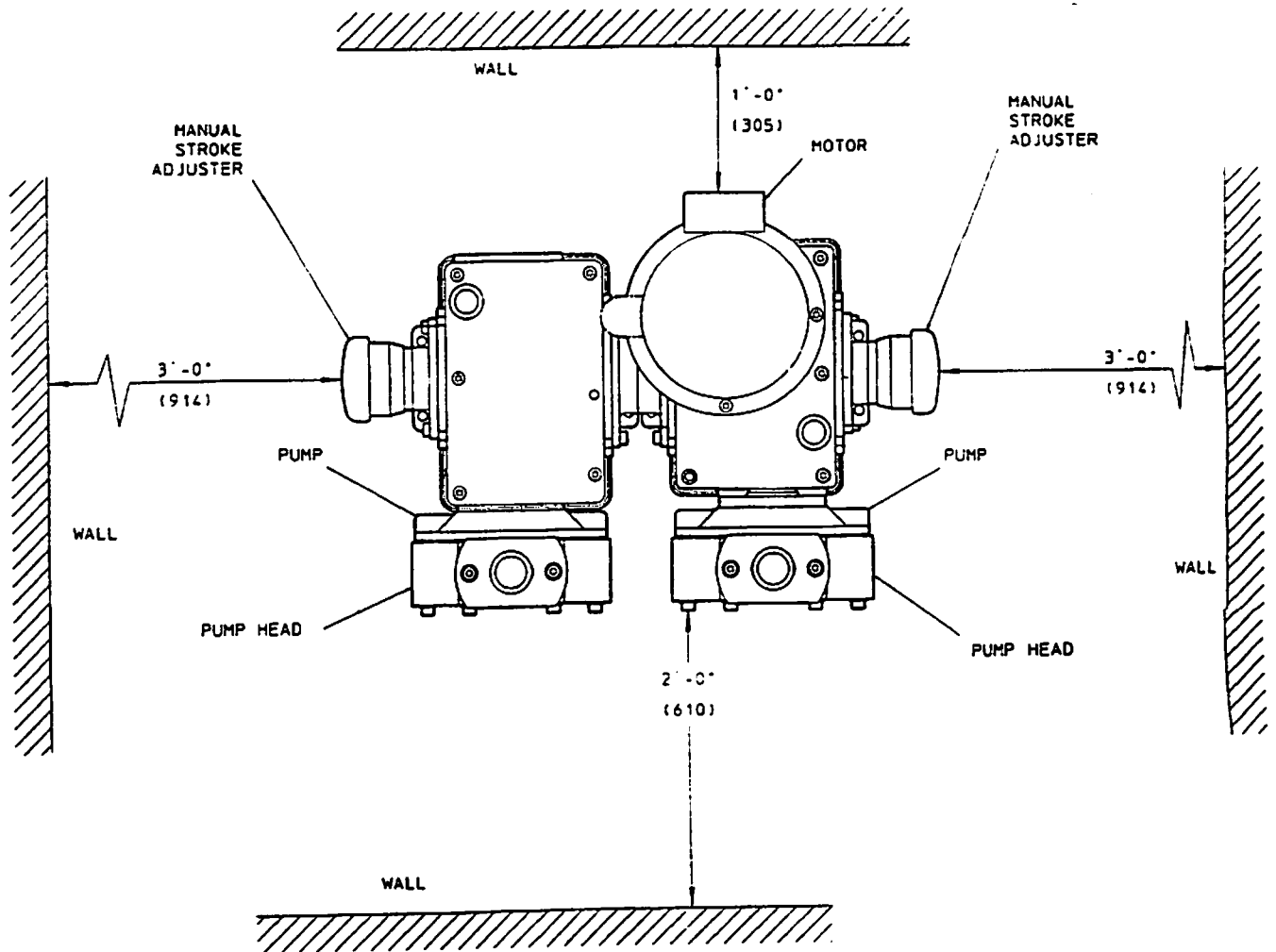
**NOTE:** ( ) INDICATES DIMENSIONS IN MILLIMETERS.

RECOMMENDED MINIMUM HEIGHT FROM FLOOR TO VALVE CONNECTIONS SHOULD BE 12 INCHES.

### SIMPLEX MANUAL ARRANGEMENT - SPACE RECOMMENDATIONS

440.400.110.010

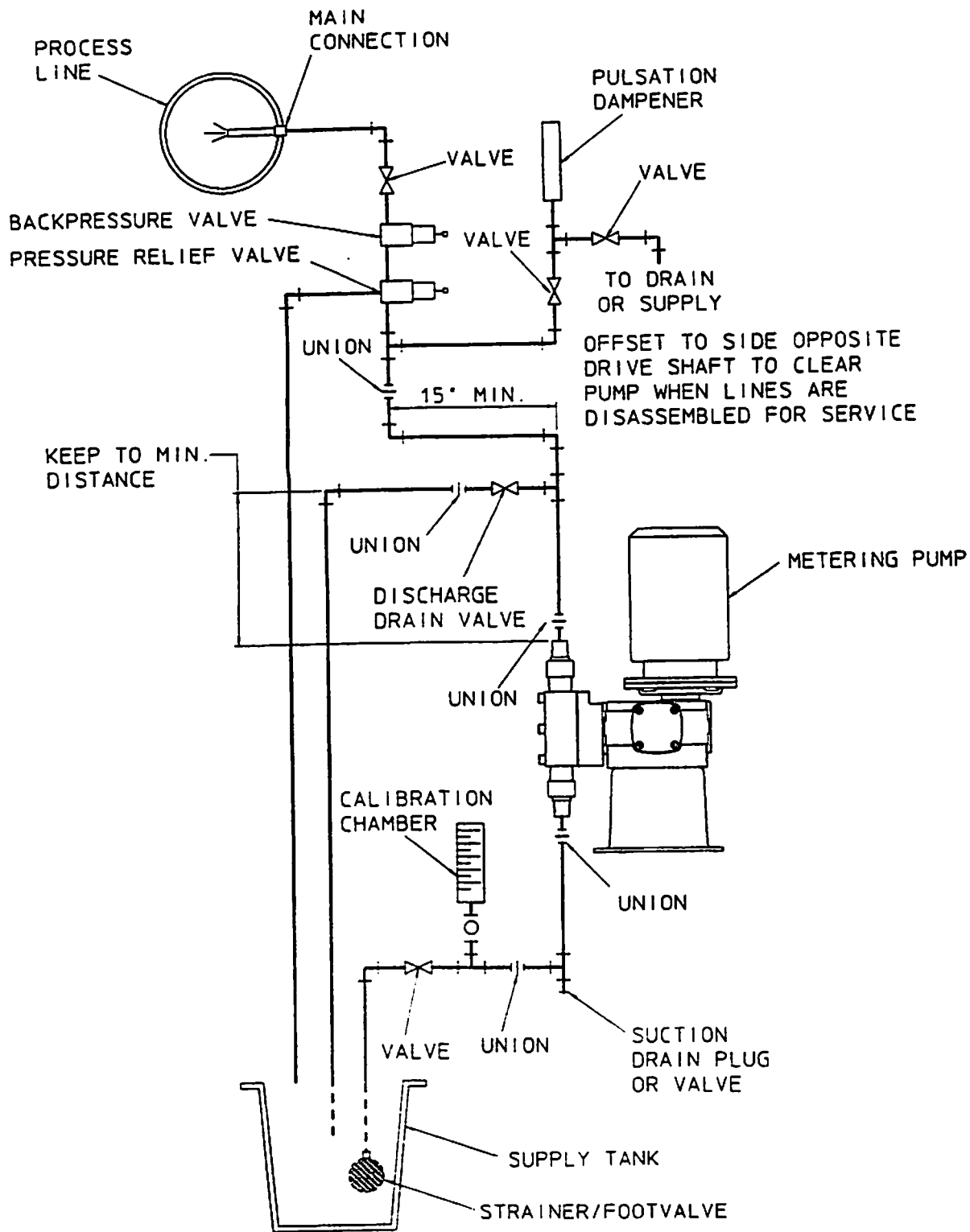
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**NOTE:** ( ) INDICATES DIMENSIONS IN MILLIMETERS.

RECOMMENDED MINIMUM HEIGHT FROM FLOOR TO VALVE CONNECTIONS SHOULD BE 12 INCHES.

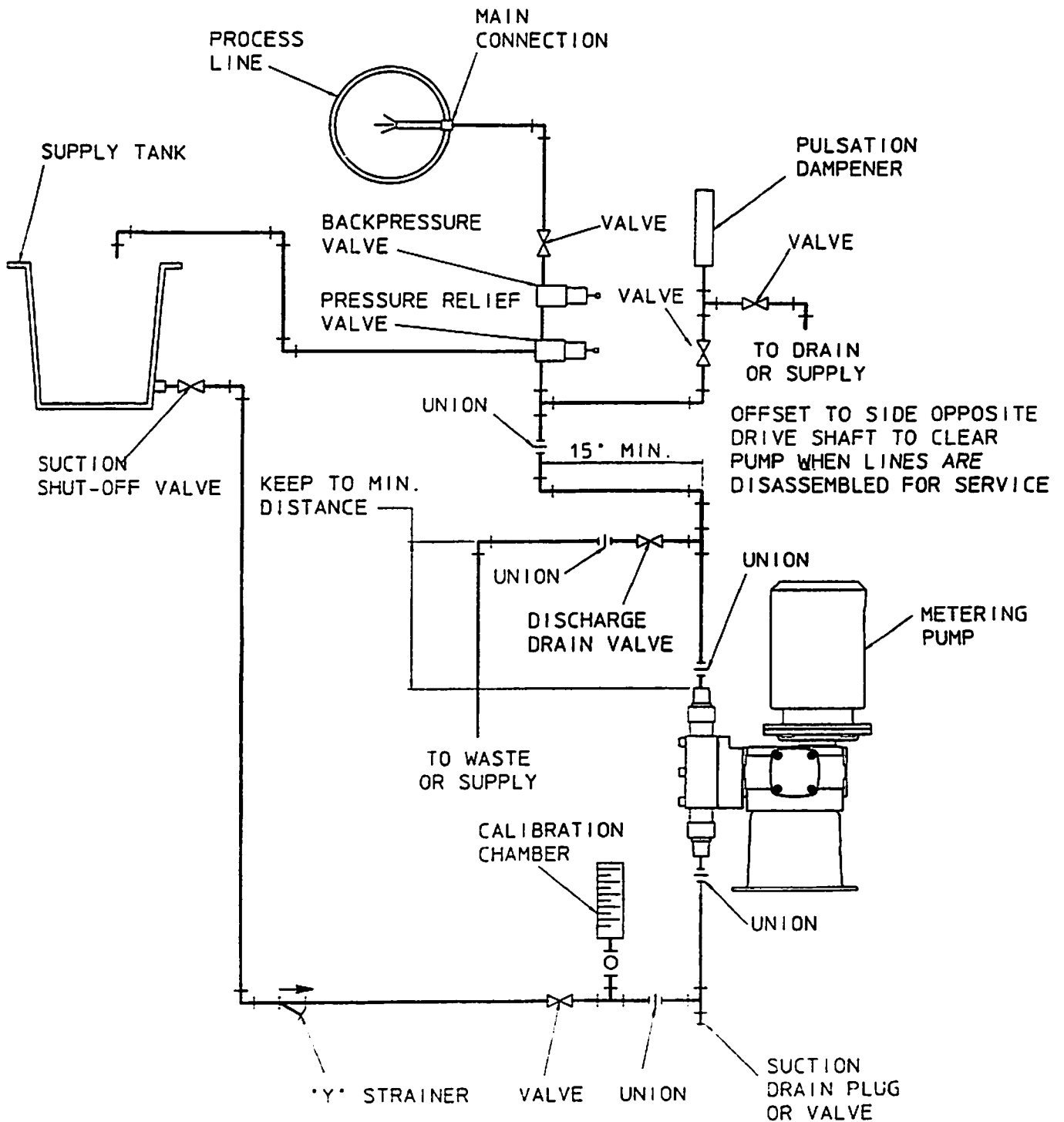
### DOUBLE SIMPLEX MANUAL ARRANGEMENT - SPACE RECOMMENDATIONS



**WARNING:** TO AVOID POSSIBLE SEVERE PERSONAL INJURY WHEN HAZARDOUS CHEMICALS ARE PUMPED AND/OR ELEVATED TEMPERATURE/PRESSURES ARE ENCOUNTERED, USE RIGID PIPE.

**METERING PUMPS - TYPICAL INSTALLATION**  
Suction Lift

440.400.110.030  
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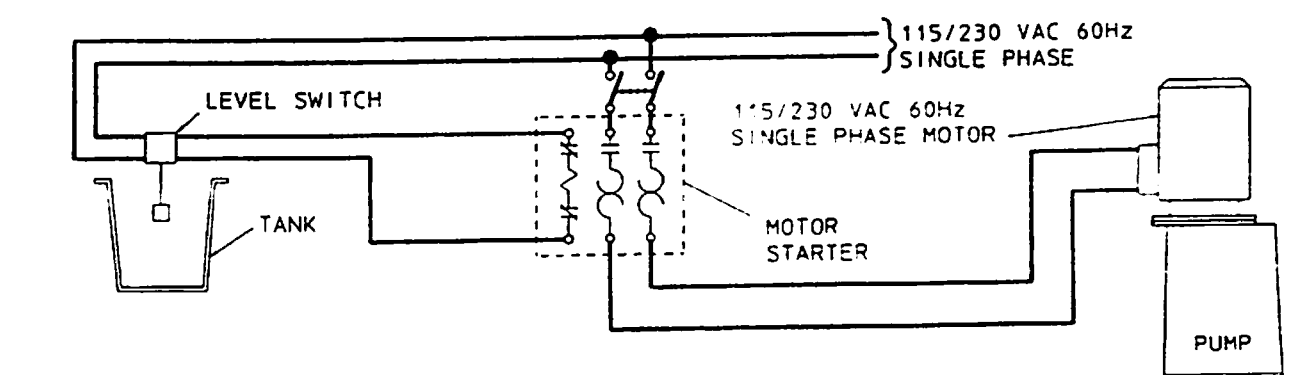
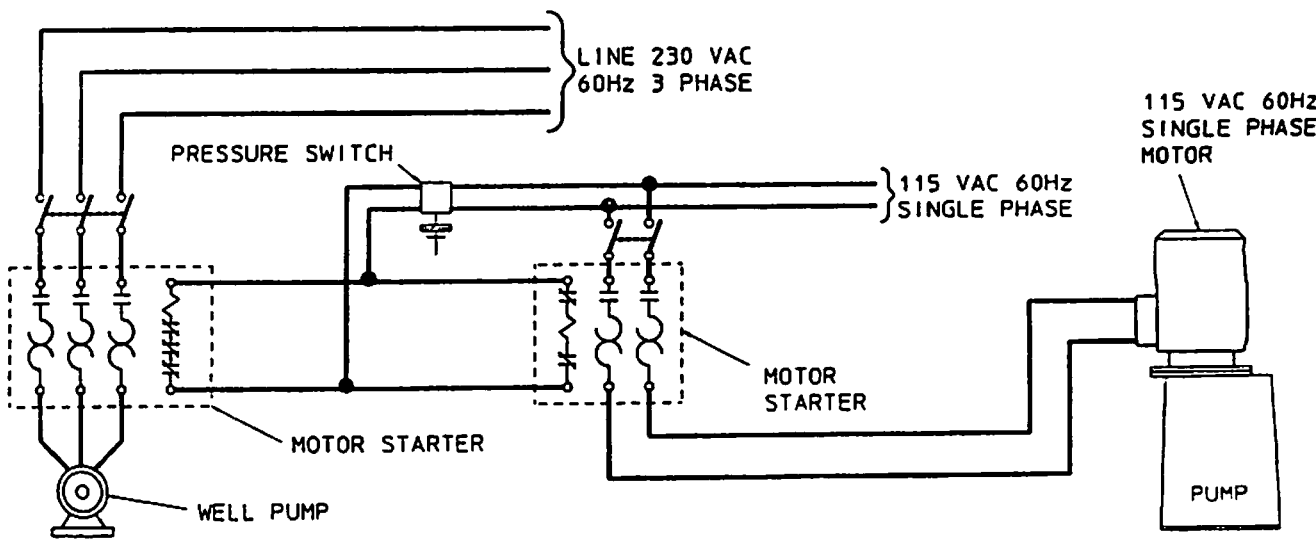
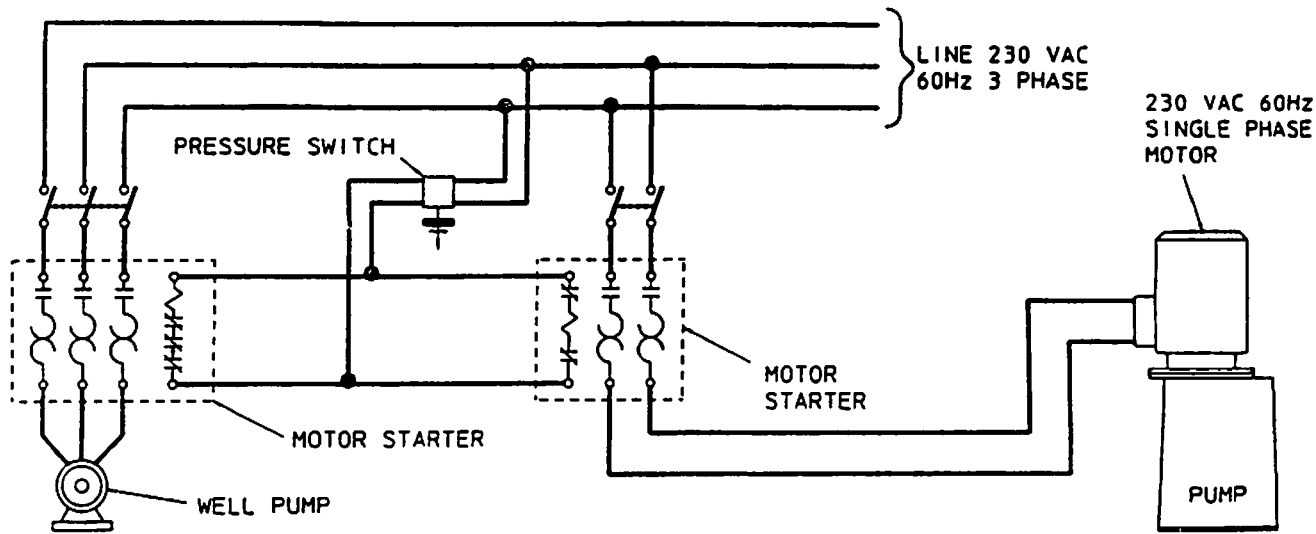


**WARNING:** TO AVOID POSSIBLE SEVERE PERSONAL INJURY WHEN HAZARDOUS CHEMICALS ARE PUMPED AND/OR ELEVATED TEMPERATURE/PRESSURES ARE ENCOUNTERED, USE RIGID PIPE.

**METERING PUMPS - TYPICAL INSTALLATION**  
Flooded Suction

440.400.110.040

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NOTE: — FIELD WIRING (NOT BY W&T) MUST CONFORM TO LOCAL ELECTRICAL CODES.

METERING PUMP - INSTALLATION WIRING  
For Intermittent Start-Stop Operation



## SECTION 3 - OPERATION

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Strength of the Solution .....	3.4.3
Pump Calibration .....	3.5
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Pump Drive Mechanism .....	3.6.1
Speed Reducer .....	3.6.2
Stroke Control Mechanism .....	3.6.3
Liquid Ends.....	3.6.4

#### 3.1 PREPARATION FOR OPERATION

- a. Fill the solution container with solution.

**WARNING:** Use extreme care to avoid contact with the material and possible severe personal injury, consult your chemical supplier for instructions in the preparation of solutions and the handling of chemicals.

**NOTE:** Drawings referenced in this section are located in Section 5, Illustrations.

- b. Remove the breather cap (1, Dwg. 440.400.001.020) located on the top of the gearbox. Remove oil level check plug (41, Dwg. 440.400.000.010) located on the right side of gearbox when facing the liquid end. Add two quarts of oil, (W&T part number U18443 or equivalent) through the breather cap hole until it flows from the oil level check hole. Replace the oil level check hole plug and breather cap.

**CAUTION:** To avoid possible severe damage to the pump mechanism, do not run the pump without filling the gearbox with oil as specified above. Oil level must be up to the oil check hole.

- c. Refer to Table 1-3 to identify the belt location on the pulley to obtain the desired feed rate. Pumps delivered from the factory will have the belt located on the first step (top step of the pulley) which is the maximum speed setting. Install the belt guard before operating this equipment.

**WARNING:** To avoid possible severe personal injury, do not run the pump with guard removed.

- d. Start the motor and operate the pump at a stroke setting of 100% of the scale until it is primed and ready for operation. The pump is designed to self-prime under a no backpressure condition; however, if difficulty is encountered in priming, check that the suction valve is not adhering to the suction valve seat. Refer to Section 4 Service if the pump does not prime.

### 3.2 STARTING AND STOPPING THE PUMP

Apply power to the pump on or off as needed.

### 3.3 INTERMITTENT START-STOP OPERATION

Intermittent start-stop operation, also called semi-automatic operation, is simply the starting and stopping of the treatment (pump) in synchronism with an intermittent flow. This is accomplished by interrupting the electric current to stop the pump. The usual example calls for treating the discharge from a pumping system that starts and stops in response to predetermined variations in elevation or pressure of the liquid being treated.

### 3.4 ADJUSTMENT OF FEED RATE

The feed rate of the pump is governed by: frequency of the pump stroke, the length of the pump stroke or strength of the solution to be fed.

#### 3.4.1 Frequency of the Pump Stroke

The frequency of the pump stroke is determined by the gear ratio of the speed reducer. Available speeds for Encore™ 700 are listed in Table 3-1.

**TABLE 3-1 PUMP GEAR RATIOS AND SPEEDS**

Available Gear Ratios	Number of Strokes at 1725 rpm, 60 Hz
48:1	36 spm
24:1	72 spm
12:1	144 spm

If the pump is a pulley drive arrangement, each stroking speed can be further turned down. Refer to the Encore 700 Capacity Chart in Table 1-3 of Section 1, for further details on stroking speeds. If the pump is equipped with a variable speed drive, refer to applicable instruction manual.

### 3.4.2 Length of the Pump Stroke (see Dwg. 440.400.000.010)

**CAUTION:** To avoid equipment damage, do not force the stroke control above 100% or below 0% position. If it is hard to turn, have the pump operating and then turn the stroke control knob.

- a. Manual positioning: Pump stroke length is adjusted by turning the stroke control knob (33). Percent stroke length is shown on the micrometer scale which consists of a linear scale and a circular scale. Ten turns of the knob covers 0 to 100% of the stroke length. Numbers on the scale represent percent stroke. Each full turn of the knob will result in a 10% change of the stroke length. Each graduation on the circular scale on the knob is equal to 0.25%.
- b. Automatic positioning: The pump can be equipped with an electric stroke positioner if applicable. If applicable, refer to the separate instruction manual provided with the equipment for stroke positioner operation.

### 3.4.3 Strength of the Solution

**WARNING:** Use extreme care to avoid contact with the material and possible severe personal injury. Consult your chemical supplier for instructions in the preparation of solutions and the handling of chemicals. Observe all recommended safety precautions.

Appropriate dilution of the solution will modify the concentration and therefore, the feed. This will increase or decrease the amount of solution to be pumped per unit time. Adjusting the solution concentration can match the feed rate with the pumps capabilities and enhance the metering repeatability.

## 3.5 PUMP CALIBRATION

Perform calibration on the suction side of the pump against actual back pressure so that piping will not have to be disturbed or the pumping process interrupted. Refer to Typical Installation drawings for Suction Lift and Flooded Suction, 440.400.110.030 and .040 respectively in Section 2.

Procedures for pump calibration are as follows:

- a. Close the valve of the calibration chamber and fill the chamber to the top.
- b. With the pump operating, close the in-line valve upstream of the chamber and at the same time open the chamber valve.
- c. Using a stopwatch, note the length of time required to drop the calibration chamber contents from the uppermost graduated line to a suitable graduated line lower on the chamber. Open the in-line valve and close the chamber valve to prevent air from being sucked into the suction line and interrupting the pumping cycle.

- d. Divide the quantity withdrawn from the chamber in cc by the elapsed time in minutes to obtain the pump rate in cc/minute.

$$(\text{cc / minute}) \times 0.38 = \text{gallons per day (gpd) or}$$

$$(\text{cc / minute}) \times 1.44 = \text{liters per day}$$

### 3.6 THEORY OF OPERATION

The theory of operation for the Encore 700 Mechanical Diaphragm Metering Pump is addressed by discussing the operation and interrelationship of the following assemblies:

- Pump Drive Mechanism
- Speed Reducer
- Stroke Control Mechanism
- Liquid Ends, which includes head, valves and connections

The Encore 700 metering pump, is comprised of a liquid end and a pump drive mechanism. The stroke length can be varied either manually or with an optional electric stroke positioner. The pump is driven by an electric motor which can be coupled either directly to the worm shaft, (see Dwg. 440.400.001.010) or indirectly by a pulley drive arrangement (see Dwg.440.400.001.020). The pulley drive arrangement, provides a wide range of stroking speeds with the same gear ratio, and therefore, a wide range of capacities. A double simplex arrangement is also available. (see Dwg. 440.400.000.020)

#### 3.6.1 Pump Drive Mechanism (see Dwg. 440.400.000.010)

The pump drive mechanism is contained within the gearbox. The motor rotates the worm wheel through the worm shaft. The worm wheel is coupled to the variable eccentric mechanism, which rotates along with it converting the rotational motion into the reciprocating motion of the crosshead (17) through a connecting rod (25). The crosshead provides a link between the connecting rod and the liquid end. The stroke length of the pump can be changed from 0 to 100 % by rotating the stroke control knob, (33).

#### 3.6.2 Speed Reducer (see Dwg. 440.400.000.010 and 440.400.000.020)

The pump stroking speed is obtained through gear ratios which provide 36 spm, 72 spm and 144 spm. Each stroking speed is available in pulley drive and indirect drive configuration. The four step pulley combination provides additional stroking speed with each gear ratio.

#### 3.6.3 Stroke Control Mechanism (see Dwg. 440.400.000.010)

The stroke control mechanism consists of a triangular knob (33) which is secured to the bearing carrier (34). The carrier, which is bolted to the eccentric shaft, (13)turns on threads through a double row bearing (30), inside the stroke control housing (11). The stroke control housing has a

linear scale showing 0 to 100%. This scale indicates the percent stroke length of the pump. The combination of a linear scale (0 - 100%) on the stroke control housing and a circular scale (0 - 10) provides an accurate micrometer type control of the stroke, with a resolution of 0.25%.

#### **3.6.4 Liquid Ends** (Refer to List Of Contents in Section 5 to identify applicable Dwgs. for liquid ends.).

The Encore 700 metering pump offers five different sizes of liquid ends to provide a wide capacity and pressure range. The Simplex arrangement has a capacity up to 180 gph and pressure up to 175 psi. Teflon faced diaphragms are used as pumping diaphragms to provide metering accuracy as well as chemical compatibility. Five sizes of Teflon faced diaphragms are available: 1-3/8", 2", 3", 4" and 5". A variable eccentric mechanism is mechanically connected to the Teflon faced diaphragm by a crosshead. A secondary seal mounted on the crosshead isolates the gearbox from the liquid end. The capacity chart (see Table 1-3 in Section 1), provides further details on capacity and pressure capabilities for each liquid end. Cartridge valves are used on all the liquid ends to provide ease of service and field maintenance. Threaded valves are available on 1-3/8" and 2" heads only. Clear valve housings assist in checking the valve performance.

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**NOTE:** Referenced drawing numbers beginning with 440.400 are located in Section 5.

**WARNING:** To avoid possible severe personal injury or equipment damage, by being sprayed with liquid under pressure, prior to disassembly of pipe connections, refer to detailed instructions on relieving pressure and draining.

#### 4.1 GENERAL

Routine maintenance of the metering pump consists of two periodically performed operations:

- a. Periodic cleaning: to remove contaminants and deposits formed on parts in contact with the solution.
- b. Periodic preventive maintenance: to disassemble, inspect, clean and replace recommended parts.

Corrective maintenance is performed (as required at unscheduled intervals) to correct discrepant operating or non-operating condition. A troubleshooting table (see Table 4-1) lists possible fault conditions and corrective action as a guide for service personnel.

## **4.2 PERIODIC CLEANING**

### **4.2.1 Cleaning Pumping Head Parts**

**WARNING:** Use extreme care to avoid contact with material and possible severe personal injury. When using hazardous material observe all safety precautions recommended by the material manufacturer/supplier.

If difficulty is encountered in pumping the solution where hard water is known to have been used in the solution preparation, remove the pumping head parts for cleaning. (Refer to paragraph 4.3.4) The effects of hard water are indicated by white coating on all parts in contact with the solution. This coating is most easily removed by soaking the parts in 5% hydrochloric acid obtainable in any drug store. This commercial grade of hydrochloric acid known as muriatic acid is also suitable for this purpose. Where the above condition is known to exist, pump the acid solution through the pump head for approximately five minutes as a periodic preventive maintenance procedure.

### **4.2.2 Clogging of Solution Tube**

Where solution joins water being treated and that water contains considerable hardness, there may be a deposit formed inside the solution tube at the point of application. In time this can completely plug this tube and the deposit must be removed. The best method is by dissolving the deposit as described in Cleaning Pumping Head Parts. Where this condition is known to exist, clean the solution tube as a part of routine maintenance.

## **4.3 PERIODIC PREVENTIVE MAINTENANCE**

To minimize unscheduled shutdown and ensure maximum service life, perform periodic maintenance at specified intervals while equipment is in satisfactory condition. Table 4-1 lists the intervals, maintenance operation and preventive maintenance kits required. Prior to performing tasks, ensure that the appropriate preventive maintenance kits are in stock. Refer to Section 6, Preventive Maintenance Kits and Spare Parts List for the appropriate maintenance kit.

**NOTE:** Although all parts are designed for long service life, it is recommended that routine pump maintenance be performed to safeguard against unexpected downtime.

**TABLE 4-1 SCHEDULED MAINTENANCE INDEX**

INTERVAL	MAINTENANCE OPERATION	PREVENTIVE MAINTENANCE KIT
Annually	Replace PTFE diaphragm, PTFE disc (between diaphragm and backing plate) and cross head oil seal.	Diaphragm Maintenance Kit
*Six Months	Valve sets, which include, the seat, ball and retainer/guide O-rings *For Slurry application or other abrasive chemical, replace every six months.	Valve Kit (Double ball valves: 2 kits required)
	Replace gearbox oil.	U18443 (2 quarts required)
	Replace belt.	APS4875

**4.3.1 Gearbox Lubrication (see Dwg. 440.400.000.020)**

The gearbox is filled with 2 quarts of SAE 90 grade oil, W&T Part No. U18443. This lubricant must be replaced every year to realize optimum performance of the mechanism. To drain and replace the gearbox oil, perform the following:

- a. Remove the oil drain plug (40) located at the bottom of the side wall of the gearbox (towards the stroke control knob).
- b. Drain the oil completely.
- c. Apply Teflon tape on the oil drain plug and tighten it back.
- d. Remove the breather cap (1, 440.400.001.010) located at the top of the gearbox cover.
- e. Remove oil check plug (41) located at the center of the gearbox side wall (towards the stroke control knob).
- f. Fill the gearbox with SAE 90 grade oil (W&T Part No. U18443) until oil flows out of the oil check hole.
- g. Apply Teflon tape to the oil check plug. Tighten the oil check plug.
- h. Tighten the breather cap.

**4.3.2 Priming Troubles or Loss of Suction**

- a. Difficulties in priming are usually encountered when there is an air leak in the suction line or when the valves are obstructed. Air leaks in the suction line may be due to a loose valve, O-ring damage, cracked tubing or leaking joints in the pipe thread connections. Obstruction on the valves may be caused by foreign material or by deposits on the pumping head parts.
- b. Where liquid is withdrawn from containers which are replaced when they are empty or if the level in a fixed tank occasionally falls below the suction line inlet, air will be inducted into the pump. If the pump is discharging against atmospheric pressure (or only slightly above), the pump may be expected to reprime itself if the liquid supply is replenished and it is operated briefly at full stroke. If discharging against greater pressures, the pump will not reprime itself due to compression and re-expansion of the air trapped in the pump head.



- c. If the system is installed in accordance with Dwgs. 440.400.110.030 or 440.400.110.040, using a backpressure valve and/or pressure relief valve, the discharge drain valve may be opened to allow the pump to prime against atmospheric pressure. Once primed, close the discharge drain valve to resume normal operation.
- d. If no backpressure and/or pressure relief valve are used, repriming is greatly simplified if a three-way valve is installed in the discharge line close to the pump outlet. This valve normally passes the pump output to the downstream tubing or pipe. When repriming is desired the valve is turned to divert the pump output back to the liquid container, the downstream pressure is blocked off and the pump operates at atmospheric discharge pressure. When a flow of liquid is observed returning to the source container, the pump is reprimed. The three-way valve is then turned back to its normal position and pump delivery can continue. If an appropriate three-way valve is unavailable, the same result can be achieved by using two conventional shut-off valves. One is placed in the discharge line and other on the side opening of a tee located immediately upstream of the line valve.

### 4.3.3 Hazardous Properties of Sodium Chlorite ( $\text{NaClO}_2$ )

**WARNING:** To avoid possible severe personal injury, since the storage and handling of sodium chlorite presents very specific hazards, the user must seek the advice of his supplier with reference to storage facilities, handling precautions and health hazards.

- a. Sodium chlorite is a dry flaked salt which, because of its powerful oxidizing nature, is shipped in steel drums bearing a DOT "yellow" label classification. It is stable when sealed or in solution, but is very combustible in the presence of organic material. For this reason do not allow the solution to dry out on floors. Mop up the solution with technical sulfite solution.

Technical sodium chlorite is a white flaked salt with a density of approximately 56 lb. per cubic foot. It is a very powerful oxidizing agent.

- b. Sodium chlorite in contact with acid will react with rapid evolution of chlorine dioxide gas. When heated above 347°F, sodium chlorite will decompose rapidly, liberating oxygen with the evolution of sufficient heat to make the decomposition self-sustaining. If this decomposition is confined, as in closed containers, the effect is explosive. Therefore, it must be protected at all times from exposure to heat.

Sodium chlorite dissolves easily in water at ordinary temperatures to form a cloudy white solution. This solution is chemically stable under ordinary conditions of temperature and pressure.

- c. As received in loose flake form in metal containers, sodium chlorite will stand considerable rough handling. In scooping or weighing out the material, avoid contact with eyes, skin, mucous membranes and clothing. Wash contaminated clothing quickly and thoroughly with water to avoid fire.

- d. The danger lies in the fact that sodium chlorite in contact with or mixed with organic substances, such as clothing, cloth gloves, cotton waste, sawdust, mops, brooms, etc., become extremely sensitive to any agent, such as heat, friction, or impact, and these exposed organic substances will ignite readily when any of these are applied accidentally or otherwise. The finer the sodium chlorite is sub-divided, as is the case when sodium chlorite solution is left to evaporate and the more intimately it is mixed with the organic substance, the more sensitive to heat it becomes. Although in practice spontaneous ignition of such mixture is unlikely, it is theoretically possible for such a reaction to occur. Therefore, extreme care must be used to prevent sodium chlorite flakes or sodium solution from coming in contact with combustible material especially fibrous or finely divided material.

#### 4.3.4 Cleaning the Pump - Sodium Chlorite Applications - Special Precautions

**WARNING:** Sodium chlorite, when finely divided in the presence of organic compounds, is a possible fire hazard. For this reason, extreme care must be exercised to prevent solutions from drying out in the threaded portions of the pump body and related parts. Observe carefully the manufacturer/suppliers recommended safety procedures and the handling and storage procedures in this book.

Perform pump cleaning procedures in accordance with the following steps. When procedures required pump disassembly, refer to (par. 4.4.1, Removing Pump From Service). Refer to Dwg. 440.400.150.010 as a guide during this procedure.

- a. Transfer the suction line to a container of water and pump water until all the sodium chlorite in the pump and discharge line has been replaced by water.
- b. Place a container under the pump head, and remove the suction line.
- c. Shut-off the discharge line valve.
- d. Relieve the pressure and drain the discharge line between the pump and the discharge line shut-off valve.
- e. Remove the pump head. Flush away any spilled solution not caught in the container with ample quantities of water.
- f. Immerse the pump head, valves and lines that were removed in lukewarm water for two minutes.
- g. Unscrew the threaded parts under water.
- h. Rinse all the parts in fresh water before reassembly.
- i. Use water to prime the pump, then transfer the suction line to the sodium chlorite solution container.

### 4.3.5 Inspection

After the disassembled parts are cleaned and prior to reassembly perform the following:

- a. Check for physical damage of removed parts (chipped, cracked, damaged threads, etc.). Replace damaged parts.
- b. Discard and replace all removed O-rings, seals and gaskets.
- c. Check diaphragms for chafing or cracking. Replace damaged diaphragms.

## 1.4 CORRECTIVE MAINTENANCE

**WARNING:** To avoid contact with the material and possible severe personal injury, when servicing heads and/or valves follow procedures in this section for disassembly.

**WARNING:** Use extreme care to avoid contact with the material and possible severe personal injury. When using hazardous material, observe all safety precautions recommended by the material manufacturer / supplier.

**CAUTION:** To prevent possible equipment damage, solutions must never be allowed to freeze in the pump. If freezing conditions are present when pump is shut off, drain pump head and all solution lines.

- a. Corrective maintenance is performed as required to correct a discrepant operating or non-operating condition. Refer to Table 4-3 as a guide for service personnel in diagnosing and correcting most common problems.
- b. Routine maintenance procedures include the elimination of solution leaks when they are found, to avoid corrosion damage. Flush away spilled solution with water and wipe the parts clean and dry.
- c. Ensure that joints containing gaskets are maintained in good condition. Keep an adequate supply of gaskets and O-rings available so that repair of leaks can be accomplished without delay. It is a good practice to discard used gaskets and O-rings, replacing them with new material each time a joint is broken.

### 4.4.1 Removing Pump From Service and Disassembling Valves, Head and Diaphragms

**WARNING:** Use extreme care to avoid contact with the material and possible severe personal injury, when using hazardous material, observe all safety precautions appropriate protective clothing and eye protection when handling hazardous material.

Procedure for assembly and disassembly of parts for pump corrective maintenance are referenced in the following paragraphs.

#### 4.4.2 Draining System of Hazardous Material

**WARNING:** To avoid possible severe personal injury by being sprayed by liquid under pressure, allow system to drain fully before attempting to disassemble piping and removing valves and / or head.

- a. Disconnect power from pump.
- b. Close discharge shutoff valve.
- c. For flooded suction, close suction shutoff valve to prevent backflow of liquid when suction lines are opened. (see Dwg. 440.400.110.040 in Section 2)
- d. Open suction drain valve and drain suction line of liquid.
- e. Open discharge drain valve to relieve pressure and drain discharge line.
- f. Open bypass valve in pressure relief valve.
- g. If a pulsation dampener is used, close off its valve when pressure has reached zero.

#### 4.4.3 Removing Suction and Discharge Valves

**WARNING:** Use extreme care to avoid contact and possible severe personal injury with liquid present in head. Allow suction valve to fall into suitable container and catch liquid.

**WARNING:** Use extreme care to avoid contact and possible severe personal injury because liquid is present between discharge drain valve and unit below. Flush spilled liquid immediately.

##### a. Cartridge Type:

Refer to Cartridge Liquid End parts drawings in Section 5.

- (1) Loosen two screws located on the clamping block.
- (2) Slide clamping block up.
- (3) Pull the valve cartridge out.
- (4) Slide seat out of the cartridge to remove ball.

**NOTE:** Solution valves are molded as one piece. Slurry valves and spring loaded polymer valves have a separate guide assembled inside the clear PVC retainer.

##### b. Threaded Type:

Refer to Threaded Type parts drawings in Section 5.

- (1) Unscrew the valves from the head.
- (2) Remove seats and guides.
- (3) Flush and clean the valves.

#### 4.4.4 Removing the Diaphragm

- a. Remove suction and discharge valves as described in paragraph 4.4.3.
- b. Remove head screws, washers and the pump head.
- c. Unscrew the PTFE diaphragm by rotating it counterclockwise.

#### 4.4.5 Valve and Diaphragm Replacement

**NOTE:** 1-3/8", 2", 3" and 4" diaphragms utilize a circular backing plate screwed on the diaphragm insert. When replacing the diaphragm, unscrew the backing plate for reuse. A Teflon disc is inserted between the diaphragm and the backing plate. A new Teflon disc must be used every time a new diaphragm is installed. For specific part numbers on diaphragm, backing plate and Teflon disc refer to the Spare Parts List, in Section 6.

All O-rings must be lightly lubricated with silicone grease before assembly.

- a. Reverse assembly procedures for replacement of cartridge and threaded type valves and diaphragm.
- b. Refer to Table 4-2 for head size and corresponding torque values for head screws and cartridge valve clamping.

**TABLE 4-2 RECOMMENDED TORQUE VALUES**

HEAD SIZE	RECOMMENDED TORQUE	
	HEAD SCREWS	CARTRIDGE VALVE CLAMPING
1-3/8"	45 to 60 in-lbs	20 to 25 in-lbs
2"	45 to 60 in-lbs	
3"	60 to 70 in-lbs	
4"	60 to 70 in-lbs	
5"	60 to 90 in-lbs	

#### 4.4.6 Disassembly of Complete Pump

1. A simplex arrangement with manual stroke control is described in the procedures below.
2. All O-rings must be lightly lubricated with Silicone grease before assembly.
3. Under normal operating conditions, disassembly of the gearbox is not required. Should disassembly be necessary, proceed as follows:
  - a. Gearbox Cover Removal (see Dwg. 440.400.001.010 or 440.400.001.020)

**WARNING:** To avoid possible severe personal injury or equipment damage, turn power off before servicing.

**WARNING:** To avoid possible severe personal injury by being sprayed by liquid under pressure, allow system to drain fully before attempting to disassemble piping and removing valves/or heads.

- (1) Remove the liquid end, which includes the valves, head and diaphragm as described in paragraph 4.4.2.
- (2) For direct drive, see Dwg. 440.400.001.010. Remove the electric motor and motor adapter plate (7), and proceed to step 4.
- (3) For pulley drive, see Dwg. 440.400.001.020. Remove the belt guard (8). Loosen the belt (12) and remove the electric motor. The pulley (18) is not required to be removed from the motor shaft unless it is being replaced.
- (4) Remove the M8 screw (9), and remove the pulley (13) and stub shaft (16). Do not lose the two stub shaft keys (11).

**NOTE:** Two slots are provided for this purpose, one in the front and one in the back. Silicone RTV was used as a seal and it needs a gentle tap, to break loose. Note the location of the special washer and all screws.

- (5) Unscrew all M8 screws that secure the cover (2), 440.400.001.010 or (25) 440.400.001.020) and pry open with a suitable screwdriver.
- (6) The complete mechanism is exposed, with the cover removed.

b. Gearbox Cover Replacement (see Dwg. 440.400.001.010 or 440.400.001.020)

Reverse removal procedures for replacement of gearbox cover.

c. Worm Shaft and Worm Wheel Removal (see Dwg. 440.400.000.010)

- (1) Remove the gearbox cover, as described in subparagraph a. above.
- (2) Drain the gearbox oil.

**NOTE:** Two bearings (1 and 6), and shim combination (35) come out with the assembly.

- (3) Remove the worm shaft (7) assembly, by pulling it up.
- (4) Set the knob (33), to zero.
- (5) Remove the gear access flange (20), by unscrewing four M8 screws (21).

**NOTE:** Mark the relative position of the drive bushing (22), and sheave (15), so that they can be reassembled at the same position.

- (6) Slide out the worm wheel (3), and drive bushing (22) assembly, through the flange opening.
- (7) On a bench, remove taper roller bearing (24), from the drive bushing (22).
- (8) Unscrew the five M6 screws (4) and remove the worm wheel (3).

d. Worm Shaft and Worm Wheel Replacement (see Dwg. 440.400.000.010)

- (1) Apply Blue Loctite thread locker, no. 242 to five M6 screws (4). Replace the worm wheel (3) and secure with screws (4).
- (2) Reverse remaining removal procedures for replacement of worm shaft and worm wheel.

e. Eccentric Assembly, Taper Roller Bearings, Connecting Rod, Stroke Control Housing and Knob Removal (see Dwg. 440.400.000.010)

- (1) Repeat Steps 1 through 4 of subparagraph c above for Worm Shaft and Worm Wheel Removal.
- (2) Remove the stroke control knob (33), by loosening the three set screws (9), just enough to slide the knob out. Do not screw all the way out.

**NOTE:** If the pump is equipped with an electric stroke positioner, see applicable instructions manual.

**NOTE:** The set screws (9) are coated with Nylok™ to seal oil.

- (3) With a 6mm Allen wrench, remove one M8 screw (32) from the eccentric shaft (13), which is accessible through carrier bearing (34) end opening. Hold the worm wheel (3), to keep the eccentric assembly from turning.
- (4) Turn the carrier bearing (34), counterclockwise to remove.

**NOTE:** The bearing (30) and flat washer (31) is not required to be removed unless it is being replaced. A special wrench is needed to loosen or tighten the adjuster bearing (8).

- (5) Unscrew the four M8 screws (29) and remove the stroke control housing (11).
- (6) Unscrew the pre-load nut (27).
- (7) Unscrew the four M8 screws (21) and remove the gear access flange (20).

- (8) Slide out the worm wheel (3) and drive bushing assembly (22).
  - (9) Hold the eccentric assembly and connecting rod assembly, and ease it out of the gearbox.
- f. Eccentric Assembly, Taper Roller Bearings, Connecting Rod, Stroke Control Housing and Knob Replacement (see Dwg. 440.400.000.010)
- (1) Coat set screws (9) with Nylok™ before replacing stroke control knob.
  - (2) Reverse remaining removal procedures for replacement of items. During replacement procedure, also adhere to the following:
    - a. Tighten the pre-load nut (27) just enough to eliminate axial movement of the eccentric assembly in Step 6 above. The eccentric shaft (13) must slide in and out without any binding.
    - b. Turn the carrier bearing (34) clockwise until it stops. The bearing (30) must be against the eccentric shaft (13) shoulder before tightening the screw (32) in Step 3, above of the removal procedure.
    - c. Set the stroke position to approximately zero by turning the carrier bearing (34) counterclockwise until it stops. Then rotate the carrier bearing one turn clockwise.
    - d. Place a dial indicator with a magnetic base on top of the gearbox. Set the indicator shaft to indicate the eccentricity of the sheave (15) as shown in figure 4-1.
    - e. Rotate the eccentric shaft assembly (13) and take the indicator reading at two locations, 180° apart, and along the eccentric travel of the sheave.
    - f. Both readings must be the same. If the readings are different, turn the carrier bearing clockwise or counterclockwise until a point is found, where the readings are the same.



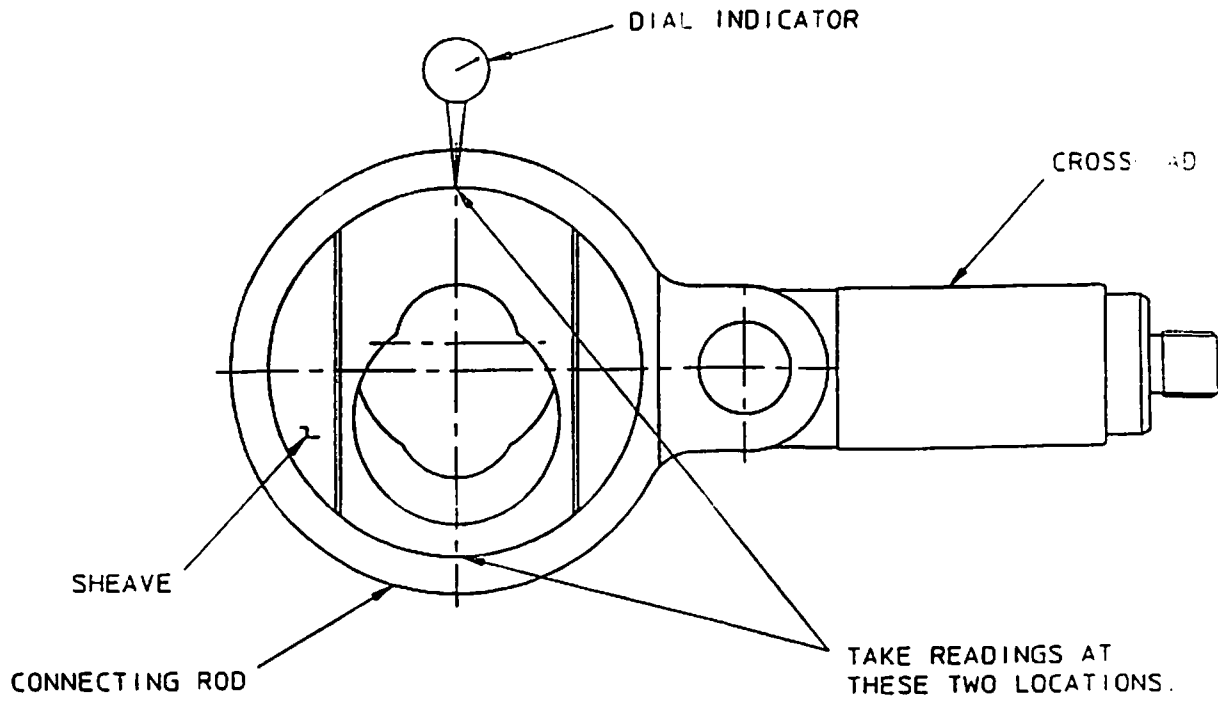


Figure 4-1. Eccentric Shaft Alignment

2335

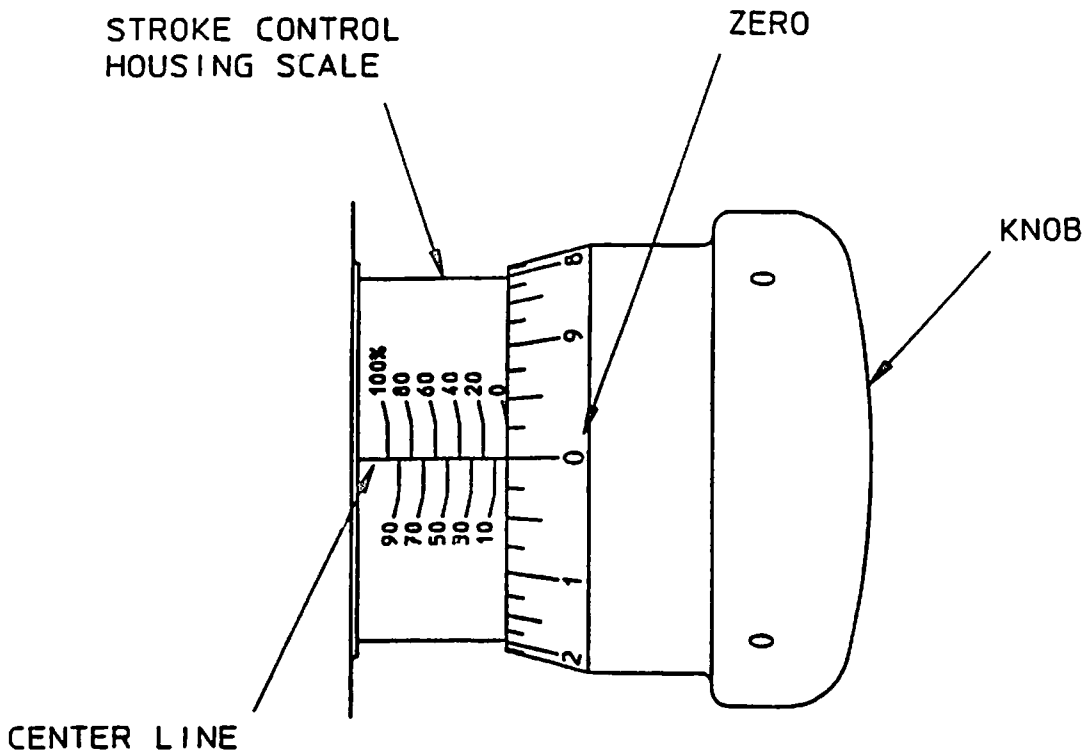


Figure 4-2 Stroke Control Alignment

2336

**NOTE:** Do not disturb this set position until the knob is secured at zero scale indication.

- g. Apply silicone grease to O-ring and install the O-ring into the groove in the stroke control housing.

**CAUTION:** The carrier bearing must not be disturbed while performing the next three steps.

- h. Start the three M6 screws, with Nylok patch, in the knob.
- i. Position the knob (33) over the stroke control housing with the zero graduation on the knob, lined up with the center line of the stroke control housing scale (see Figure 4-2).
- j. Push the knob past the O-ring/quad-ring until the front edge of the knob is in line with the zero percent line on the stroke control housing scale.
- k. Slide the knob, if necessary, to align the scales as shown above. Then tighten the three M6 set screws equally. Make sure the set screws that are used, have a nylon patch on the threads to prevent oil leakage.

**NOTE:** All O-rings must be lightly lubricated with silicone grease before assembly.

#### **4.4.7 Troubleshooting**

- a. Troubleshooting of the Encore 700 Series Metering Pump consists of procedures and instructions for repair and/or replacement of subassemblies and components.
- b. The troubleshooting procedures are limited to fault isolation to a defective item. Potential problems which could be at fault and recommendations for corrective action, are listed in Table 4-3. Procedures are based on potential fault conditions that may occur under normal pump operation.

**TABLE 4-3 ENCORE 700 METERING PUMP TROUBLESHOOTING GUIDE**

FAULT CONDITION	POSSIBLE CAUSE	CORRECTIVE ACTION
<b>No feed rate or insufficient feed rate.</b>	Zero or insufficient stroke length.	Adjust to proper stroke length.
	Ball valves on suction or discharge side do not close tightly.	Replace balls in valves. Remove possible deposits in valves or pump head. Replace the pump head.
	Gas in suction line or pump head.	Check for cavitation and, if necessary, use a suction line with a larger inside diameter. Dilute the liquid (sodium hypochlorite).
	Air in suction line or pump head.	Vent the suction line and pump head.
	Supply tank is empty.	Fill supply tank.
	Shut-off valves in suction or discharge lines are closed.	Open valves.
	Strainer is clogged.	Clean strainer.
	Damaged drive mechanism.	Check mechanism and replace defective parts.
<b>No feed rate on point of application, although pump is pumping.</b>	Pressure relief valve is defective or misadjusted, so that the liquid flows back into the supply tank.	Adjust pressure relief valve to proper relief pressure.
<b>Liquid is emerging from pump head near the diaphragm.</b>	Broken diaphragm or broken crosshead oil seal.	Replace diaphragm, or replace oil seal.
<b>Pump is pumping erratically or feed rate is inaccurate.</b>	No backpressure.	Install backpressure valve into the discharge line.
<b>Extremely noisy or hot gear box.</b>	Insufficient lubrication or defective bearing(s).	Check oil level through oil check hole, if required, replace bearing(s).
<b>Motor will not run.</b>	Power off or fuse is blown.	Turn on the power. Replace the fuse after correcting the cause.
<b>Motor is hot, but starts when cool.</b>	Overload protector has opened.	Check supply voltage. Check excessive pressure at point of application. Check binding pump mechanism.
<b>Belt is noisy.</b>	Worn belt.	Replace belt. Adjust tension by the tensioning screw.
	Pulley misaligned.	Align pulley.

## WARNING LABELS AND TAGS

The following warning labels and tags have been attached to the equipment and are listed below.

---

**AAA3769:** THIS EQUIPMENT MAY HANDLE HAZARDOUS MATERIALS WHICH CAN CAUSE SEVERE PERSONAL INJURY. OBSERVE THE FOLLOWING:

THIS EQUIPMENT MUST BE INSTALLED, OPERATED , SERVICED BY TRAINED QUALIFIED PERSONNEL, WHO ARE THOROUGHLY FAMILIAR WITH THE CONTENTS OF THE INSTRUCTION BOOK.

TURN OFF POWER BEFORE SERVICING TO AVOID ELECTRICAL SHOCK.

USE RIGID PIPE WHEN PUMPING THE HAZARDOUS MATERIALS OR AT HIGH FLUID TEMPERATURE OR AT HIGH DISCHARGE PRESSURES.

REFER TO THE SAFETY PRECAUTIONS OF THE SUPPLIER OF THE HAZARDOUS MATERIAL AND THE EQUIPMENT INSTRUCTION BOOK FOR FURTHER IMPORTANT DETAILS AND PRECAUTIONS.

USE APPROPRIATE PROTECTIVE CLOTHING AND EYE PROTECTION, AS RECOMMENDED BY THE CHEMICAL MANUFACTURER.

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**AAA3759:** TO PREVENT POSSIBLE SEVERE PERSONAL INJURY DUE TO BEING SPRAYED WITH HAZARDOUS LIQUID UNDER PRESSURE DO NOT DISCONNECT DISCHARGE TUBE/PIPE/MAIN CONNECTION WITHOUT FIRST RELIEVING PRESSURE AND DRAINING DISCHARGE LINE. SEE INSTRUCTION BOOK FOR DETAILED GUIDANCE.

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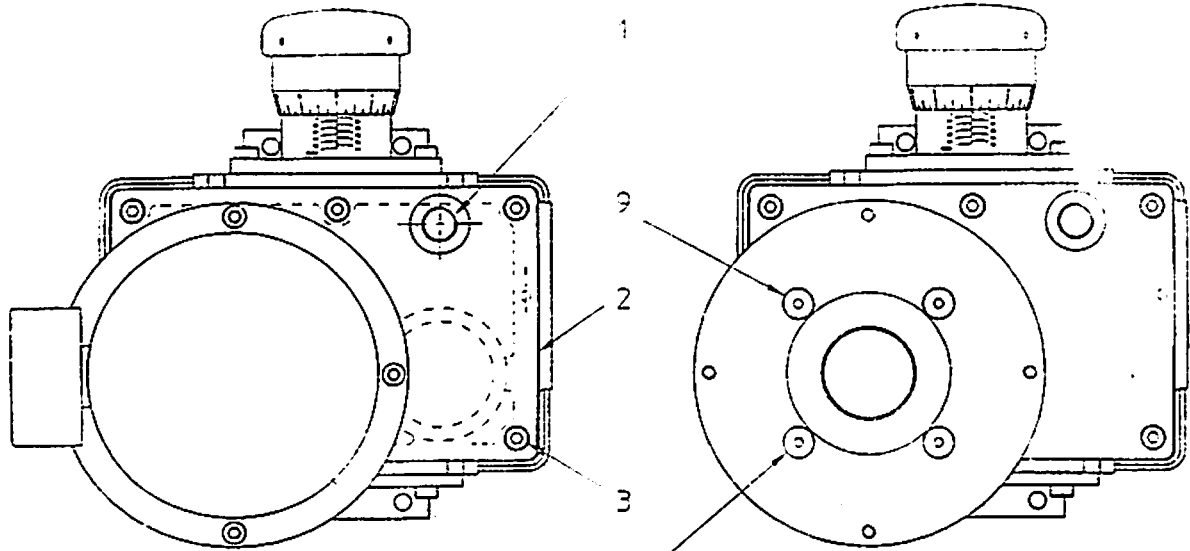
**AEK3676:** TO AVOID POSSIBLE SEVERE PERSONAL INJURY FROM CONTACT WITH MOVING PARTS REPLACE GUARD AFTER SERVICING EQUIPMENT.

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## SECTION 5 - ILLUSTRATIONS

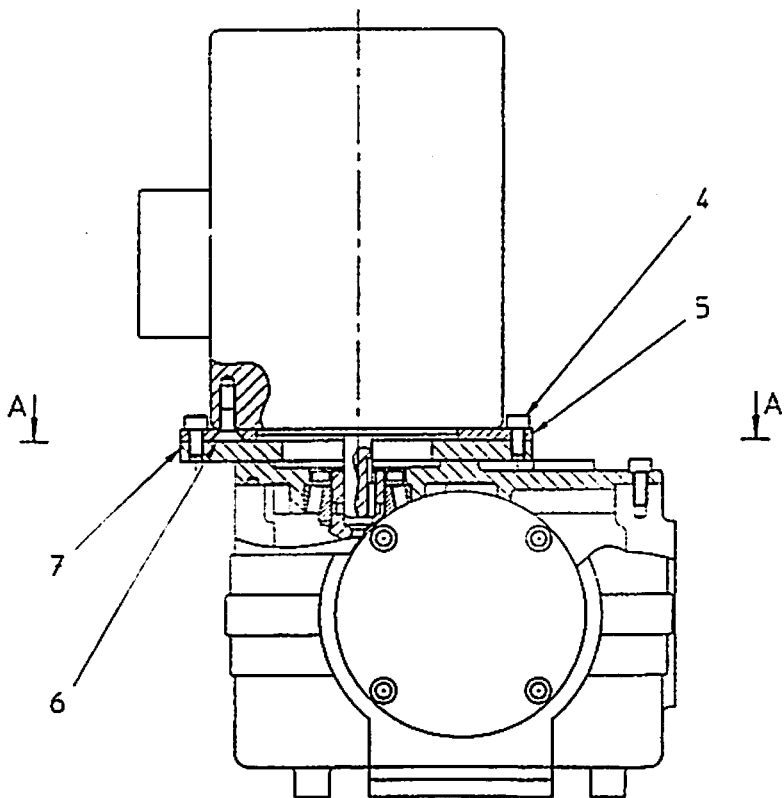
### LIST OF CONTENTS

	DRAWING NO.
Direct Drive Assembly, Simplex .....	440.400.001.010A&B
Pulley Drive Assembly, Simplex.....	440.400.001.020A&B
Gearbox Assembly, Simplex .....	440.400.000.010A,B,&C
Gearbox Assembly, Double Simplex .....	440.400.000.020A-D
1-3/8" Cartridge Liquid End .....	440.050.010.010A-C
1-3/8" Threaded Liquid End .....	440.050.010.020A&B
1-3/8" Liquid End Adapter .....	440.400.001.030
2" Cartridge Liquid End.....	440.050.010.030A-C
2" Threaded Liquid End.....	440.050.010.040A&B
2" Liquid End Adapter .....	440.400.001.040
3" Cartridge Liquid End.....	440.400.010.010A-C
3" Liquid End Adapter .....	440.400.001.050
4" Cartridge Liquid End.....	440.400.010.020A-C
4" Liquid End Adapter .....	440.400.001.060
5" Cartridge Liquid End.....	440.400.010.030A-C
5" Liquid End Adapter .....	440.400.001.070
Automatic Slurry Flushing System - Service.....	440.400.150.010



A-A

GEAR BOX TOP VIEW  
WITHOUT MOTOR



**NOTE:** FOR PARTS LIST SEE DWG. 440.400.001.010B.

AIC3021 DIRECT DRIVE - PARTS

440.400.001.010A

ISSUE 1 6-96

KEY NO.	PART NO.	QTY.	DESCRIPTION
☒ 1	APP5655	1	BREATHER CAP
☒ 2	ARQ5712	1	COVER, SIMPLEX, DIRECT DRIVE
☒ 3	AXS3656	4	SCR. CAP, M8 x 20, SOCK. HD., 316SS
⊕ 4	AXS3577	4	SCR. CAP, M8 x 16, SOCK. HD., 316SS
⊕ 5	ANI5418	1	FLANGE, MOTOR 56C, DIRECT DRIVE
⊕ 6	AXS3532	4	SCREW, 3/8-16 x 3/4, FLAT HD., CAP
⊕ 7	ARQ5441	1	ADAPTER, MOTOR 56C, DIRECT DRIVE
⊕ 8	AAA5425	2	SCR. CAP, M8 x 35, SOCK. HD., 316SS
⊕ 9	AXS3656	2	SCR. CAP, M8 x 20, SOCK. HD., 316SS

NOTE:

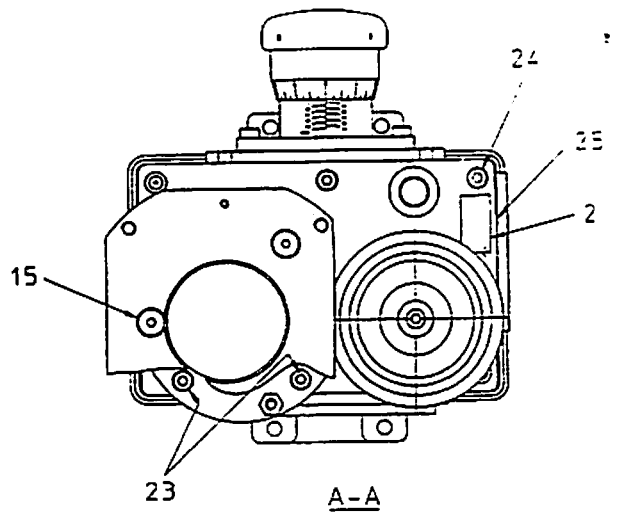
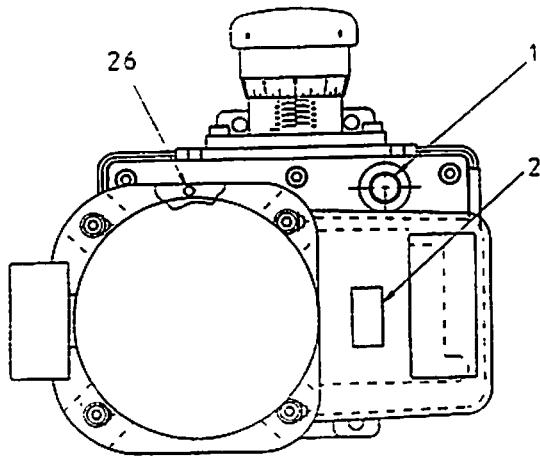
- ☒ PART OF API3492.
- ⊕ PART OF ANM4890.

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

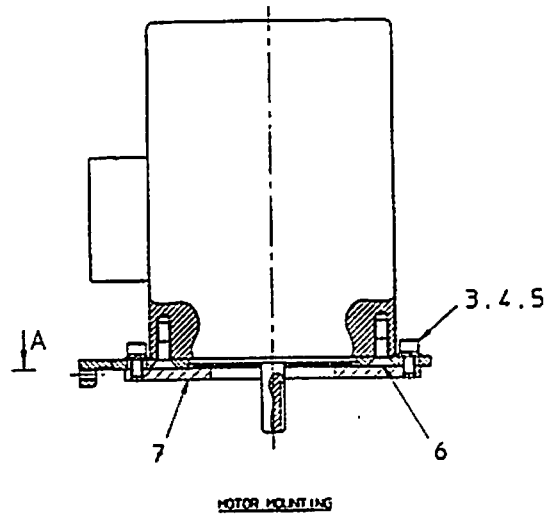
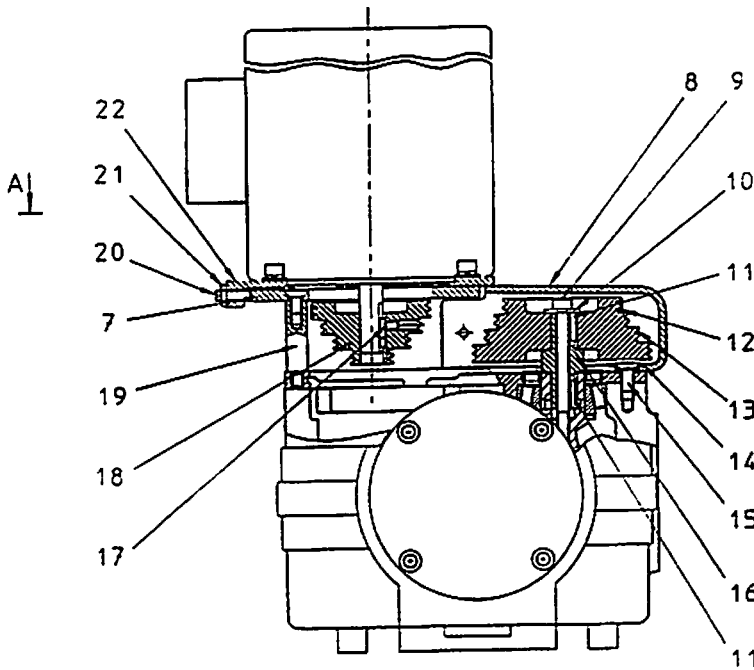
AIC3021 DIRECT DRIVE - PARTS LIST

440.400.001.010B

ISSUE 0 6-96



A-A  
GEAR BOX TOP VIEW  
WITHOUT MOTOR & GUARD



MOTOR MOUNTING

NOTE: FOR PARTS LIST SEE DWG. 440.400.001.020B.

AKG3009 PULLEY DRIVE - PARTS

440.400.001.020A

ISSUE 1 6-96



KEY NO.	PART NO.	QTY.	DESCRIPTION
①	1 APP5655	1	BREATHER CAP
②	2 AEK3676	2	WARNING LABEL
③	3 AKS3568	4	SCR. CAP, M8 x 14, SOCK. HD., 316SS
④	4 AWO5392	4	WASHER, FLAT M8, 316SS
⑤	5 AXQ3226	4	WASHER, LOCK, HELICAL M8, 316SS
⑥	6 AXS3532	4	SCREW, 3/8-16 x 3/4, FLAT HEAD CAP
⑦	7 ALI3168	1	STANDOFF PLATE
⑧	8 AIC4085	1	BELT GUARD
⑨	9 AQA3639	1	CAP SCR., M8 x 100, SOCK. HD., 316SS
⑩	10 AVM3239	1	OVERSIZE OD WASHER, M8
⑪	11 AQC3464	2	KEY, 3/16 SQ. x 20 MM
⑫	12 APS4857	1	JOINT BELT, POLYFLEX
⑬	13 AIC4746	1	WORM PULLEY, DOUBLE GROOVE
⑭	14 AMK5576	1	SHOULDER WASHER
⑮	15 AQA3480	4	SCR. FLAT HD., M8 x 20, SOCK. 316SS
⑯	16 AIA4871	1	STUB SHAFT, WORM 56C
⑰	17 AWO3553	1	SCREW, SET M6 x 8 LG.
⑱	18 APS3182	1	MOTOR PULLEY, 56C, DOUBLE GROOVE
⑲	19 AIC5131	3	STANDOFF
⑳	20 AQC3464	1	SCREW, SET M8 x 25, SLOTTED, 316SS
㉑	21 AUK3630	1	JAM NUT, HEX, M8, 316SS
㉒	22 AJA5596	1	SLIDE PLATE, MOTOR 56C
㉓	23 AXS3583	2	CAP SCR., M8 x 25, SOCK. HD., 316SS
㉔	24 AXS3656	3	CAP SCR., M8 x 20, SOCK. HD., 316SS
㉕	25 ANI5724	1	COVER, SIMPLEX PULLEY DRIVE
㉖	26 ATI3486	2	SCR. CAP, M6 x 12, SOCK. HD., 316SS

**NOTE:**

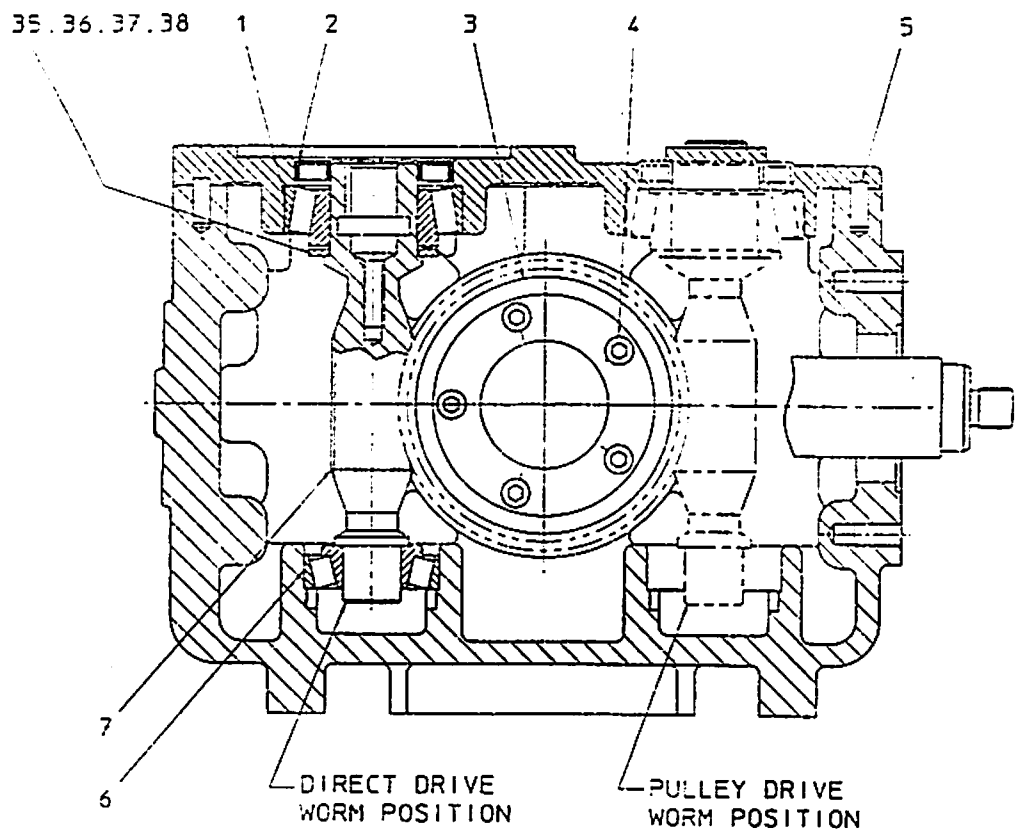
- ① PART OF APQ4791.
- ② PART OF AOO4859.

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

AKG3009 PULLEY DRIVE - PARTS LIST

440.400.001.020B

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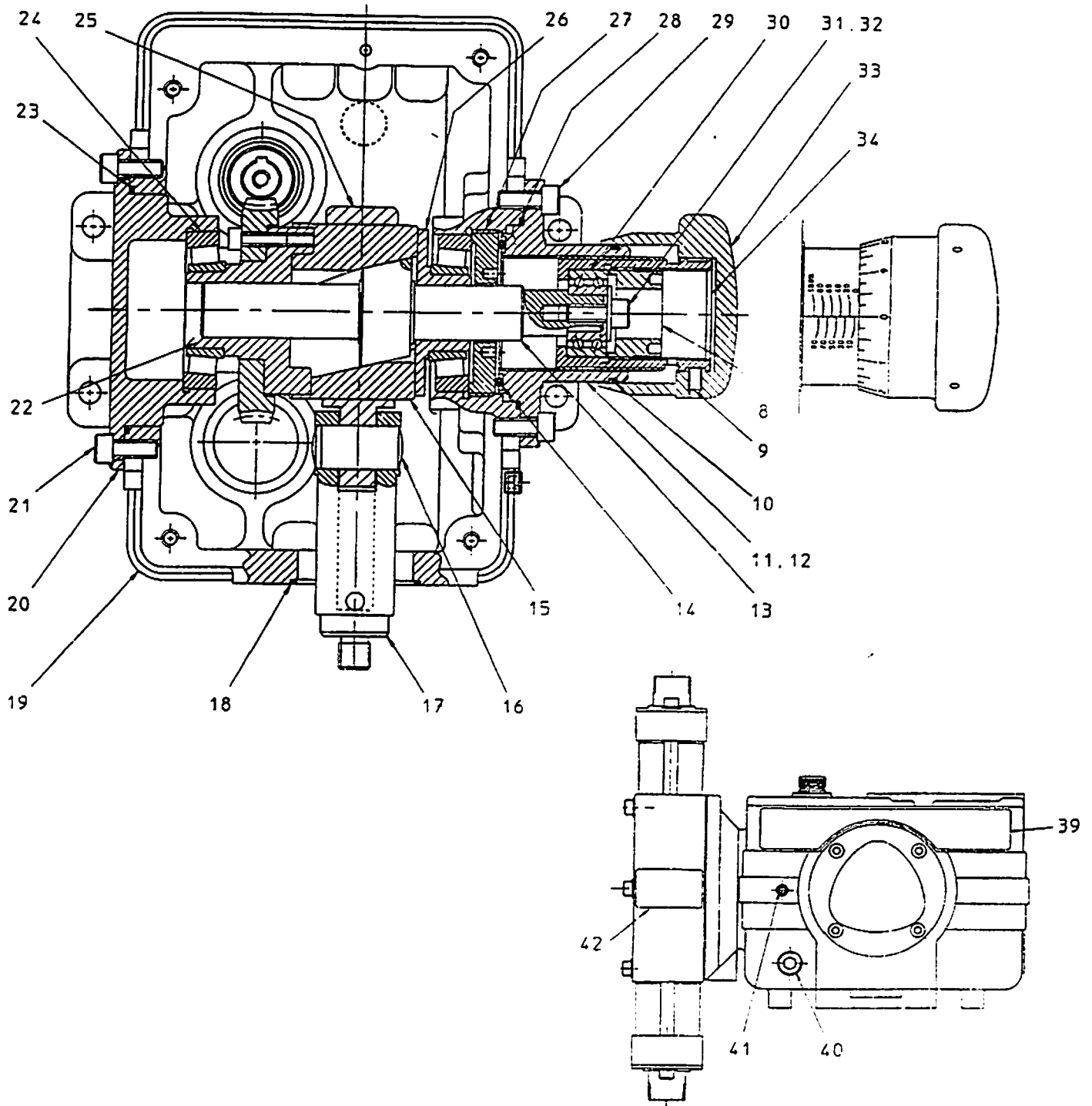


SHOWN WITHOUT MOTOR

NOTE: FOR PARTS LIST SEE DWG. 440.400.000.010C.

ANM4784 ENCORE 700 METERING PUMP - PARTS  
Simplex Gearbox Assembly

440.400.000.010A  
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NOTE: FOR PARTS LIST SEE DWG. 440.400.000.010C.

ANM4784 ENCORE 700 METERING PUMP - PARTS  
Simplex Gearbox Assembly

440.400.000.010B

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KEY NO.	PART NO.	QTY.	DESCRIPTION
■ 1	AIC4251	1	BEARING, TPRL 30 x 62 x 21.25 MM
■ 2	ALI3193	1	OIL SEAL 30 x 55 x 7, BUNA-N
3	○ AOK3192	1	GEAR, WORM, RATIO 12
	OR		
	□ ARQ3199	1	GEAR, WORM, RATIO 24
	OR		
	▼ AKC3205	1	GEAR, WORM, RATIO 48
■ 4	AUK3561	5	SCR. CAP, M6 x 20, SOCK. HD., 316SS
■ 5	ATI3247	2	DOWEL PIN, 6 x 16, M6
■ 6	AMG3448	1	BEARING, TPRL, 20 x 47 x 15.25 MM
7	○ ANI3350	1	SHAFT, WORM, RATIO 12, 56C
	OR		
	□ AMG3357	1	SHAFT, WORM, RATIO 24, 56C
	OR		
	▼ AMG3362	1	SHAFT, WORM, RATIO 48, 56C
● 8	AJE5116	1	ADJUSTER, BEARING
▲ 9	AAA2382	3	SET SCR., M6 x 10, FLAT, SKT., NYL., 316
● 10	AQO4757	1	O-RING (141) BUNA-N
● 11	AKG4860	1	STROKE HOUSING ADJUSTER
● 12	AOO4043	1	LABEL
13	◆ APS4845	1	ECCENTRIC SHAFT, 4.8 MM STROKE
	OR		
	◇ ALI4852	1	ECCENTRIC SHAFT, 9.6 MM STROKE
● 14	AKG4976	1	O-RING, (332) BUNA-N
15	◆ AIA4800	1	SHEAVE, 4.8 MM STROKE
	OR		
	◇ AIA4795	1	SHEAVE, 9.6 MM STROKE
● 16	ASG3256	1	DOWEL PIN 20 x 40 (MM) M6
● 17	AJE4035	1	CROSSHEAD, DIAPHRAGM
● 18	ARQ4767	1	O-RING (138) BUNA-N
■ 19	APQ5142	1	GEARBOX, SIMPLEX
■ 20	AKC5702	1	FLANGE, GEAR ACCESS, SIMPLEX
■ 21	AXS3656	4	SCR. CAP, M8 x 20, SOCK. HD., 316SS
■ 22	ANM4788	1	BUSHING DRIVE, SIMPLEX
● 23	AJA4780	1	O-RING, (156) BUNA-N
● 24	AMG3442	2	BEARING, TPRL, 20 x 47 x 15.25
● 25	ARQ5679	1	CONROD
● 26	AIC4878	1	TAIL BUSHING
● 27	AKG5547	1	PRELOAD NUT
● 28	ALE4774	1	O-RING, (152) BUNA-N
▲ 29	AXS3656	4	CAP SCR., M8 x 20, SOCK. HD., 316SS
● 30	ARQ3426	1	BEARING, ANG, 17 x 40 x 17.5
● 31	AVM3239	1	WASHER, OVERSIZED OD, M8
● 32	AXS3656	1	CAP SCR., M8 x 20, SOCK. HD., 316SS
▲ 33	ANI4750	1	KNOB
● 34	AIC4016	1	CARRIER, BEARING
■ 35	AAA1373	1	SHIM (.79 MM THICK)
■ 36	AAA1370	1	SHIM (2.3 MM THICK)
■ 37	AAA1376	1	SHIM (3.18 MM THICK)
■ 38	AAA1388	2	SHIM (.13 MM THICK)
● 39	AAA3769	1	WARNING LABEL
● 40	AHS4653	1	PLUG, R1/2 SOCKET HEAD
● 41	AAC4634	1	PLUG, SOCKET, SCREW R1/8, 316SS
● 42	AAA3759	1	WARNING LABEL

NOTE:

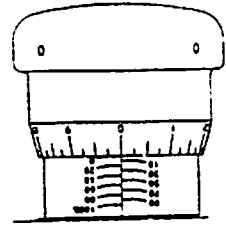
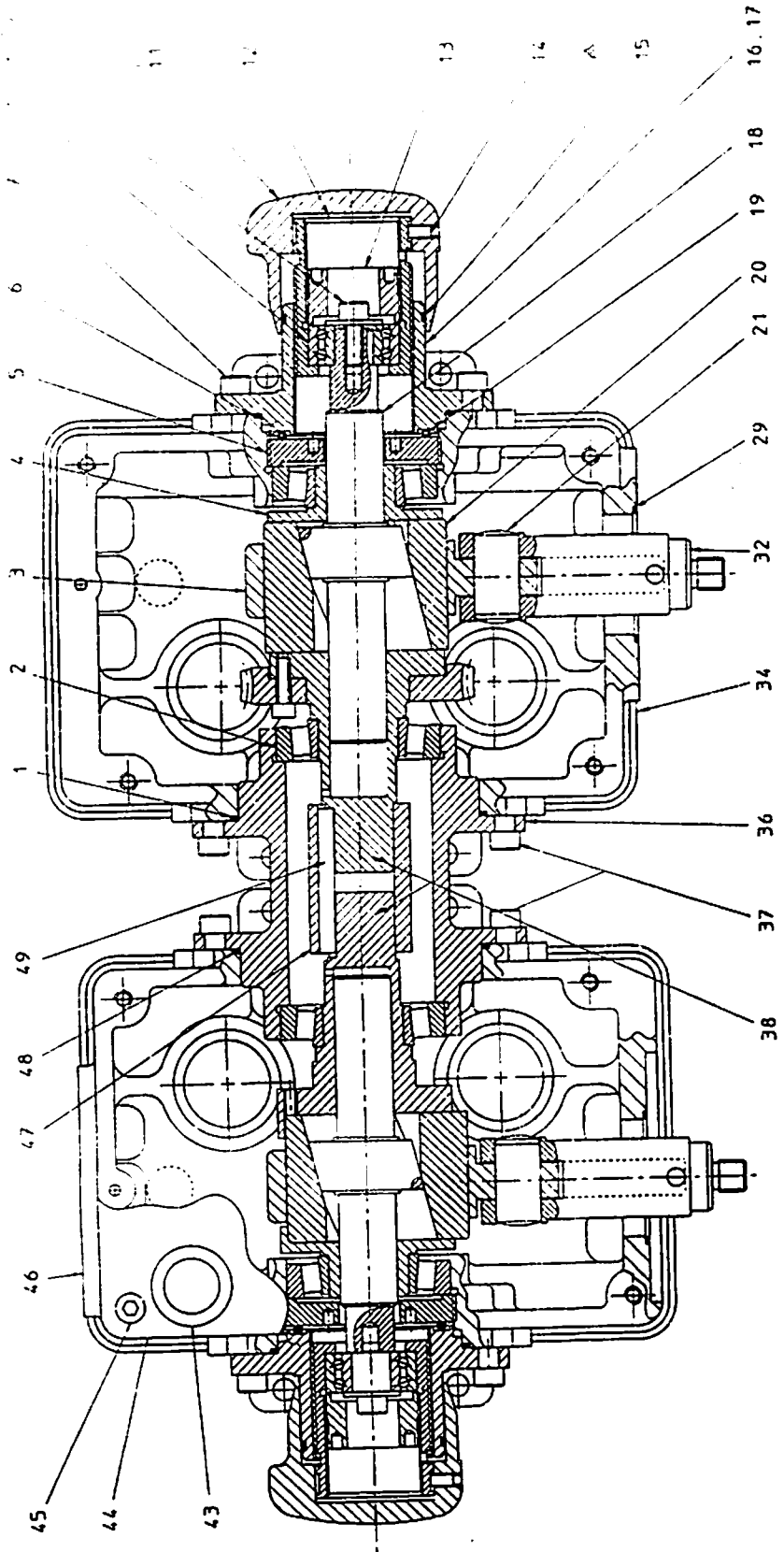
●	PART OF AOO4751.	■	PART OF AJE4758.	◆	PART OF ANM4767.
○	PART OF A004394.	□	PART OF AJE4411.	◇	PART OF APQ4775.
▼	PART OF APS4684.	▲	PART OF AIC3164.		

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

ANM4784 ENCORE 700 METERING PUMP - PARTS LIST  
Simplex Gearbox Assembly

440.400.000.010C

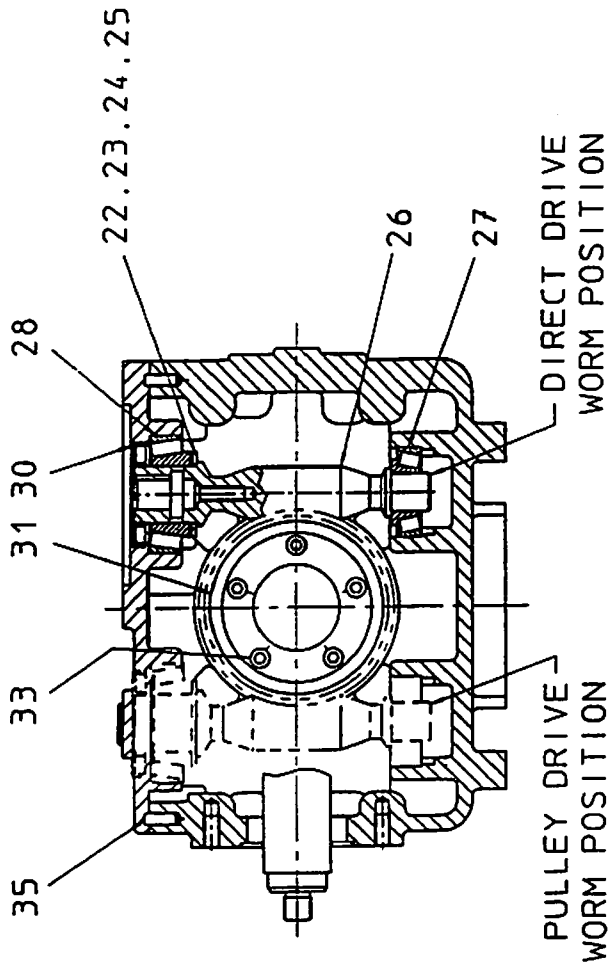
ISSUE 1 6-96



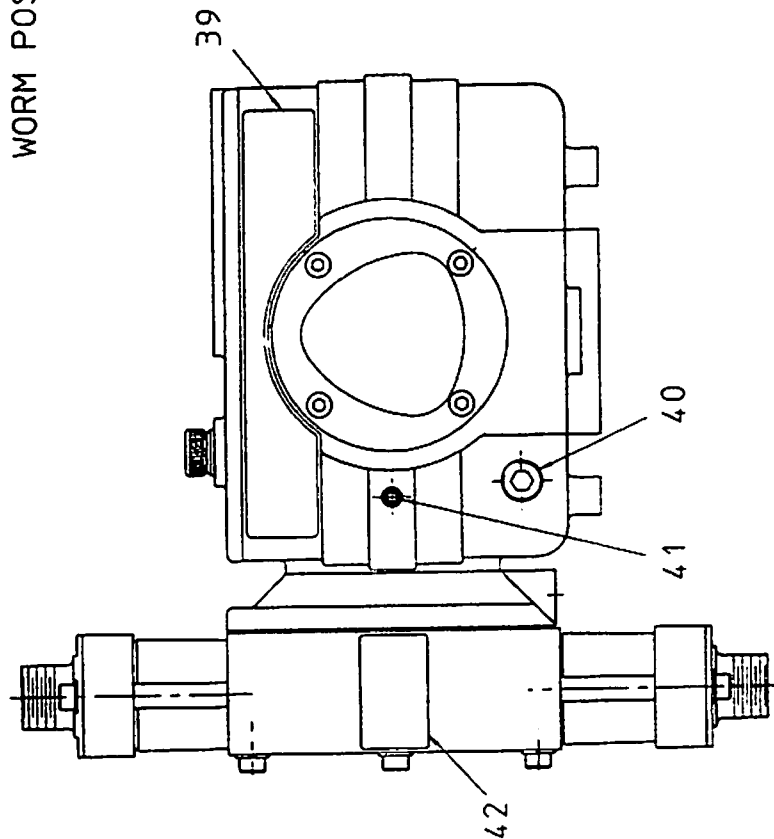
**NOTE:** FOR PARTS LIST SEE DRAWINGS 440.400.000.020C & D.

**AAA1445 ENCORE 700 METERING PUMP - PARTS  
Double Simplex Gearbox Assembly**

**440.400.000.020A  
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ROTATED 90° CW  
 (SHOWN WITHOUT MOTOR AND PULLEYS)



NOTE: FOR PARTS LIST SEE DRAWINGS 440.400.000.020C & D.

AAA1445 ENCORE 700 METERING PUMP - PARTS  
 Double Simplex Gearbox Assembly

440.400.000.020B

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KEY NO.	PART NO.	QTY.	DESCRIPTION
⊗	AJA4780	1	O-RING (156) BUNA-N
⊗	AMG3442	2	BEARING, TPRL, 20 x 47 x 15.25
⊗	ARQ5679	1	CONROD
⊗	AIC4878	1	TAIL BUSHING
●	AKG5547	1	PRELOAD NUT
●	ALE4774	1	O-RING (152) BUNA-N
▲	AXS3656	4	CAP SCR., M8 x 20, SOCK. HD., 316SS
⊗	ARQ3426	1	BEARING, ANGC, 17 x 40 x 17.5
⊗	AVM3239	1	WASHER, OVERSIZED OD, M8
●	AXS3656	1	CAP SCR., M8 x 20, SOCK. HD., 316SS
▲	ANI4750	1	KNOB
⊗	AIC4016	1	CARRIER, BEARING
⊗	AJE5116	1	ADJUSTER, BEARING
▲	AAA2382	3	SET SCR., M6 x 10, FLAT, SKT., NYL., 316
⊗	AQO4757	1	O-RING (141) BUNA-N
⊗	AKG4860	1	HOUSING
⊗	AOO4043	1	LABEL
18	◆ APS4845	1	ECCENTRIC SHAFT, 4.8 MM STROKE
	OR		
	◆ ALI4852	1	ECCENTRIC SHAFT, 9.6 MM STROKE
⊗	AKG4976	1	O-RING (332) BUNA-N
20	◆ AIA4800	1	SHEAVE, 4.8 MM STROKE
	OR		
	◆ AIA4795	1	SHEAVE, 9.6 MM STROKE
⊗	ASG3256	1	DOWEL PIN 20 x 40 (MM) M6
⊗	AAA1373	1	SHIM (.79 MM THICK)
⊗	AAA1370	1	SHIM (2.3 MM THICK)
⊗	AAA1376	1	SHIM (3.18 MM THICK)
⊗	AAA1388	2	SHIM (.13 MM THICK)

**NOTE:**

⊗ PART OF AOO4751.  
◆ PART OF ANM4767.

⊗ PART OF AAA4385.  
▲ PART OF AIC3164.  
◆ PART OF APQ4775.

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

**AAA1445 ENCORE 700 METERING PUMP - PARTS LIST**  
Double Simplex Gearbox Assembly

440.400.000.020C

ISSUE 1 6-96

KEY NO.	PART NO.	QTY.	DESCRIPTION
26	○ANI3350 OR □AMG3357 OR ▼AMG3362	1 1 1	WORM SHAFT, RATIO 12, 56C WORM SHAFT, RATIO 24, 56C WORM SHAFT, RATIO 48, 56C
■ 27	AMG3448	1	BEARING, TPRL, 20 x 47 x 15.25 MM
■ 28	AIC4251	1	BEARING, TPRL, 30 x 62 x 21.25 MM
● 29	ARQ4767	1	O-RING (138) BUNA-N
■ 30	ALI3193	1	OIL SEAL 30 x 55 x 7, BUNA-N
31	○AOK3192 OR □ARQ3199 OR ▼AKC3205	1 1 1	WORM GEAR, RATIO 12 WORM GEAR, RATIO 24 WORM GEAR, RATIO 48
● 32	AJE4035	1	CROSSHEAD, DIAPHRAGM
■ 33	AUK3561	5	SCR. CAP, M6 x 20, SOCK. HD., 316SS
■ 34	APQ5142	1	GEARBOX, SIMPLEX
■ 35	ATI3247	2	DOWEL PIN, 6 x 16, M6
■ 36	AJA5697	1	CONNECTION, DPLEX
■ 37	AXS3656	8	CAP SCR., M8 x 20, SOCK. HD., 316SS
■ 38	AKG4783	2	BUSHING DRIVE, DSPLEX
● 39	AAA3769	1	WARNING LABEL
● 40	AHS4653	1	PLUG, R1/2 SOCKET HEAD
● 41	AAC4634	1	PLUG, SOCKET, SCREW R1/8, 316SS
● 42	AAA3759	1	WARNING LABEL
▷ 43	APP5655	1	BREATHER, CAP
▷ 44	AOK5685	1	COVER, GEARBOX, DPLEX
▷ 45	AXS3656	6	CAP SCREW, M8 x 20, SOCK. HD., 316SS
■ 46	ALI5148	1	GEARBOX, DOUBLE SIMPLEX
■ 47	AMK4076	1	COUPLING, RIGID, DSPLEX
■ 48	AJA4780	1	O-RING (156) BUNA-N
■ 49	ATI3361	1	KEY, 8 x 7/63

NOTE:

- |   |                  |   |                  |
|---|------------------|---|------------------|
| ● | PART OF AOO4751. | ■ | PART OF AAA4385. |
| ○ | PART OF AOO4394. | □ | PART OF AJE4411. |
| ▼ | PART OF APS4684. | ▷ | PART OF AAA4394. |

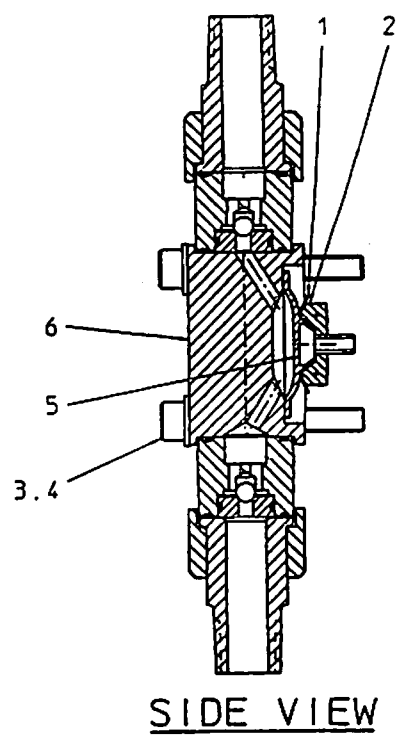
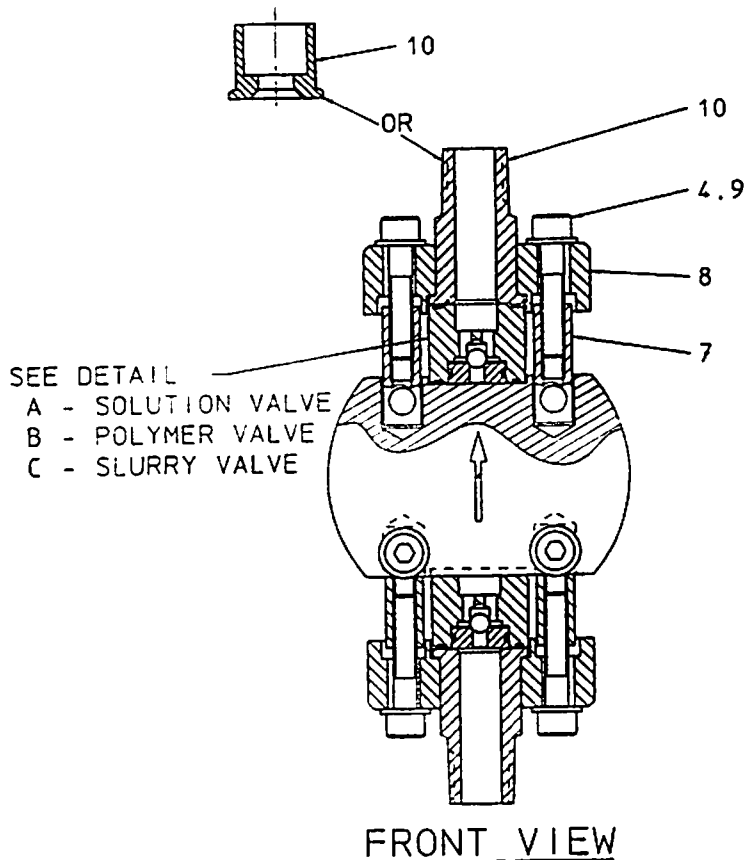
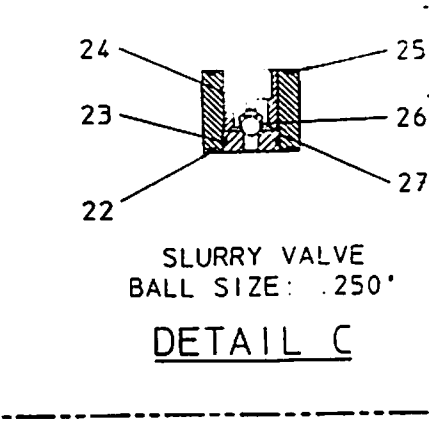
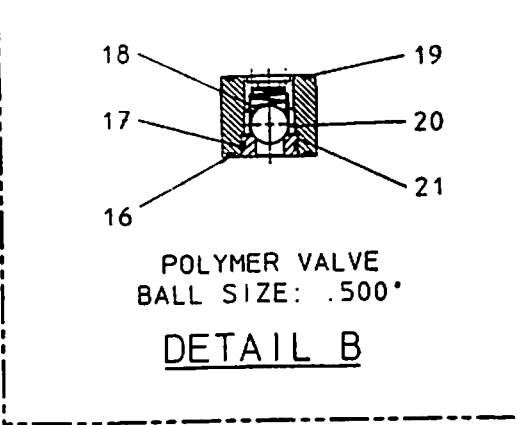
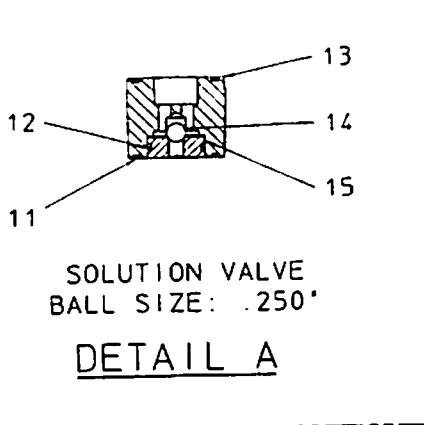
WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS

AAA1445 ENCORE 700 METERING PUMP - PARTS LIST  
Double Simplex Gearbox Assembly

440.400.000.020D

ISSUE 1 6-96



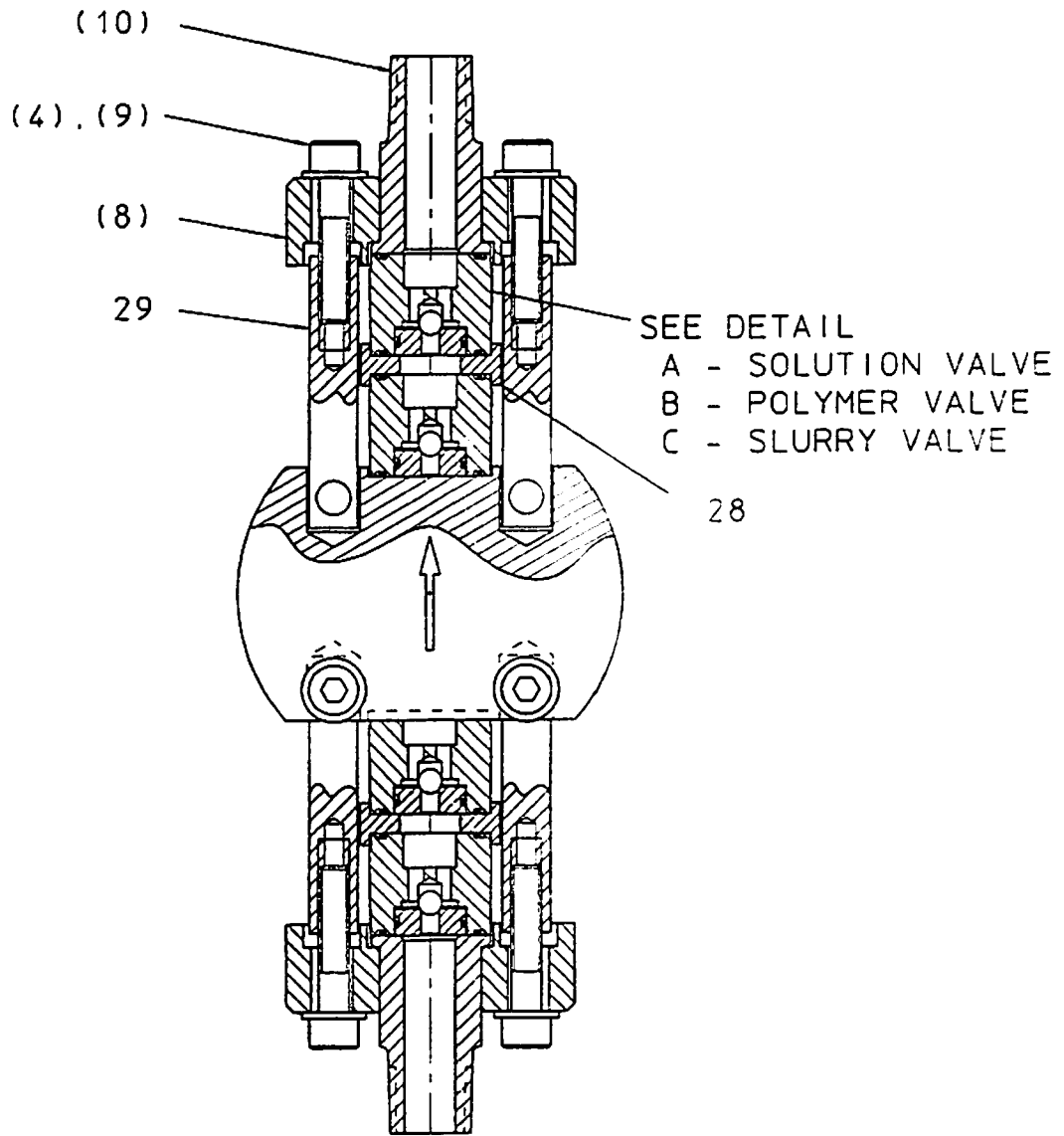


**NOTE:** FOR PARTS LIST SEE DWG. 440.050.010.010C.

1-3/8" CARTRIDGE LIQUID END - PARTS

440.050.010.010A

ISSUE 0 6-95



SOLUTION  
 DOUBLE BALL VALVE

BALL SIZE: .250"

NOTE: ( ) INDICATES REFERENCED PARTS.

1-3/8" CARTRIDGE LIQUID END - PARTS

440.050.010.010B

ISSUE 0 6-95

KEY NO.	PART NO.	QTY.	DESCRIPTION
■	1	2	ALI 3455 HOUSING
■	2	2	AMS 3988 BALL, .375", GLASS
■	3	2	AIA 3596 O-RING (008) VITON, 4.47 x 1.78 MM
■	4	2	APQ 3916 O-RING, VITON, 8 x 1.5 MM
●	5	1	ALI 5124 RING, BACKUP, 1.375" DIAPHRAGM
●	6	1	AKG 5103 DISC, BACKING, 1.375" DIAPHRAGM
○	7	2	AKG 3480 NIPPLE, .37" OD TUBE
○	8	2	AAA 1229 NUT, .37" OD TUBE
○	9	2	AJE 3496 HOLDER, .37" OD TUBE
▲	10	1	AQO 4074 DIAPHRAGM 1.375", TEFLON FACED
▲	11	1	APS 3127 HEAD
■	12	2	AJE 3464 SEAT
● □	13	4	AWO 5392 WASHER, FLAT M8
	14	4	● ARE 3624 SCREW, M8 x 60 SOCK. HD. CAP (ENCORE 100) OR
		4	□ AQA 3639 SCREW, M8 x 100 SOCK. HD. CAP (ENCORE 700)
■	15	4	AKG 3575 O-RING, VITON, 11.3 x 2.4 MM

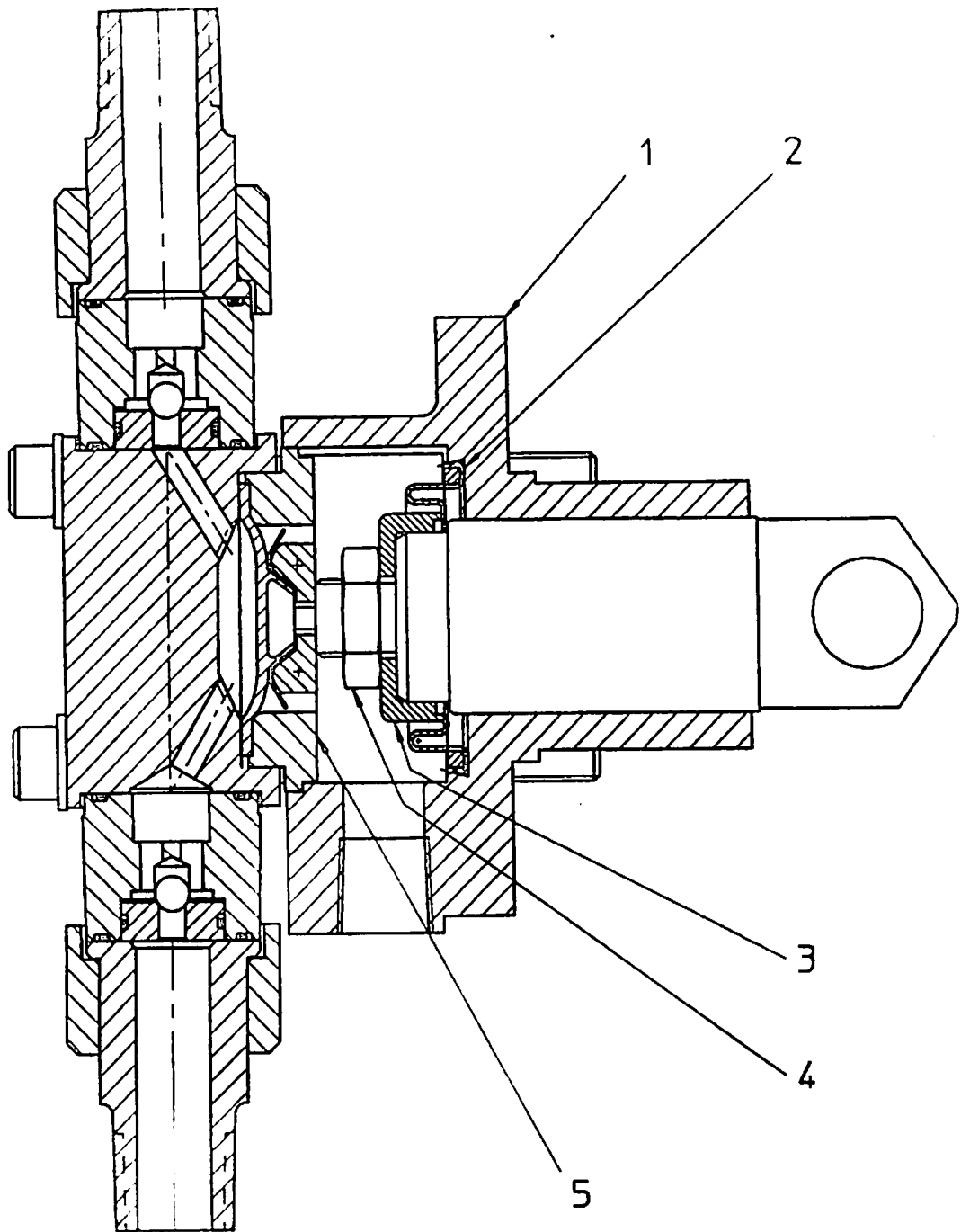
- NOTE:
- PART OF AOO3615.
  - PART OF APS3628.
  - PART OF AAA1187.
  - ▲ PART OF AAA1097.
  - PART OF AAA4334.

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

1-3/8" THREADED LIQUID END - PARTS LIST

440.050.010.020B

ISSUE 2 5-96



KEY NO.	PART NO.	QTY.	DESCRIPTION
● 1	ALE4874	1	ADAPTER, 1.375" DIAPHRAGM
● 2	ASS3911	1	SEAL, BELLOW, CROSSHEAD
● 3	AJA5915	1	CLAMP, DIAPHRAGM, BELLOW
● 4	AMK4863	1	NUT, M14 x 1
● 5	AIA5111	1	SPACER, 1.375" DIAPHRAGM

NOTE: ● PART OF APQ4097.

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

1-3/8" LIQUID END ADAPTER - PARTS

440.400.001.030

ISSUE 0 6-96

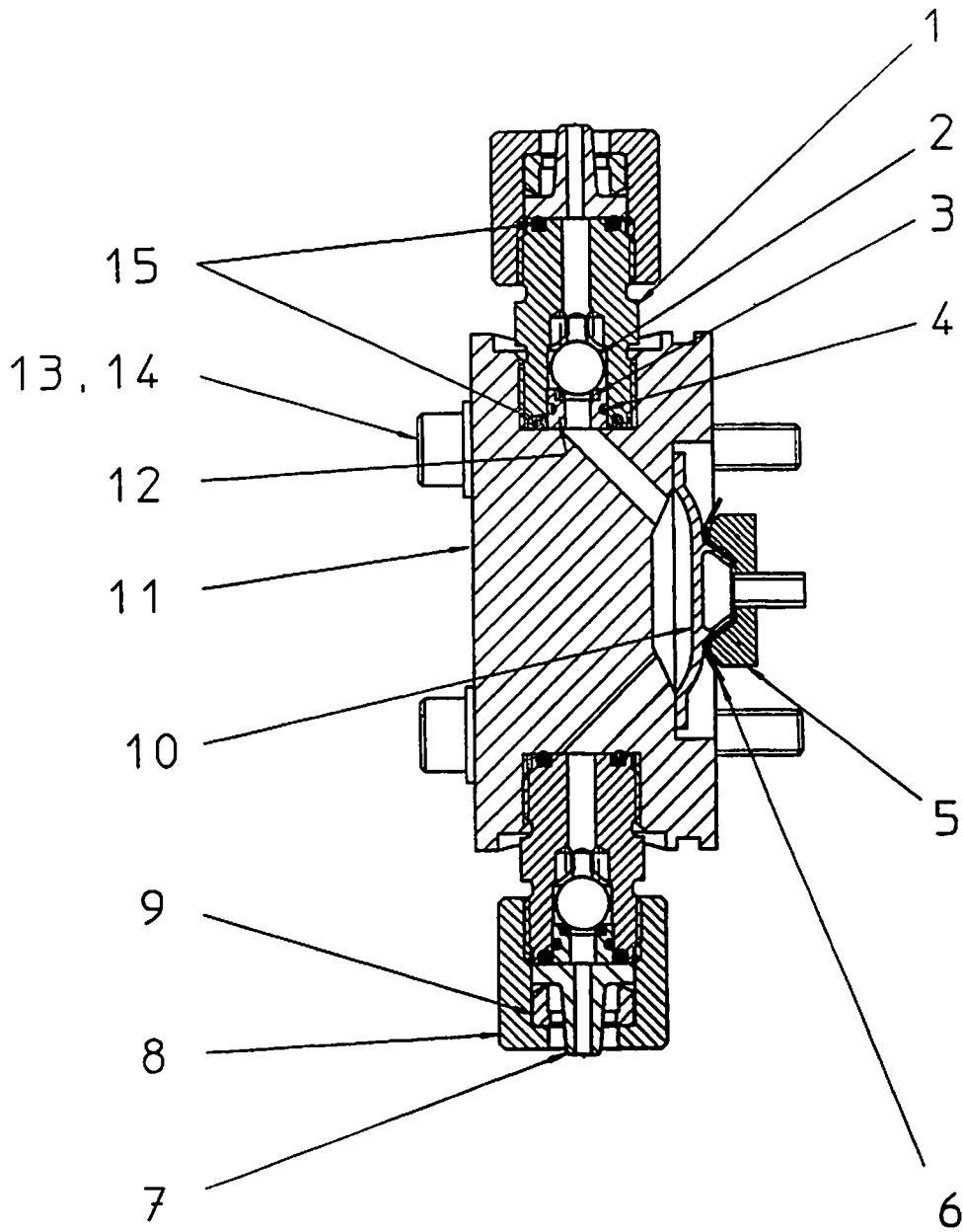
KEY NO.	PART NO.	QTY.	DESCRIPTION
1	AKG 5103	1	DISC, BACKING, 1.375" DIAPHRAGM
2	ALI 5124	1	RING, BACKUP, 1.375" DIAPHRAGM
3	ARE 3624	4	SCREW, CAP, M8 x 60, SOC. HD, 316SS
	OR		
	AQA3639	4	SCREW, CAP, M8 x 100, SOCK. HD., 316SS
4	AWO 5392	8	WASHER, FLAT M8, 316 SS
5	AQO 4074	1	DIAPHRAGM, 1.375"
6	APS 4346	1	HEAD, 1.375" DIAPHRAGM, PVC
	OR		
	AIC 4339	1	HEAD, 1.375" DIAPHRAGM, KYNAR
7	APS 5528	4	EYENUT, VALVE, SB, 1.375" & 2" HEAD
8	AMK 5551	2	CLAMP, 1.375" & 2" HEAD
9	ARE 3591	4	SCREW, CAP, M8 x 40, SOC. HD. 316 SS
10	ALI 4883	2	CONN., M, 1.375" & 2" HEAD, 1/2" NPT, PVC
	OR		
	ALI 4896	2	CONN., M, 1.375" & 2" HEAD, 1/2" NPT, KYNAR
	OR		
	AOO 4969	2	CONN., SOCK. 1-3/8" & 2" HEAD, 1/2 P.
11	AMK 5913	4	O-RING (022) VITON, 25.121 ID x 1.78 MM
	OR		
	AIA 5772	4	O-RING (022) HYPALON, 25.121 ID x 1.78 MM
12	AMK 5919	2	O-RING (016) VITON, 15.60 ID x 1.78 MM
	OR		
	AMK 5705	2	O-RING (016) HYPALON, 15.60ID x 1.78 MM
13	AIA 5148	2	GUIDE, RET, .250" BALL, PVC MOLD.
	OR		
	AOO 5141	2	GUIDE, RET, .250" BALL, KYNAR MOLD.
14	AFM 5842	2	BALL, .250" 316 SS
	OR		
	AHQ 5882	2	BALL, .250" TEFLON
	OR		
	ACG 3695	2	BALL, .250" CERAMIC
15	APQ 5049	2	SEAT, .250" BALL 316 SS
	OR		
	AJE 5015	2	SEAT, .250" BALL PVC
	OR		
	ANM 5023	2	SEAT, .250" BALL KYNAR
16	AMK 5913	4	O-RING (022) VITON, 25.12ID x 1.78 MM
17	AMK 5919	2	O-RING (016) VITON, 15.60ID x 1.78 MM
18	AOO 4265	2	SPRING, .50" BALL
19	ALI 4962	2	GUIDE, RETAINER, .500" BALL, PVC
20	AAA 5905	2	BALL, .500" TEFLON
21	ANM 4382	2	SEAT, .500" BALL, PVC
22	AIA 5772	4	O-RING (022) HYPALON, 25.12MM ID x 1.78MM
23	AMK 5705	2	O-RING (016) HYPALON, 15.60MM ID x 1.78MM
24	AMK 5077	2	GUIDE, .250" BALL, LIFT 1.5MM SST
25	APS 4995	2	RETAINER, .250" BALL, PVC
26	AFM 3749	2	BALL, .250" POLYURETHANE
27	AOO 5055	2	SEAT, .250" CERAMIC
28	APS 4954	2	ADAPTER, .250" & .500" BALL, PVC
	OR		
	AJE 4961	2	ADAPTER, V, .250" & .500" BALL, KYNAR
29	APQ 5533	4	EYENUT, VALVE, DB, 1.375" & 2" HEAD

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

1-3/8" CARTRIDGE LIQUID END - PARTS LIST

440.050.010.010C

ISSUE 1 2-96



SIDE VIEW

**NOTE:** FOR PARTS LIST SEE DWG. 440.050.010.020B.

1-3/8" THREADED LIQUID END - PARTS

440.050.010.020A

ISSUE 0 6-95

KEY NO.	PART NO.	QTY.	DESCRIPTION
1	AMQ 4025	2	BALL, .500", GLASS
2	AMK 3450	2	HOUSING
3	ANM 3591	2	O-RING, VITON, 8 x 2 MM
4	ALI 3911	2	O-RING, VITON, 11 x 1.5 MM
5	AAA 3323	1	DISC, BACKING, 2" DIAPHRAGM
6	AJE 4030	1	RING, BACKUP, 2" DIAPHRAGM
7	AIC 5296	1	SPACER, 2" DIAPHRAGM
8	AAA 1490	2	NIPPLE, .50" OD TUBE
9	AKG 3500	2	NUT, 16MM OD TUBE
10	AAA 1496	2	HOLDER, .50" OD TUBE
11	AMK 3122	1	HEAD
12	AMG 4773	1	DIAPHRAGM, 2" TEFLON FACED
13	⊕ AAA 1044	6	SCREW, CAP, M8 x 65 SOCK. HD., 316SS (ENCORE 100)
	OR		
	□ AVM 3618	6	SCREW, CAP, M8 x 60 SOCK. HD., 316SS (ENCORE 700)
14	AWO 5392	6	WASHER, FLAT M8, 316SS
15	AMK 3460	2	SEAT
16	APQ 3604	4	O-RING (113) VITON, 13.94 x 2.62 MM
17	AAA 4331	2	BALL STOP

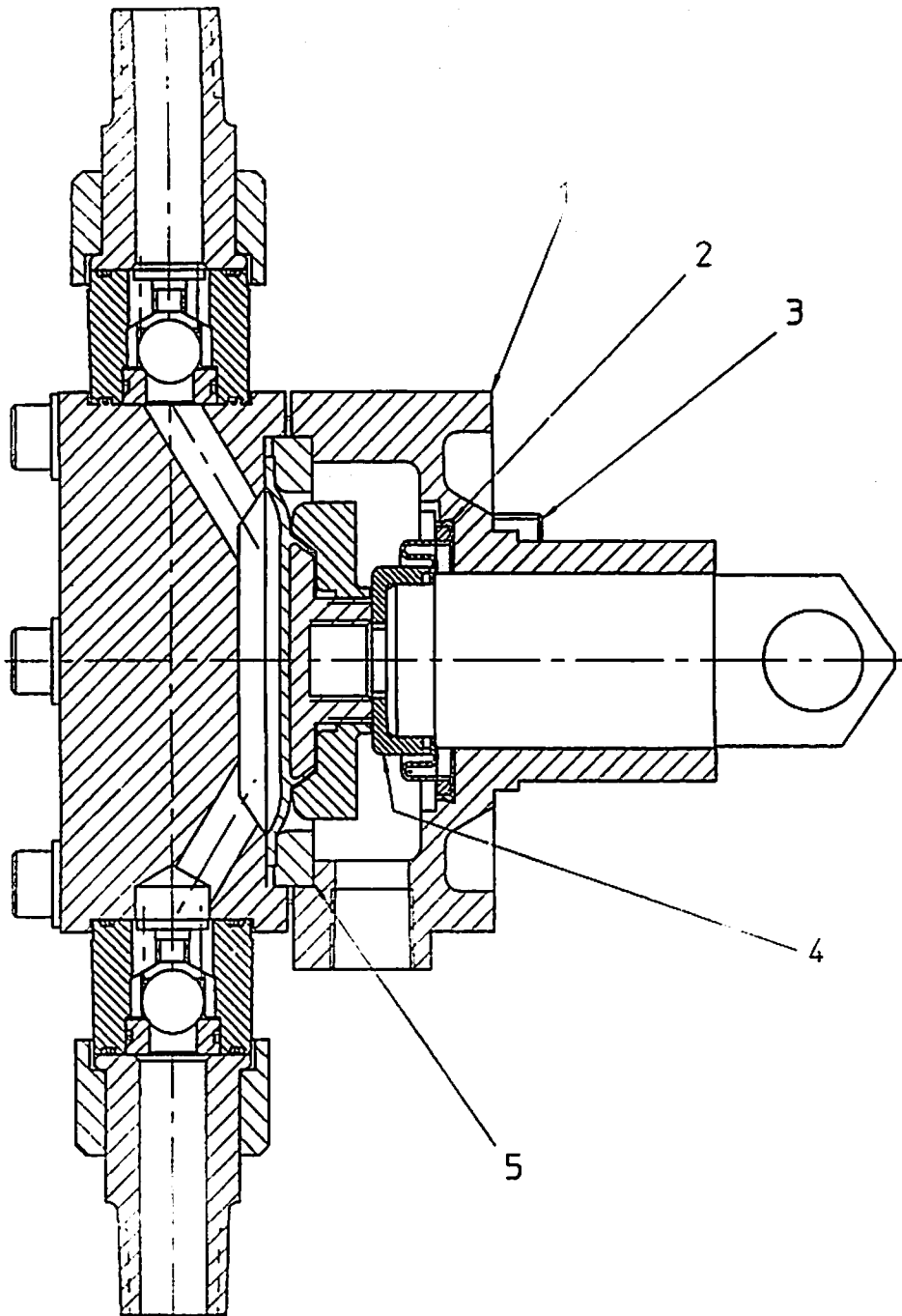
**NOTE:** ⊕ PART OF AOO3609.  
 ⊕ PART OF AOO3623.  
 ○ PART OF AAA1505.  
 ▲ PART OF AAA1499.  
 □ PART OF AAA4337.

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

2" THREADED LIQUID END - PARTS LIST

440.050.010.040B

ISSUE 1 2-96



KEY NO.	PART NO.	QTY.	DESCRIPTION
⊕ 1	AQO5451	1	ADAPTER, 2" DIAPHRAGM
⊕ 2	ASS3911	1	SEAL, BELLOW, CROSSHEAD
⊕ 3	AXS3583	4	SCREW, CAP, M8 x 25, SOCK. HD., 316SS
⊕ 4	AJA5915	1	CLAMP, DIAPHRAGM, BELLOW
⊕ 5	AIC5296	1	SPACER, 2" DIAPHRAGM

NOTE: ⊕ PART OF APQ4101.

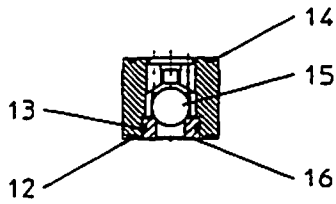
WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

### 2" LIQUID END ADAPTER - PARTS

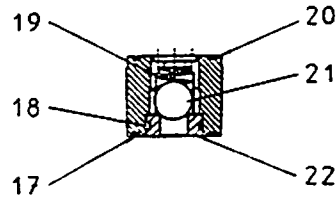
440.400.001.040

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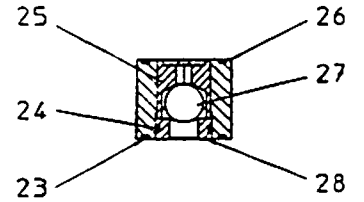




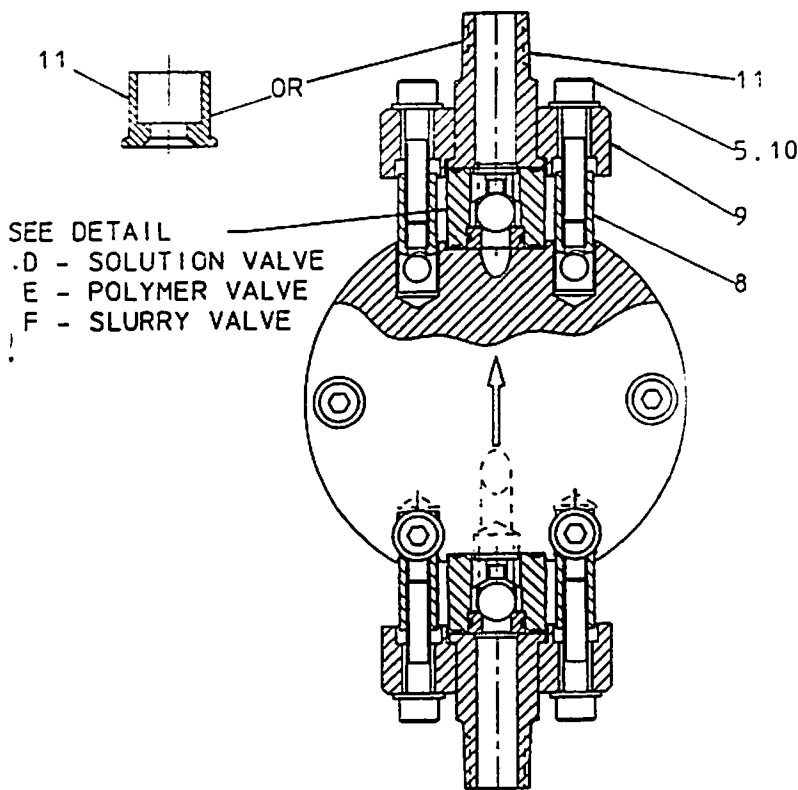
SOLUTION VALVE  
BALL SIZE: 0.5"  
DETAIL D



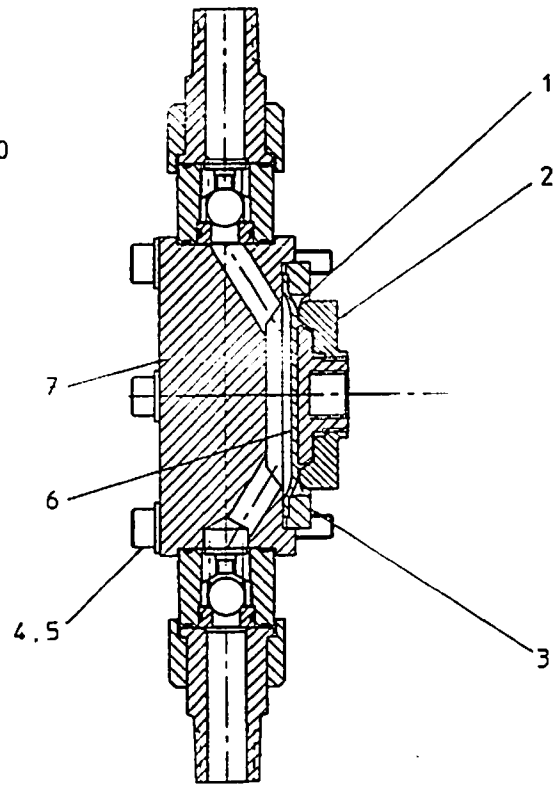
POLYMER VALVE  
BALL SIZE: 0.5"  
DETAIL E



SLURRY VALVE  
BALL SIZE: 0.5"  
DETAIL F



FRONT VIEW



SIDE VIEW

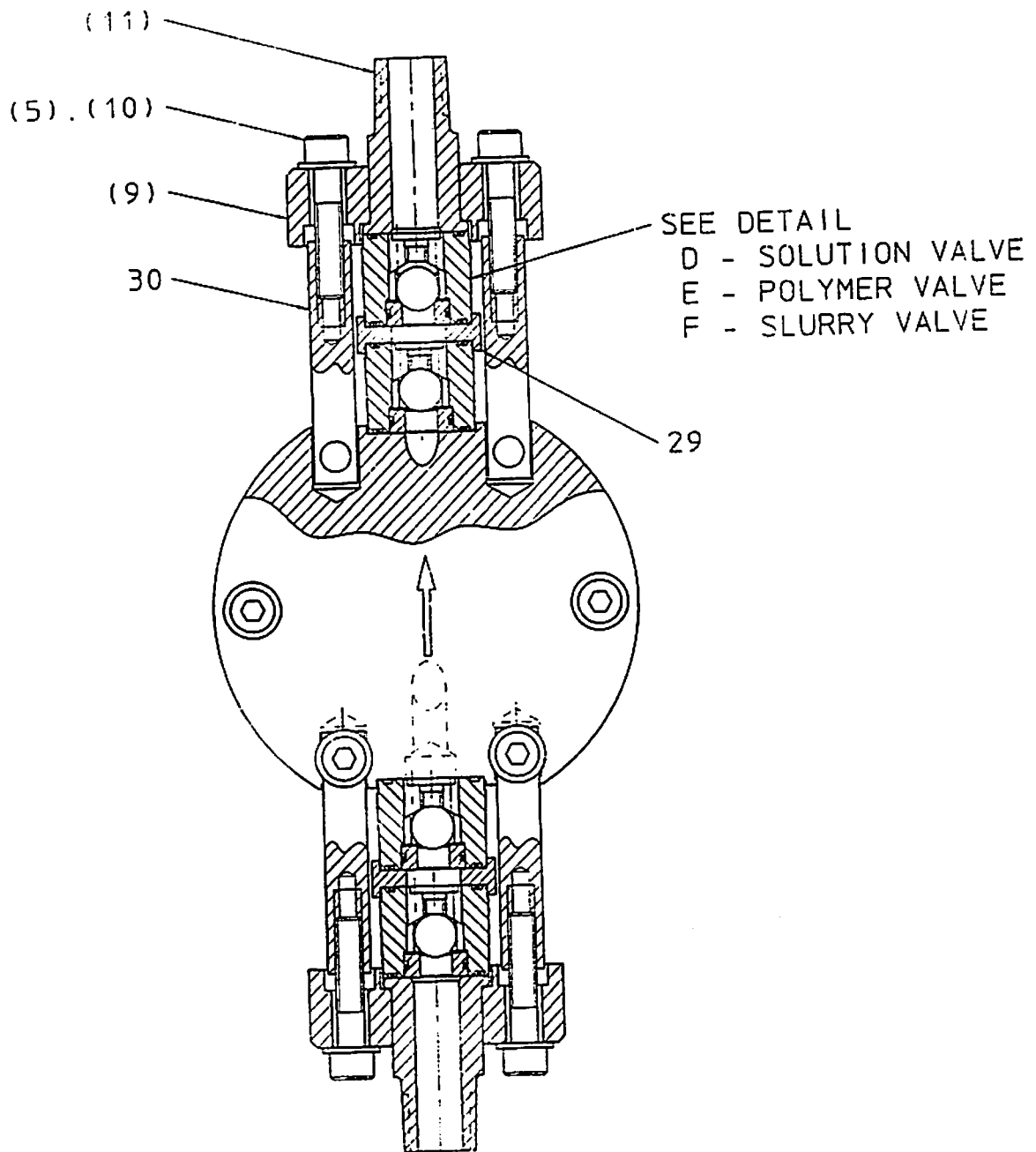
SEE DETAIL  
D - SOLUTION VALVE  
E - POLYMER VALVE  
F - SLURRY VALVE

NOTE: FOR PARTS LIST SEE DWG. 440.050.010.030C.

2" CARTRIDGE LIQUID END - PARTS

440.050 010.030A

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SOLUTION  
 DOUBLE BALL VALVE  
 BALL SIZE: 0.5"

NOTE: ( ) INDICATES REFERENCED PARTS.

2" CARTRIDGE LIQUID END - PARTS

440.050.010.030B

ISSUE 0 6-95

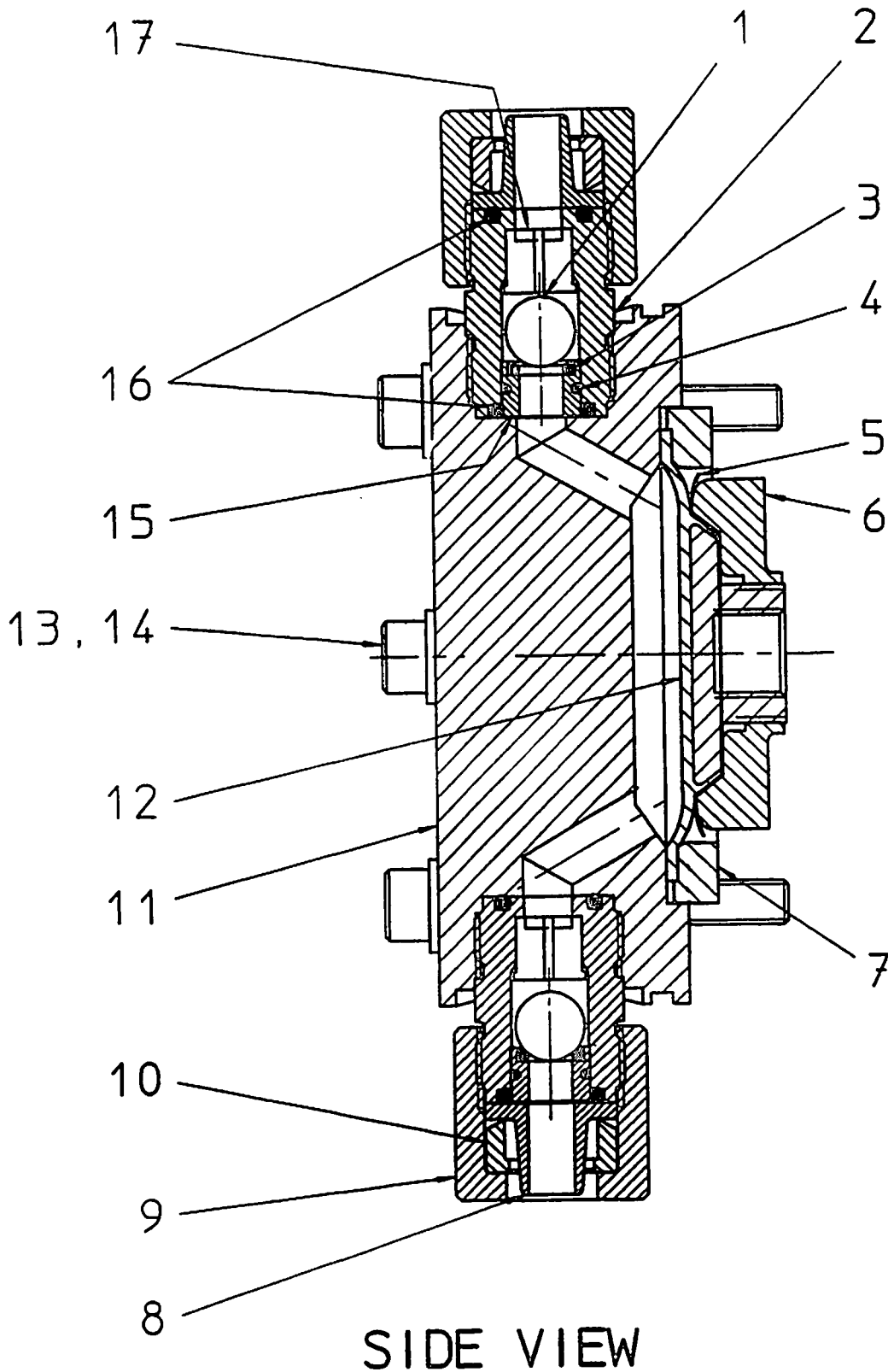
KEY NO.	PART NO.	QTY.	DESCRIPTION
1	AAA 3323	1	DISC, BACKING, 2" DIAPHRAGM
2	AJE 4030	1	RING, BACKUP, 2" DIAPHRAGM
3	AIC 5296	1	SPACER, 2" DIAPHRAGM
4	ARE 3624	6	SCREW, CAP, M8 x 70, SOCK. HD., 316SS
	OR		
	AVM 3618	6	SCREW, CAP, M8 x 60, SOCK. HD., 316SS
5	AWO 5392	10	WASHER, FLAT M8, 316SS
6	AMG 4773	1	DIAPHRAGM, 2"
7	AOO 5277	1	HEAD, 2" DIAPHRAGM, PVC
	OR		
	APQ 5281	1	HEAD, 2" DIAPHRAGM, KYNAR
8	APS 5528	4	EYENUT, VALVE, SB, 1.375" & 2" HEAD
9	AMK 5551	2	CLAMP, 1.375" & 2" HEAD
10	ARE 3591	4	SCREW, M8 x 40, SOCK. HD., 316SS
11	ALI 4883	2	CONN, M, 1.375" & 2" HEAD, 1/2" NPT, PVC
	OR		
	ALI 4896	2	CONN, M, 1.375" & 2" HEAD, 1/2" NPT, KYNAR
	OR		
	AOO 4969	2	CONN, SOCK., 1-3/8" & 2" HEAD, 1/2P.
12	AIA 5772	4	O-RING (022) HYPALON, 25.12MM ID x 1.78MM
	OR		
	AMK 5913	4	O-RING (022) VITON, 25.12MM ID x 1.78MM
13	AMK 5705	2	O-RING (016) HYPALON, 15.60MM ID x 1.78MM
	OR		
	AMK 5919	2	O-RING (016) VITON, 15.60MM ID x 1.78MM
14	AKG 5133	2	GUIDE, RETAINER, .500" BALL, PVC
	OR		
	AOO 5050	2	GUIDE, RETAINER, .500" BALL, KYNAR
15	ABE 5824	2	BALL, .500" 316SS
	OR		
	AAA 5905	2	BALL, .500" TEFLON
	OR		
	AAC 3580	2	BALL, .500" CERAMIC
16	AIC 4369	2	SEAT, .500" BALL 316SS
	OR		
	ANM 4382	2	SEAT, .500" BALL PVC
	OR		
	AIC 4376	2	SEAT, .500" BALL KYNAR
17	AMK 5913	4	O-RING (022) VITON, 25.12MM ID x 1.78MM
18	AMK 5919	2	O-RING (016) VITON, 15.60MM ID x 1.78MM
19	AOO 4265	2	SPRING, .50" BALL
20	ALI 4962	2	GUIDE, RETAINER, .500" BALL, PVC
21	AAA 5905	2	BALL, .500" TEFLON
22	ANM 4382	2	SEAT, .500" BALL, PVC
23	AIA 5772	4	O-RING (022) HYPALON, 25.12MM ID x 1.78MM
24	AMK 5705	2	O-RING (016) HYPALON, 15.60MM ID x 1.78MM
25	AIA 5317	2	GUIDE, .500" BALL, 316SS
26	APS 4995	2	RETAINER, .500" BALL PVC
27	AEK 5764	2	BALL, .500" POLYURETHANE
28	AMK 4354	2	SEAT, .500" BALL, CERAMIC
29	APS 4954	2	ADAPTER, .250" & .500" BALL, PVC
	OR		
	AJE 4961	2	ADAPTER, V, .250" & .500" BALL, KYNAR
30	APQ 5533	4	EYENUT, VALVE, DB 1.375" & 2" HEAD

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

2" CARTRIDGE LIQUID END - PARTS LIST

440.050.010.030C

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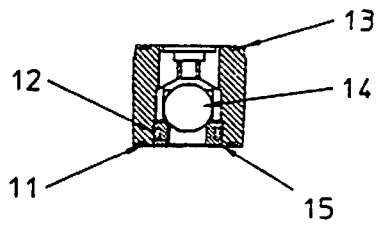


**NOTE:** FOR PARTS LIST SEE DWG. 440.050.010.040B.

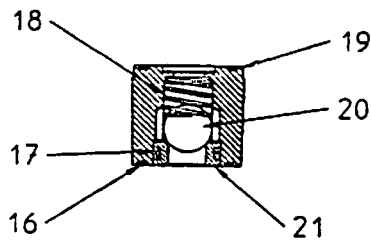
**2" THREADED LIQUID END - PARTS**

**440.050.010.040A**

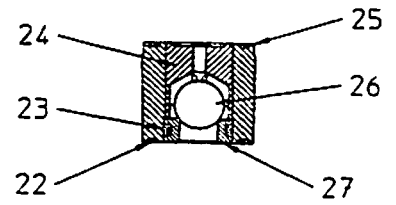
ISSUE 0 6-95



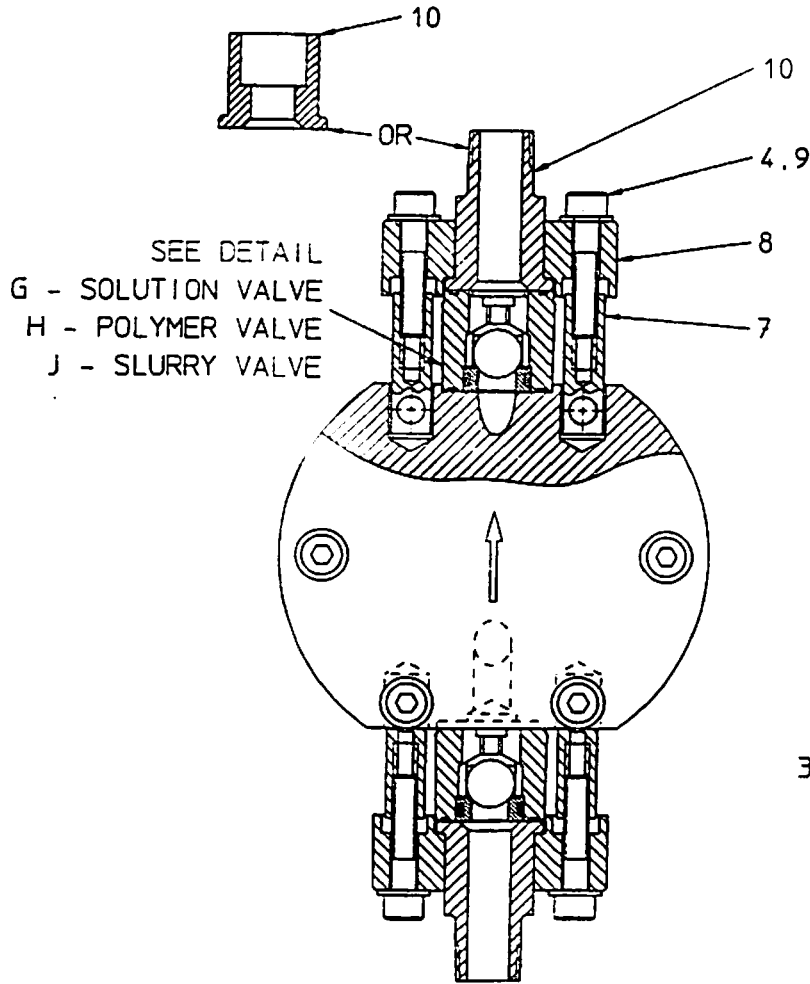
SOLUTION VALVE  
BALL SIZE: .625"  
DETAIL G



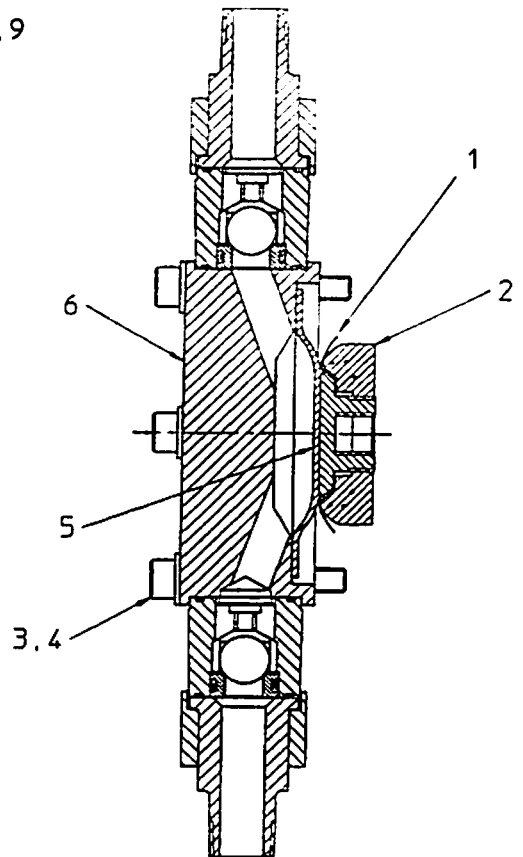
POLYMER VALVE  
BALL SIZE: .625"  
DETAIL H



SLURRY VALVE  
BALL SIZE: .625"  
DETAIL J



FRONT VIEW



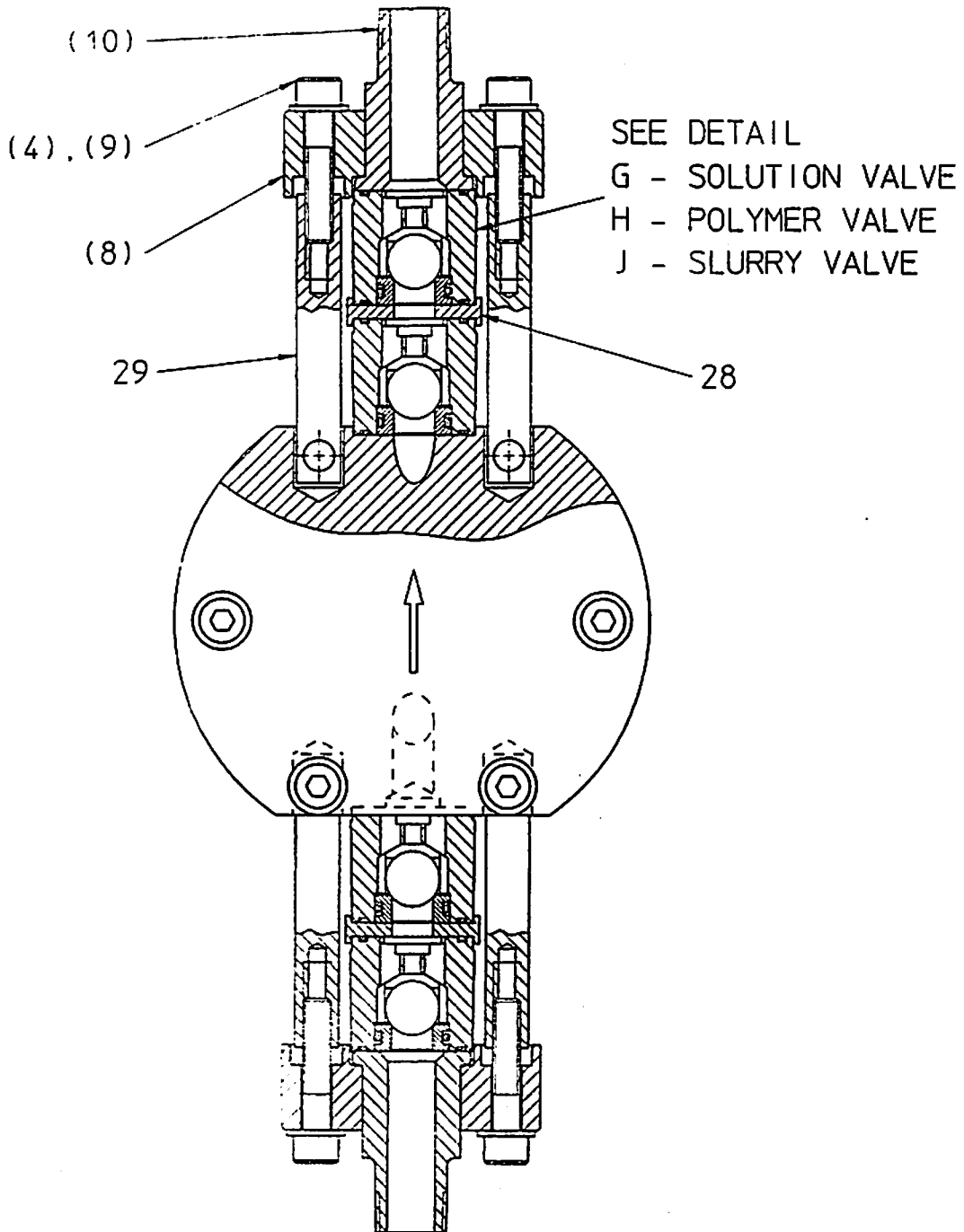
SIDE VIEW

**NOTE:** FOR PARTS LIST SEE DWG. 440.400.010.010C & D.

3° LIQUID END - PARTS

440.400.010.010A

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SOLUTION  
 DOUBLE BALL VALVE  
 BALL SIZE: .625"

NOTE: FOR PARTS LIST SEE DWG. 440.400.010.010C & D.

3" LIQUID END - PARTS

440.400.010.010B

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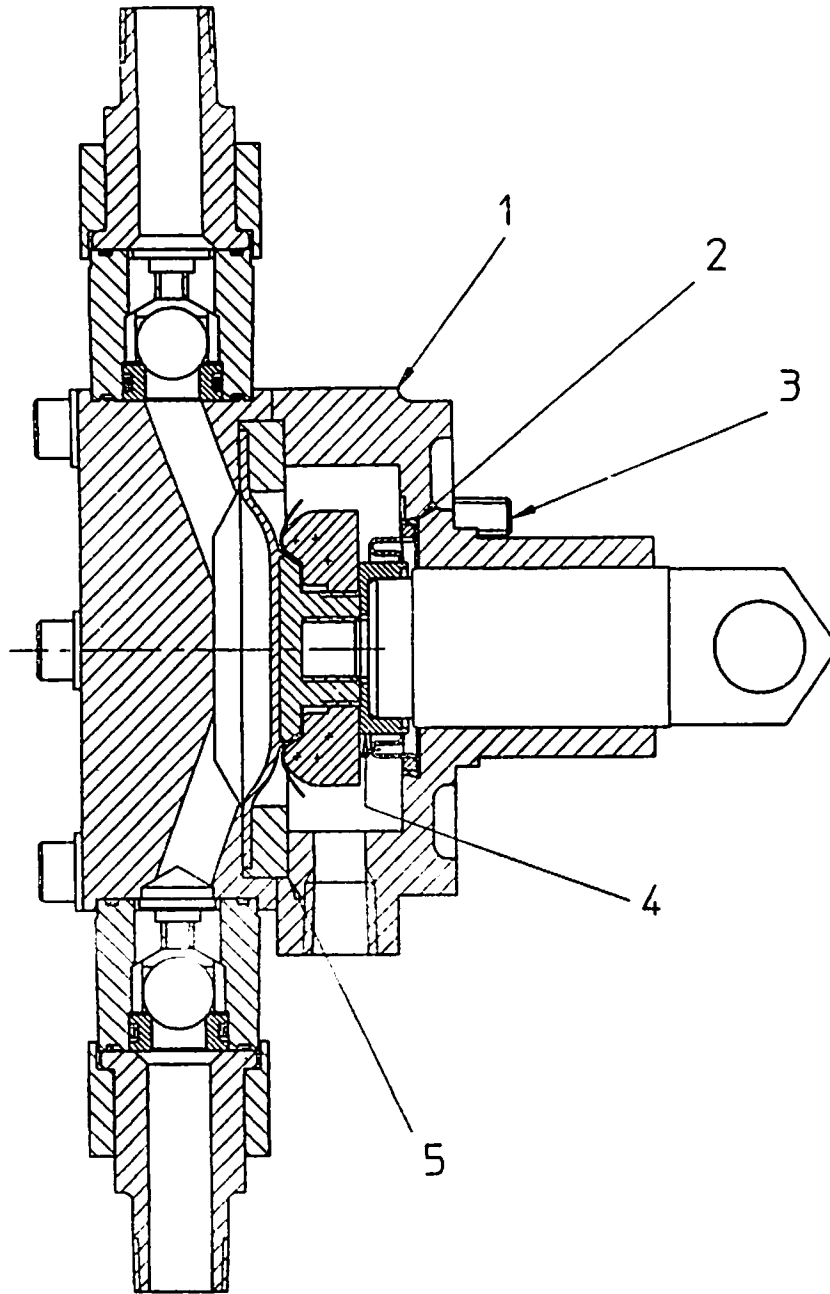
KEY NO.	PART NO.	QTY.	DESCRIPTION
1	AAA3320	1	DISC, BACKING
2	APP4035	1	RING, BACKUP
3	AVM3599	6	CAP SCREW, M8 x 55, SOCK. HD., 316SS
4	AWO5392	10	WASHER, FLAT, M8, 316SS
5	AQO5748	1	3" DIAPHRAGM
6	ALI5254	1	HEAD, PVC
	OR		
	APQ5268	1	HEAD, KYNAR
7	APQ5538	4	EYENUT, VALVE, SB
8	AIC5568	2	CLAMP
9	ARE3591	4	CAP SCREW, M8 x 40, SOCK. HD., 316SS
10	AIA4133	2	CONN., M, 1/2" NPT, PVC
	OR		
	ANM4255	2	CONN., M, 1/2" NPT, KYNAR
	OR		
	AMK4974	2	CONN., SOCK., 1/2P
11	AJE5881	4	O-RING (024) HYPALON, 28.3 ID x 1.78 MM
	OR		
	AOO5871	4	O-RING (024) VITON, 28.3 ID x 1.78 MM
12	AOO5683	2	O-RING (115) HYPALON, 17.12 ID x 2.62 MM
	OR		
	APQ5924	2	O-RING (115) VITON, 17.12 ID x 2.62 MM
13	AMK5020	2	GUIDE, RETAINER, .625" BALL, PVC
	OR		
	AOO5014	2	GUIDE, RETAINER, .625" BALL, KYNAR
14	AFM5802	2	BALL, .625" 316SS
	OR		
	AEK5860	2	BALL, .625" TEFLON
	OR		
	AAC3514	2	BALL, .625" CERAMIC
15	ANM4397	2	SEAT, .625" BALL, 316SS
	OR		
	AIC4409	2	SEAT, .625" BALL, PVC
	OR		
	AIA4403	2	SEAT, .625" BALL, KYNAR
16	AOO5871	4	O-RING (024) VITON, 28.3 ID x 1.78 MM
17	APQ5924	2	O-RING (115) VITON, 17.12 ID x 2.62 MM
18	ANM4215	2	SPRING, .625" BALL
19	AIA4971	2	GUIDE, RETAINER, .625" BALL, PVC
20	AEK5860	2	BALL, .625", TEFLON
21	AIC4409	2	SEAT, .625" BALL, PVC
22	AJE5881	4	O-RING (024) HYPALON, 28.3 ID x 1.78 MM
23	AOO5683	2	O-RING (115) HYPALON, 17.12 ID x 2.62 MM
24	ALI5332	2	GUIDE, .625" BALL, 316SS
25	AIC4989	2	RETAINER, .625" BALL, PVC
26	AEK5786	2	BALL, .625", POLYURETHANE
27	AKG4390	2	SEAT, .625" BALL, CERAMIC
28	APS4943	2	ADAPTER, .625" BALL, PVC
	OR		
	APQ4948	2	ADAPTER, .625" BALL, KYNAR
29	APQ5542	4	EYENUT, VALVE

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

3" LIQUID END - PARTS LIST

440.400.010.010C

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KEY NO.	PART NO.	QTY.	DESCRIPTION
①	APM5645	1	ADAPTER, 3" DIAPHRAGM
②	ASS3911	1	SEAL, BELLOW, CROSSHEAD
③	AXS3583	4	SCREW, CAP, M8 x 25, SOCK. HD., 316SS
④	AJA5915	1	CLAMP, DIAPHRAGM, BELLOW
⑤	AJE5301	1	SPACER, 3" DIAPHRAGM

NOTE: ● PART OF APS4105.

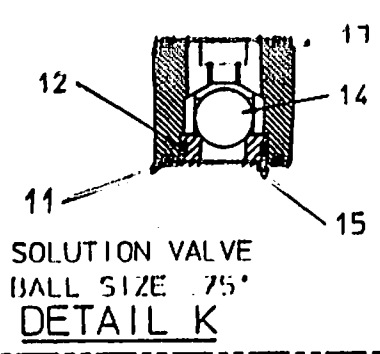
WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

### 3" LIQUID END ADAPTER - PARTS

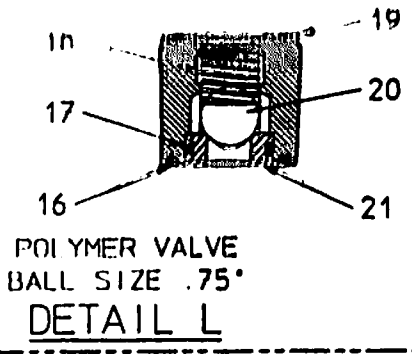
440.400.001.050

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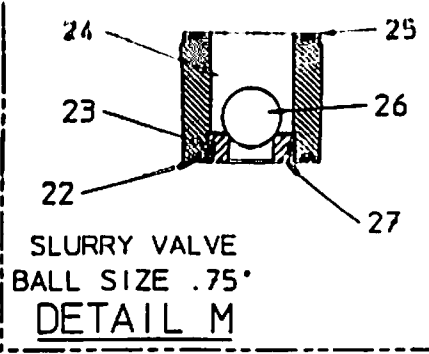




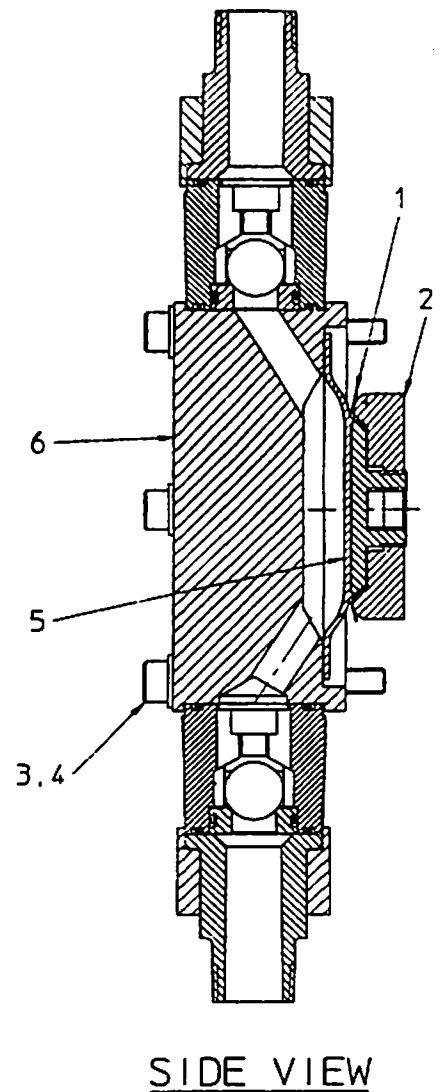
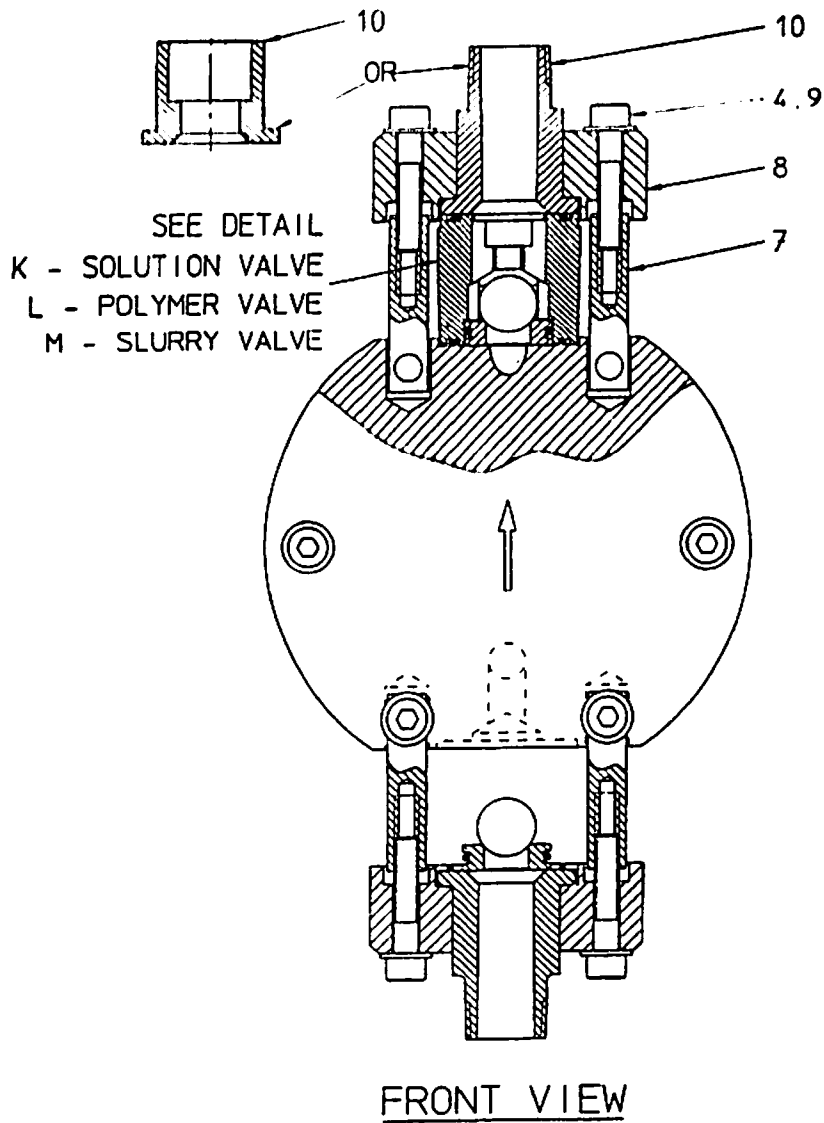
SOLUTION VALVE  
BALL SIZE .75"  
DETAIL K



POLYMER VALVE  
BALL SIZE .75"  
DETAIL L



SLURRY VALVE  
BALL SIZE .75"  
DETAIL M

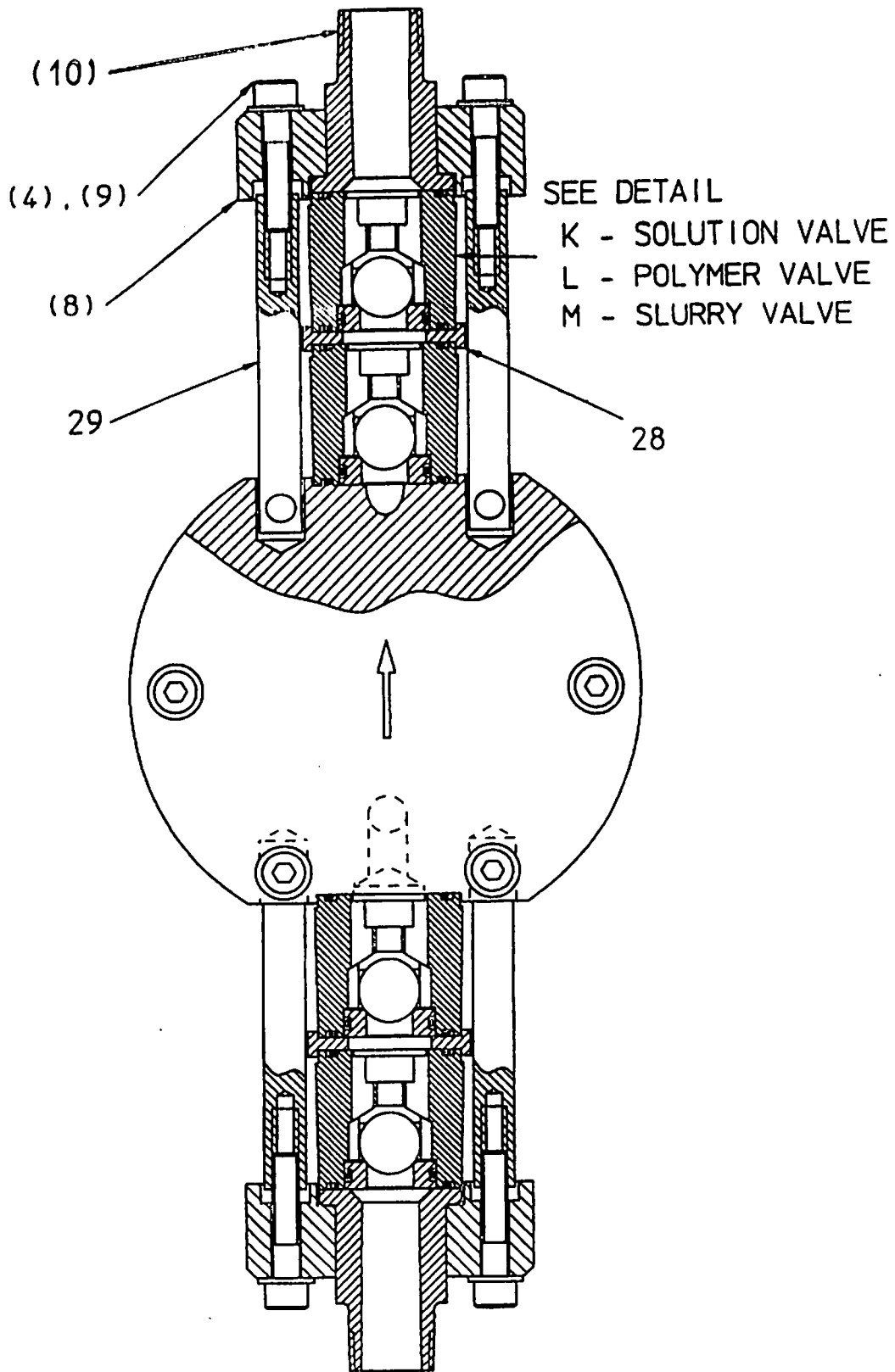


NOTE: FOR PARTS LIST SEE DWG. 440.400.010.020C & D.

4" LIQUID END - PARTS

440.400.010.020A

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**NOTE:** FOR PARTS LIST SEE DWG. 440.400.010.020C & D.

**4° LIQUID END - PARTS**

**440.400.010.020B**

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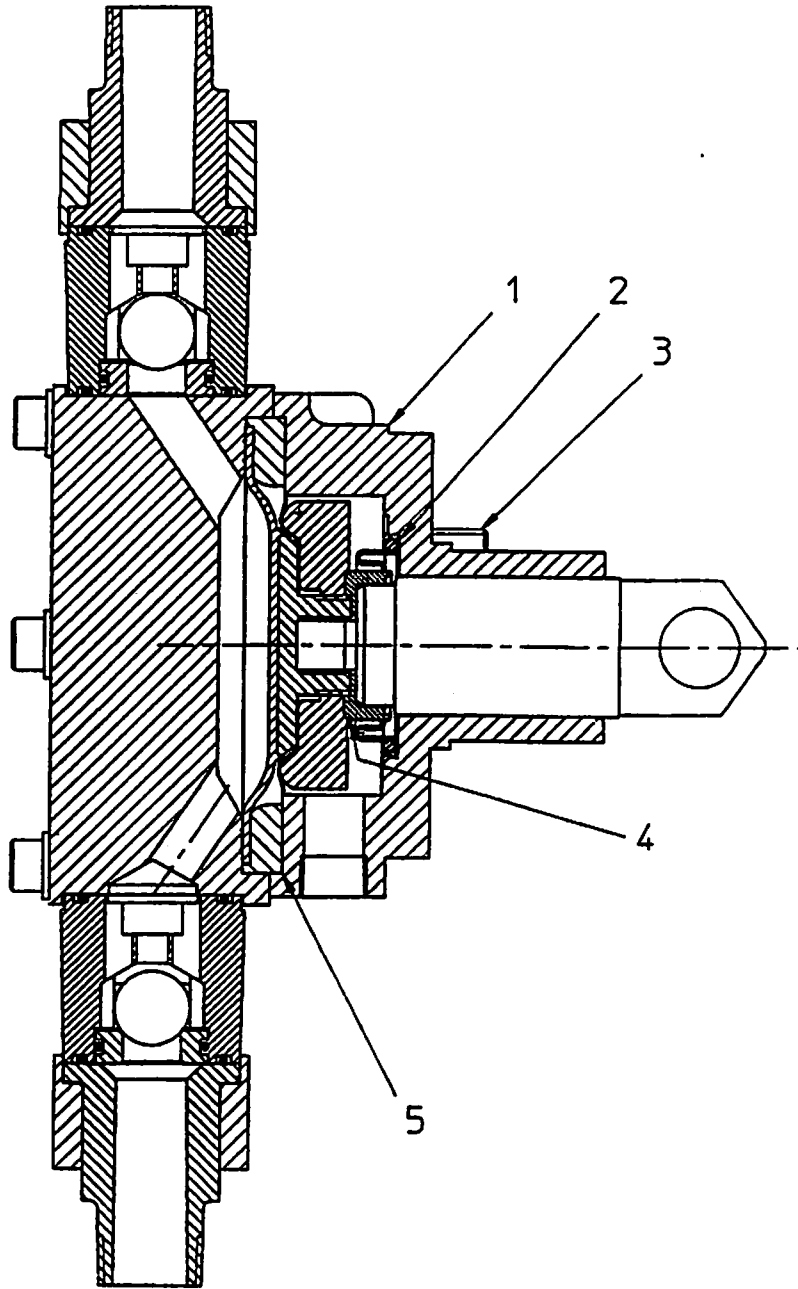
KEY NO.	PART NO.	QTY.	DESCRIPTION
1	AJE4048	1	DISC, BACKING
2	ALJ4039	1	RING, BACKUP
3	ARE3624	6	CAP SCREW, M8 x 70, SOCK. HD., 316SS
4	AWO5392	10	WASHER, FLAT, M8, 316SS
5	ARQ5736	1	4" DIAPHRAGM
6	APQ5186	1	HEAD, PVC
	OR		
	ANM5205	1	HEAD, KYNAR
7	AJE5494	4	EYENUT, VALVE
8	AIA5558	2	CLAMP
9	ARE3591	4	CAP SCREW, M8 x 40, SOCK., HD., 316SS
10	AIC4106	2	CONN., M, 3/4" NPT, PVC
	OR		
	AIA4119	2	CONN., M, 3/4" NPT, KYNAR
	OR		
	APQ4991	2	CONN., SOCK., 3/4P
11	ALI5643	4	O-RING (126) HYPALON, 34.59 ID x 2.62 MM
	OR		
	AMK5934	4	O-RING (126) VITON, 34.59 ID x 2.62 MM
12	AMK5655	2	O-RING (119) HYPALON, 23.47 ID x 2.62 MM
	OR		
	AMK5929	2	O-RING (119) VITON, 23.47 ID x 2.62 MM
13	AIC5037	2	GUIDE, RET., .75" BALL, PVC
	OR		
	AOO5029	2	GUIDE, RET., .75" BALL, KYNAR
14	AHQ3932	2	BALL, .75", 316SS
	OR		
	ACG3819	2	BALL, .75", TEFLON
	OR		
	AAA3656	2	BALL, .75", CERAMIC
15	APQ4708	2	SEAT, .75" BALL, 316SS
	OR		
	APS4721	2	SEAT, .75" BALL, PVC
	OR		
	AIA4715	2	SEAT, .75" BALL, KYNAR
16	AMK5934	4	O-RING (126) VITON, 34.59 ID x 2.62 MM
17	AMK5929	2	O-RING (119) VITON, 34.59 ID x 2.62 MM
18	ALI4255	2	SPRING, .75" BALL
19	ANM3389	2	GUIDE, RETAINER, .75" BALL, PVC
20	ACG3819	2	BALL, .75", PVC
21	APS4721	2	SEAT, .75" BALL, PVC
22	ALI5643	4	O-RING (126) HYPALON, 34.59 ID x 2.62 MM
23	AMK5655	2	O-RING (119) HYPALON, 23.47 ID x 2.62 MM
24	APQ5338	2	GUIDE, .75" BALL, 316SS
25	ANM4983	2	RETAINER, .75" BALL, PVC
26	AFM3860	2	BALL, .75" POLYURETHANE
27	AMK4698	2	SEAT, .75" BALL, CERAMIC
28	AKG4927	2	ADAPTER, V, .75" BALL, PVC
	OR		
	AKG4933	2	ADAPTER, V, .75" BALL, KYNAR
29	AIA5499	4	EYENUT, VALVE, DB

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

4" LIQUID END - PARTS LIST

440.400.010.020C

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KEY NO.	PART NO.	QTY.	DESCRIPTION
● 1	AKC5653	1	ADAPTER
● 2	ASS3911	1	SEAL, BELLOW, CROSSHEAD
● 3	AXS3583	4	CAP SCREW, M8 x 25, SOCK. HD., 316SS
● 4	AJA5915	1	CLAMP
● 5	AJE5306	1	SPACER

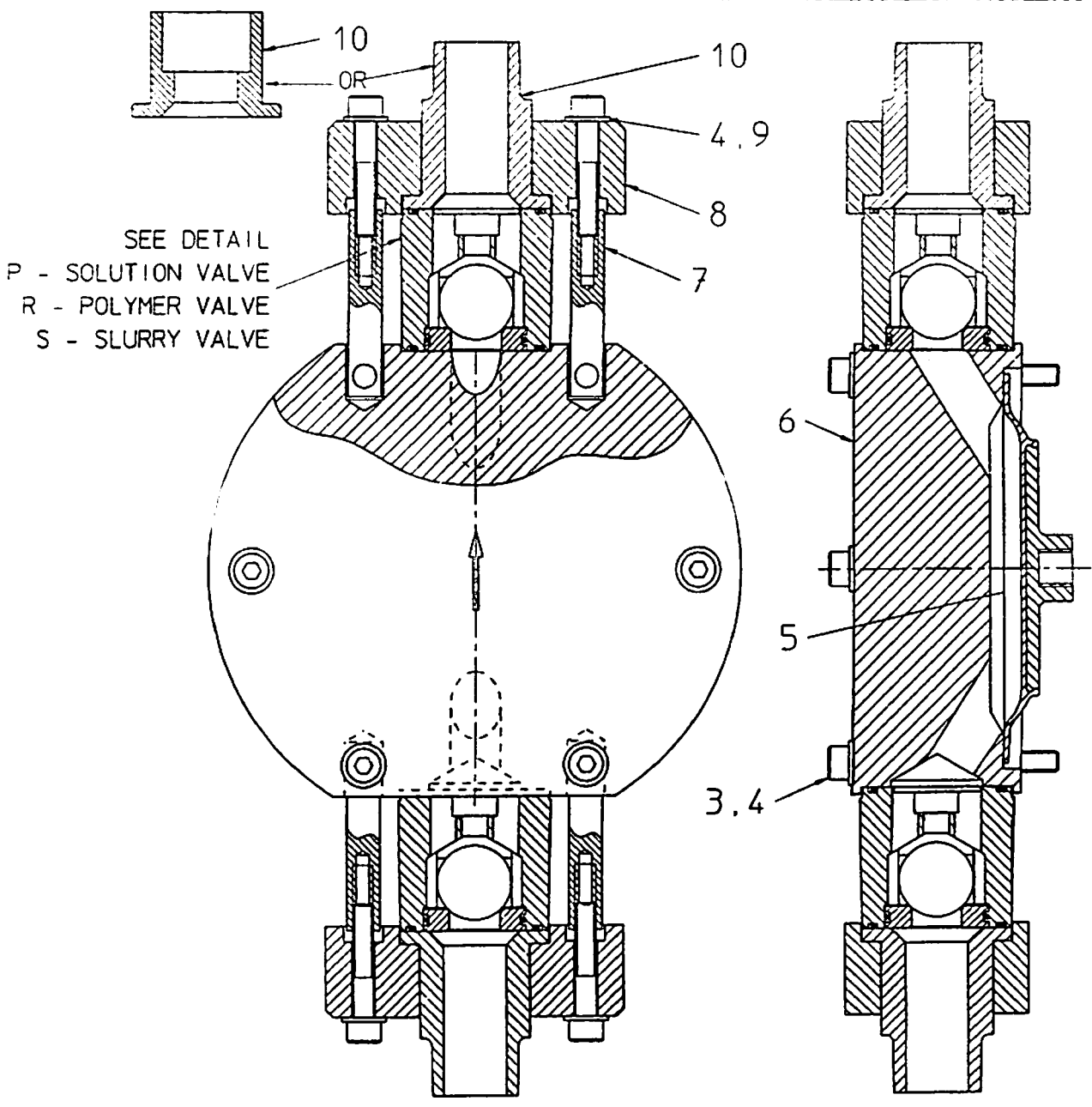
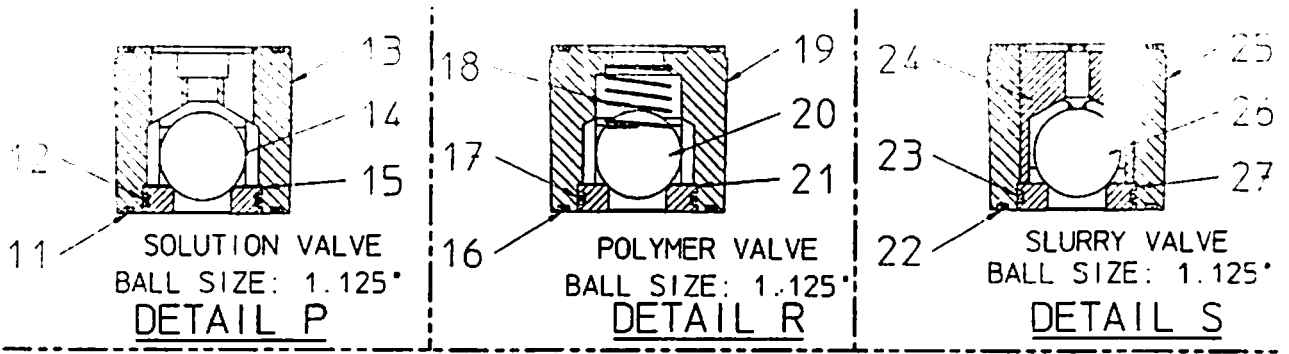
NOTE: ● PART OF APS4110.

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

4" LIQUID END ADAPTER - PARTS

440.400.001.060

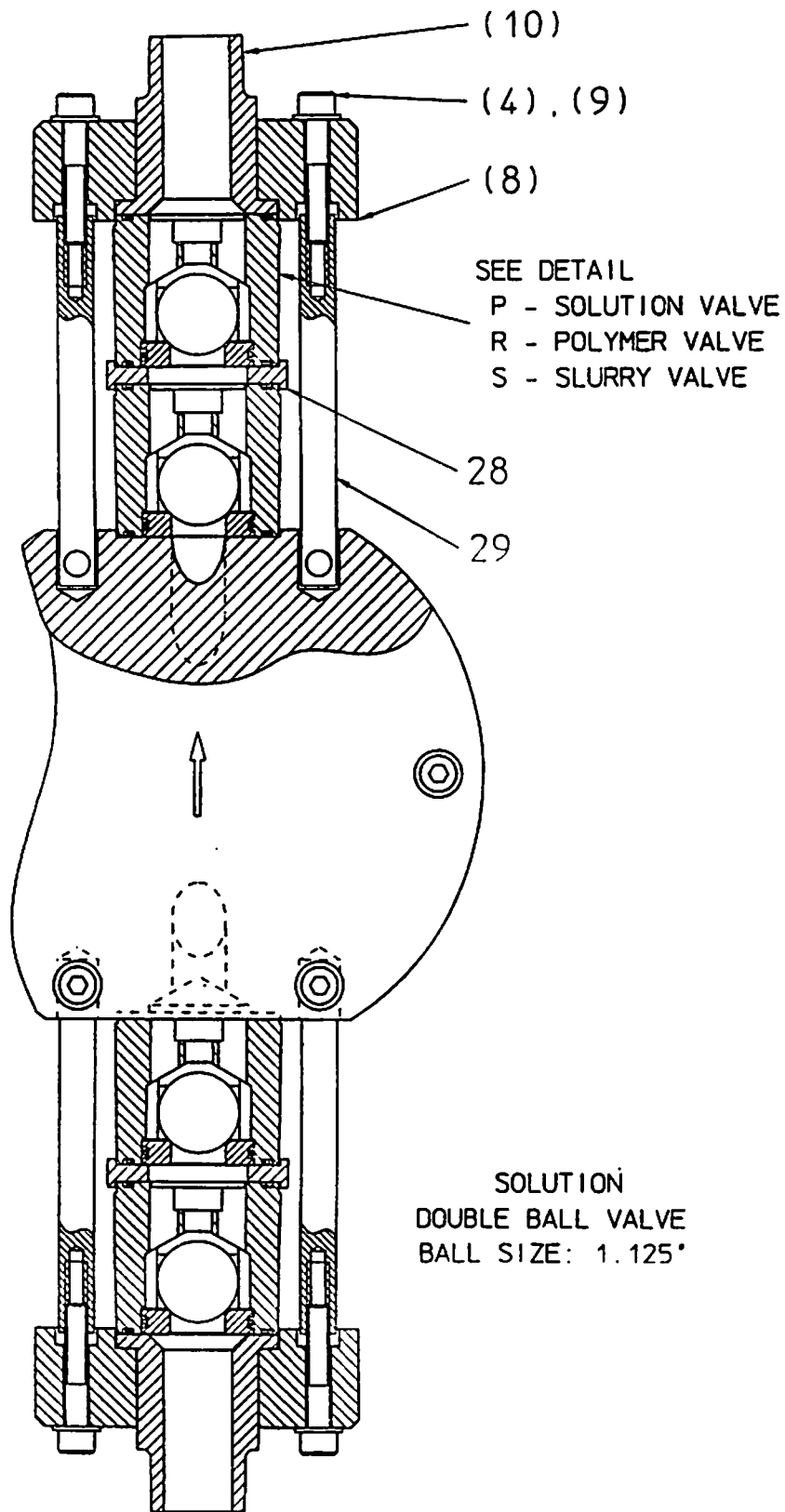
ISSUE 1 6-96



**NOTE:** FOR PARTS LIST SEE DWG. 440.400.010.030C & D.

**5° LIQUID END - PARTS**

440.400.010.030A  
ISSUE 1 6-96



**NOTE:** FOR PARTS LIST SEE DWG. 440.400.010.030C & D.

5" LIQUID END - PARTS

440.400.010.030B

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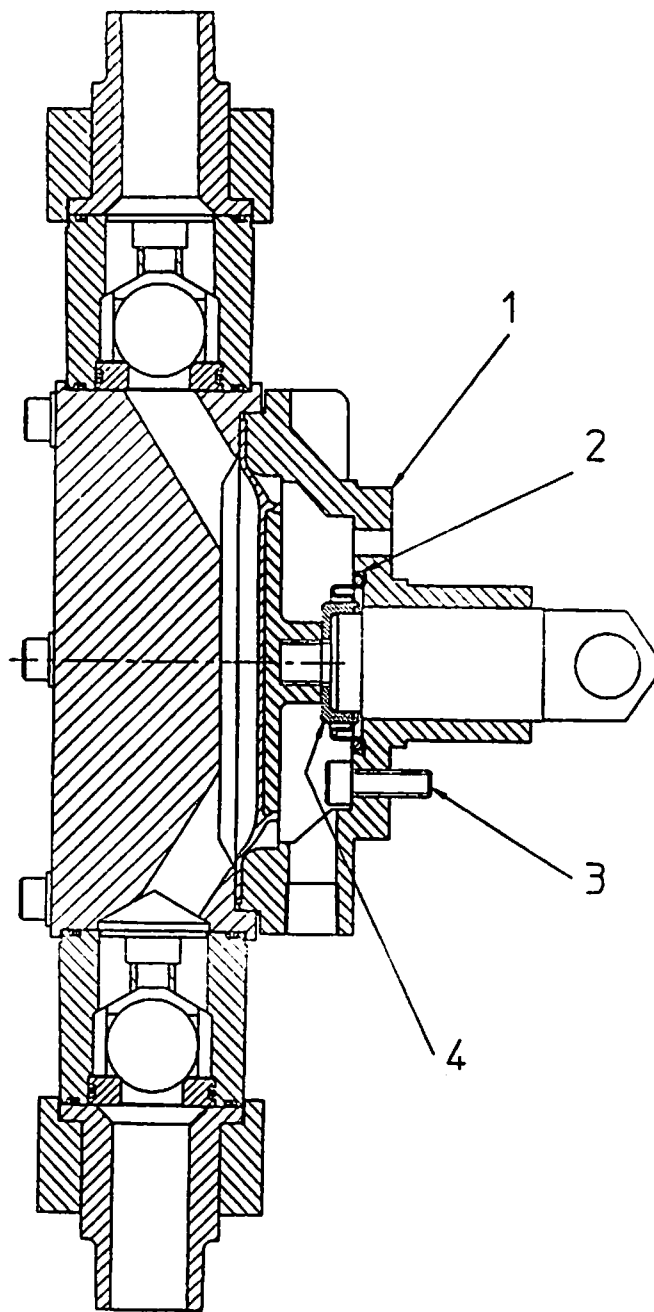
KEY NO.	PART NO.	QTY.	DESCRIPTION
3	ASG3633	6	CAP SCREW, M8 x 80, SOCK. HD., 316SS
4	AWO5392	10	WASHER, FLAT, M8, 316SS
5	APM5758	1	5" DIAPHRAGM
6	ALI5285	1	HEAD, PVC
	OR		
	AMK5290	1	HEAD, KYNAR
7	AOO5518	4	EYENUT, VALVE, SB
8	AIA5573	2	CLAMP
9	AAA2028	4	CAP SCREW, M8 x 45, SOCK. HD., 316SS
10	AJE4298	2	CONN., M, 1" NPT, PVC
	OR		
	AOO4311	2	CONN., M, 1" NPT, KYNAR
	OR		
	AMK4997	2	CONN., SOCK., 1" PIPE
11	AMK3876	4	O-RING (134) HYPALON, 47.29 ID x 2.62 MM
	OR		
	AJE3882	4	O-RING (134) VITON, 47.29 ID x 2.62 MM
12	ALI5643	2	O-RING (126) HYPALON, 34.59 ID x 2.62 MM
	OR		
	AMK5934	2	O-RING (126) VITON, 34.59 ID x 2.62 MM
13	AKG5002	2	GUIDE, RETAINER, 1.125" BALL, PVC
	OR		
	AIA5008	2	GUIDE, RETAINER, 1.125" BALL, KYNAR
14	ABE3904	2	BALL, 1.125", 316SS
	OR		
	ABE3796	2	BALL, 1.125", TEFLON
	OR		
	AEK3629	2	BALL, 1.125", CERAMIC
15	AIC4733	2	SEAT, 1.125" BALL, 316SS
	OR		
	AIC3361	2	SEAT, 1.125" BALL, PVC
	OR		
	ANM3369	2	SEAT, 1.125" BALL, KYNAR
16	AJE3882	4	O-RING (134) VITON, 47.29 ID x 2.62 MM
17	AMK5934	2	O-RING (126) VITON, 34.59 ID x 2.62 MM
18	ALI4222	2	SPRING, 1.125" BALL
19	AIA3377	2	GUIDE, RETAINER, 1.125" BALL, PVC
20	ABE3796	2	BALL, 1.125", TEFLON
21	AIC3361	2	SEAT, 1.125" BALL, PVC
22	AMK3876	4	O-RING (134) HYPALON, 47.29 ID x 2.62 MM
23	ALI5643	2	O-RING (126) HYPALON, 34.59 ID x 2.62 MM
24	AOO5311	2	GUIDE, 1.125" BALL, 316 SS
25	APS4977	2	RETAINER, 1.125" BALL, PVC
26	ABE3839	2	BALL, 1.125", POLYURETHANE
27	AOO4728	2	SEAT, 1.125", BALL, CERAMIC
28	APQ4909	2	ADAPTER, V, 1.125" BALL, PVC
	OR		
	ANM4915	2	ADAPTER, V, 1.125" BALL, KYNAR
29	AIC5522	4	EYENUT, VALVE, DB

WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

5" LIQUID END - PARTS LIST

440.400.010.030C

ISSUE 1 6-96



KEY NO.	PART NO.	QTY.	DESCRIPTION
⊙ 1	AJA5631	1	ADAPTER, 5" DIAPHRAGM
● 2	ASS3911	1	SEAL, BELLOW, CROSSHEAD
⊙ 3	AXS3583	4	SCREW, CAP, M8 x 25, SOCK. HD., 316SS
● 4	AJA5915	1	CLAMP, DIAPHRAGM, BELLOW

NOTE: ⊙ PART OF ANM4120.

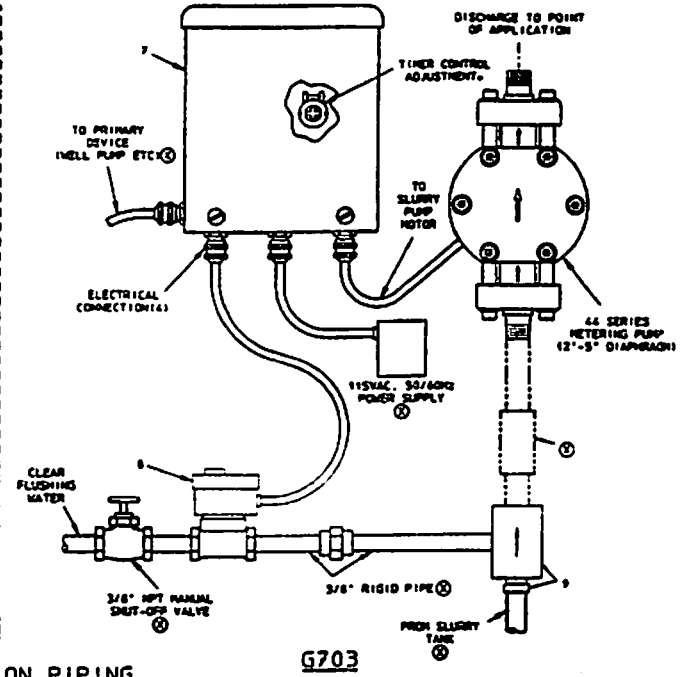
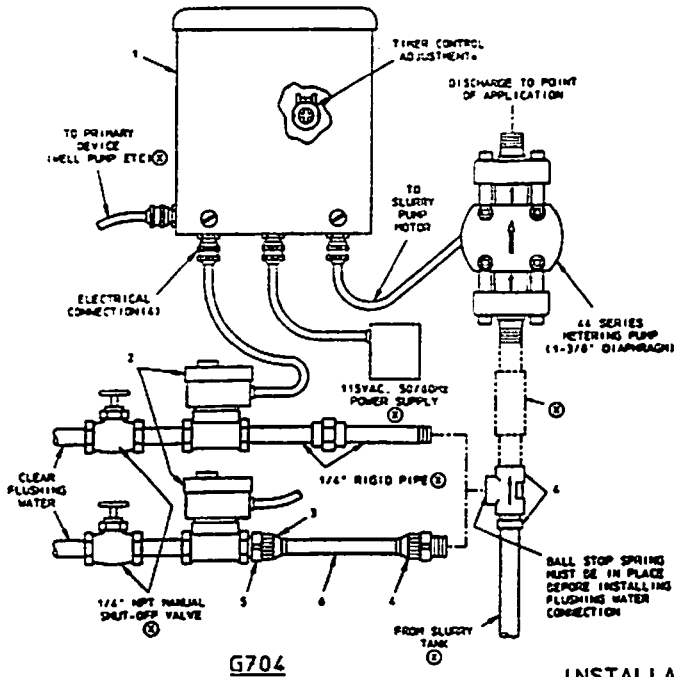
WHEN ORDERING MATERIAL ALWAYS SPECIFY MODEL AND SERIAL NUMBER OF APPARATUS.

5" LIQUID END ADAPTER - PARTS

440.400.001.070

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**INSTALLATION PIPING**

NOTE: SUFFICIENT FLUSHING WATER PRESSURE IS REQUIRED TO OPERATE FLUSHING SYSTEM. IF FLUSHING WATER SUPPLY PRESSURE IS LOW, PUMP MUST BE OPERATED NEAR MAXIMUM STROKE LENGTH AND MOTOR SPEED TO ENSURE SUFFICIENT PRESSURE IN PUMP HEAD.

② NOT FURNISHED BY MET

G704 (1-3/8" DIAPHRAGM)

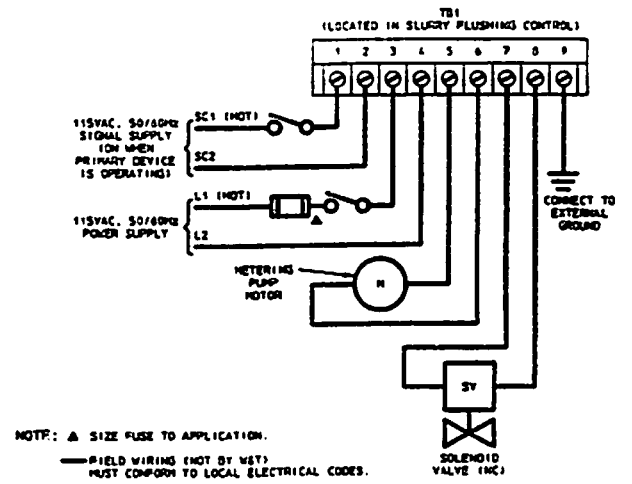
KEY NO.	PART NO.	QTY.	DESCRIPTION
1	U23900	1	FLUSHING CONTROL UNIT (SEE DWG. 440.300.032.010)
2	U21834	1	1/4" NPT SOLENOID VALVE (INC)
3	P39234	1	UNION NUT (3/8" OD TUBING)
4	U23830	1	FLUSHING CONNECTION (1/4" NPT) (SEE DWG. 440.050.050.070)
5	U39233	1	HALF UNION (1/4" NPT TO 3/8" OD TUBING)
6	RP66818	SPT	POLYETHYLENE TUBING (1/4" ID X 3/8" OD)

G703 (2" DIAPHRAGM)

KEY NO.	PART NO.	QTY.	DESCRIPTION
7	U23900	1	FLUSHING CONTROL UNIT (SEE DWG. 440.300.032.010)
8	U20743	1	3/8" NPT SOLENOID VALVE (INC)
9	U23829	1	FLUSHING CONNECTION (1" NPT) (SEE DWG. 440.050.050.035)

• OPERATION: 1) THE AUTOMATIC FLUSHING SYSTEM, UPON RECEIPT OF AN OFF SIGNAL FROM THE PRIMARY DEVICE, WILL CONTINUE TO OPERATE THE PUMP AND ENERGIZE THE SOLENOID VALVE FOR THE DURATION OF THE FLUSHING CYCLE.

2) TO ADJUST THE FLUSH CYCLE TIME, USE A SMALL SCREWDRIIVER INSERTED INTO THE SLOT OF THE TIMER CONTROL. TURN COUNTERCLOCKWISE FOR ZERO TIME TO FULL CLOCKWISE FOR A MAXIMUM PERIOD OF APPROXIMATELY 20 SECONDS. FLUSHING CYCLE SHOULD BE LONG ENOUGH TO ENSURE PURGING OF THE SLURRY FROM VALVES AND HEAD.



NOTE: ▲ SIZE FUSE TO APPLICATION.

— FIELD WIRING (NOT BY MET) MUST CONFORM TO LOCAL ELECTRICAL CODES.

**INSTALLATION WIRING**

**AUTOMATIC SLURRY FLUSHING SYSTEM - SERVICE**

440.400.150.010

ISSUE 0 6-96

**SECTION 6 - PREVENTIVE MAINTENANCE KITS  
AND SPARE PARTS LIST**

**LIST OF CONTENTS**

	DRAWING NO.
Spares for Encore 700.....	6.1
1-3/8" Maintenance Kit, Cartridge Valves.....	6.1.1
1-3/8" Maintenance Kit, Threaded Valves.....	6.1.2
2" Maintenance Kit, Cartridge Valves.....	6.1.3
2" Maintenance Kit, Threaded Valves.....	6.1.4
3" Maintenance Kit, Cartridge Valves.....	6.1.5
4" Maintenance Kit, Cartridge Valves.....	6.1.6
5" Maintenance Kit, Cartridge Valves.....	6.1.7
Electric Motors.....	6.2

6.1 SPARES FOR ENCORE 700

DESCRIPTION	USED ON	PART NUMBER
Diaphragm Maintenance Kit (includes one crosshead oil seal)	1-3/8" Head	AAA1117
	2" Head	AAA1118
	3" Head	AAA1121
	4" Head	AAA1124
	5" Head	AAA1127
Valve Kit □	1-3/8" Head	Refer to paragraph 6.1.1 and 6.1.2.
	2" Head	Refer to paragraph 6.1.3 and 6.1.4.
	3" Head	Refer to paragraph 6.1.5.
	4" Head	Refer to paragraph 6.1.6.
	5" Head	Refer to paragraph 6.1.7.
Diaphragm Backup Ring	1-3/8" Diaphragm	ALI5124
	2" Diaphragm	AJE4030
	3" Diaphragm	APP4035
	4" Diaphragm	ALJ4039
Head, PVC (Cartridge Valves)	1-3/8" Diaphragm	APS4346
	2" Diaphragm	AOO5277
	3" Diaphragm	ALI5254
	4" Diaphragm	APQ5186
	5" Diaphragm	ALI5285
Head, PVC (Threaded Valves)	1-3/8" Diaphragm	APS3127
	2" Diaphragm	AMK3122
Head, Kynar (Cartridge Valves)	1-3/8" Diaphragm	AIC4339
	2" Diaphragm	APQ5281
	3" Diaphragm	APQ5268
	4" Diaphragm	ANM5205
	5" Diaphragm	AMK5290
Oil Seal (Worm Shaft)	Common to all gearboxes.	ALI3193
Belt	Common to all pulley driven gearboxes.	APS4857
Oil SAE 90 (2 quarts required)	Gearbox	U18443 (order quantity = 2)

**NOTE:** □ Each valve kit consists of two valve sets, one for suction and one for discharge. For double ball valves order a quantity of two kits per head.

### 6.1.1 1-3/8" MAINTENANCE KIT, CARTRIDGE VALVES

1-3/8"	Guide Retainer Material	Guide Material	Seat Material	Ball Material	Spring Material	O-Ring Material	Qty. □	Part Number
Solution	PVC	—	316SS	316SS	—	Hypalon	1	APS4297
	PVC	—	316SS	316SS	—	Viton	1	AJE4302
	PVC	—	PVC	PTFE	—	Hypalon	1	API4307
	PVC	—	PVC	PTFE	—	Viton	1	ALI4333
	PVC	—	PVC	Ceramic	—	Hypalon	1	ANM4337
	PVC	—	PVC	Ceramic	—	Viton	1	APS4341
	PVDF	—	316SS	316SS	—	Hypalon	1	AIC4345
	PVDF	—	316SS	316SS	—	Viton	1	ANM4352
	PVDF	—	PVDF	PTFE	—	Hypalon	1	AOO4356
	PVDF	—	PVDF	PTFE	—	Viton	1	AJE4360
	PVDF	—	PVDF	Ceramic	—	Hypalon	1	AKG4364
PVDF	—	PVDF	Ceramic	—	Viton	1	ALI4368	
Slurry	PVC	316SS	Ceramic	Polyuret.	—	Hypalon	1	AKG4374
Polymer	PVC	—	PVC	PTFE	Cobanium	Viton	1	APQ4379

NOTE: □ Each valve kit consists of two valve sets, one for suction and one for discharge. For double ball valves order a quantity of two kits per head.

### 6.1.2 1-3/8" MAINTENANCE KIT THREADED VALVES (Single Ball Only)

1-3/8"	Housing Material	Ball Material	Seat Material	O-Ring Material	Qty	Part Number
Solution	PVC	Glass	PVC	Viton	1	AAA1130

NOTE: Always change diaphragms and valves at the same time, annually, for optimum performance.

### 6.1.3 2" MAINTENANCE KIT, CARTRIDGE VALVES

2"	Guide Retainer Material	Guide Material	Seat Material	Ball Material	Spring Material	O-Ring Material	Qty. □	Part Number
Solution	PVC	---	316SS	316SS	---	Hypalon	1	AJE4773
	PVC	---	316SS	316SS	---	Viton	1	AIC4778
	PVC	---	PVC	PTFE	---	Hypalon	1	AJE4781
	PVC	---	PVC	PTFE	---	Viton	1	APQ4786
	PVC	---	PVC	Ceramic	---	Hypalon	1	ALI4789
	PVC	---	PVC	Ceramic	---	Viton	1	ALI4793
	PVDF	---	316SS	316SS	---	Hypalon	1	ANM4797
	PVDF	---	316SS	316SS	---	Viton	1	AMK4801
	PVDF	---	PVDF	PTFE	---	Hypalon	1	AKG4804
	PVDF	---	PVDF	PTFE	---	Viton	1	ANM4809
	PVDF	---	PVDF	Ceramic	---	Hypalon	1	ALI4812
PVDF	---	PVDF	Ceramic	---	Viton	1	AIA4817	
Slurry	PVC	316SS	Ceramic	Polyuret.	---	Hypalon	1	APQ4826
Polymer	PVC	---	PVC	PTFE	Cobenium	Viton	1	APQ4379

NOTE: □ Each valve kit consists of two valve sets, one for suction and one for discharge. For double ball valves order a quantity of two kits per head.

### 6.1.4 MAINTENANCE KIT, THREADED VALVES (Single Ball Only)

2"	Housing Material	Ball Material	Seat Material	O-Ring Material	Qty	Part Number
Solution	PVC	Glass	PVC	Viton	1	AAA1133

NOTE: Always change diaphragms and valves at the same time, annually, for optimum performance.

### 6.1.1 1-3/8" MAINTENANCE KIT, CARTRIDGE VALVES

1-3/8"	Guide Retainer Material	Guide Material	Seat Material	Ball Material	Spring Material	O-Ring Material	Qty. □	Part Number
Solution	PVC	—	316SS	316SS	—	Hypalon	1	APS4297
	PVC	—	316SS	316SS	—	Viton	1	AJE4302
	PVC	—	PVC	PTFE	—	Hypalon	1	API4307
	PVC	—	PVC	PTFE	—	Viton	1	ALI4333
	PVC	—	PVC	Ceramic	—	Hypalon	1	ANM4337
	PVC	—	PVC	Ceramic	—	Viton	1	APS4341
	PVDF	—	316SS	316SS	—	Hypalon	1	AIC4345
	PVDF	—	316SS	316SS	—	Viton	1	ANM4352
	PVDF	—	PVDF	PTFE	—	Hypalon	1	AQG4356
	PVDF	—	PVDF	PTFE	—	Viton	1	AJE4360
	PVDF	—	PVDF	Ceramic	—	Hypalon	1	AKG4364
PVDF	—	PVDF	Ceramic	—	Viton	1	ALI4368	
Slurry	PVC	316SS	Ceramic	Polyuret.	—	Hypalon	1	AKG4374
Polymer	PVC	—	PVC	PTFE	Cobenium	Viton	1	APQ4379

NOTE: □ Each valve kit consists of two valve sets, one for suction and one for discharge. For double ball valves order a quantity of two kits per head.

### 6.1.2 1-3/8" MAINTENANCE KIT THREADED VALVES (Single Ball Only)

1-3/8"	Housing Material	Ball Material	Seat Material	O-Ring Material	Qty	Part Number
Solution	PVC	Glass	PVC	Viton	1	AAA1130

NOTE: Always change diaphragms and valves at the same time, annually, for optimum performance.

### 6.1.3 2" MAINTENANCE KIT, CARTRIDGE VALVES

2"	Guide Retainer Material	Guide Material	Seat Material	Ball Material	Spring Material	O-Ring Material	Qty. □	Part Number
Solution	PVC	—	316SS	316SS	—	Hypalon	1	AJE4773
	PVC	—	316SS	316SS	—	Viton	1	AIC4778
	PVC	—	PVC	PTFE	—	Hypalon	1	AJE4781
	PVC	—	PVC	PTFE	—	Viton	1	APQ4786
	PVC	—	PVC	Ceramic	—	Hypalon	1	ALI4789
	PVC	—	PVC	Ceramic	—	Viton	1	ALI4793
	PVDF	—	316SS	316SS	—	Hypalon	1	ANM4797
	PVDF	—	316SS	316SS	—	Viton	1	AMK4801
	PVDF	—	PVDF	PTFE	—	Hypalon	1	AKG4804
	PVDF	—	PVDF	PTFE	—	Viton	1	ANM4809
	PVDF	—	PVDF	Ceramic	—	Hypalon	1	ALI4812
PVDF	—	PVDF	Ceramic	—	Viton	1	ALA4817	
Slurry	PVC	316SS	Ceramic	Polyuret.	—	Hypalon	1	APQ4826
Polymer	PVC	—	PVC	PTFE	Cobenium	Viton	1	APQ4379

NOTE: □ Each valve kit consists of two valve sets, one for suction and one for discharge. For double ball valves order a quantity of two kits per head.

### 6.1.4 MAINTENANCE KIT, THREADED VALVES (Single Ball Only)

2"	Housing Material	Ball Material	Seat Material	O-Ring Material	Qty	Part Number
Solution	PVC	Glass	PVC	Viton	1	AAA1133

NOTE: Always change diaphragms and valves at the same time, annually, for optimum performance.

LIQUID	REF. NO.	316 S.S.	HYPALON	VITON	PVC	TFE	PTFE	CERAMIC
ACETALDEHYDE	57	A	C	C	C	A	A	A
ACETATE SOLVENTS	57	A	C	C	C	A	A	A
ACETIC ACID, CRUDE	57	A	C	C	C	A	A	A
ACETIC ACID, PURE	57	A	C	C	C	A	A	A
ACETIC ACID (10%)	3	A	B	C	A	A	A	A
ACETIC ACID (80%)	57	B	C	C	C	A	A	A
ACETIC ANHYDRIDE		B	A	C	C	A	C	A
ACETONE		A	C	C	C	A	C	A
ACETYLENE		A	B	A	A	A	A	N
ACRYLONITRILE	58	A	C	C	A	N	A	N
ALUMINUM CHLORIDE	5	B	A	A	A	A	A	A
ALUMINUM HYDROXIDE	6	A	A	A	A	A	A	N
ALUMINUM NITRATE		A	B	C	A	A	A	A
ALUMINUM SULFATE	3	A	A	A	A	A	A	A
ALUMS		B	A	C	A	A	A	A
AMINES		A	C	C	A	A	N	N
AMINES (FILMINE) B		A	C	C	A	A	N	N
AMMONIA ANHYDROUS (LIQ.)		A	B	C	A	A	C	A
AMMONIA SOLUTIONS		A	B	B	A	A	A	N
AMMONIUM CARBONATE		A	A	A	A	A	A	A
AMMONIUM CHLORIDE	7	B	A	A	A	A	A	N
AMMONIUM DIPHOSPHATE	9	A	A	A	A	A	A	A
AMMONIUM HYDROXIDE	8	A	A	A	A	A	A	A
AMMONIUM MONOPHOSPHATE	9	A	A	A	A	A	A	A
AMMONIUM NITRATE		A	A	A	A	A	A	A
AMMONIUM SULFATE	10	A	A	A	A	A	A	A
AMMONIUM SULFIDE		A	A	A	A	A	A	A
AMMONIUM TRIPHOSPHATE	9	A	A	A	A	A	A	A
AMYL ACETATE	58	A	C	C	C	A	A	A
AMYL ALCOHOL	11, 12	A	A	A	B	A	A	A
AMYL CHLORIDE		A	C	C	C	A	A	A
ANILINE	13	A	C	A	C	A	B	A
ANILINE DYES		A	B	B	C	A	N	A
ARSENIC ACID	14	B	C	A	A	A	A	N
BARIUM CARBONATE	15	B	A	A	A	A	A	A
BARIUM CHLORIDE		A	B	A	A	A	A	A
BARIUM HYDROXIDE	14, 5	A	B	A	A	A	A	N
BARIUM SULFATE		A	A	A	A	A	A	A
BARIUM SULFIDE		B	A	A	A	A	A	A
BEER		A	A	A	A	A	A	A
BEET SUGAR LIQUORS		A	C	A	A	A	A	A
BENZALDEHYDE		A	C	C	C	A	B	A
BENZENE OR BENZOL	13, 14	A	C	B	C	A	B	A
BENZOIC ACID		A	C	A	A	A	A	A
BLACK SULFATE LIQUOR	57	A	B	A	A	A	A	A
BORAX (SEE SODIUM BORATE)		-	-	-	-	-	-	-
BORIC ACID	16	A	A	A	A	A	A	A
BUTANE		A	A	B	A	A	A	A
BUTADIENE		A	B	N	A	A	A	A
BUTYL ACETATE		A	C	N	B	A	C	N

**WARNING:** WHEN DEALING WITH HAZARDOUS MATERIALS, IN ALL CASES THE HAZARDOUS MATERIAL SUPPLIERS OR MANUFACTURERS' RECOMMENDATIONS FOR SAFETY PROCEDURES MUST BE OBTAINED AND FOLLOWED.

### CHEMICAL COMPATIBILITY OF METERING PUMPS - PERFORMANCE



LIQUID	REF. NO.	316 S.S.	HYPALON	VITON	PVC	TFE	KYNAR 150°F	CERAMIC
BUTYL ALCOHOL	17	A	A	A	A	A	A	A
BUTYRIC ACID	14	A	A	B	B	A	A	A
CALCIUM BISULFITE		A	A	A	A	A	A	A
CALCIUM CARBONATE	15	A	A	A	A	A	A	B
CALCIUM CHLORATE		A	A	A	A	A	A	A
CALCIUM CHLORIDE	18	B	A	A	A	A	A	A
CALCIUM HYDROXIDE	15	A	A	A	A	A	A	C
CALCIUM HYPOCHLORITE		C	A	A	A	A	A	B
CALCIUM NITRATE		A	A	A	A	A	A	A
CALCIUM SULFATE		A	A	A	A	A	A	N
CANE SUGAR LIQUORS	14	A	C	B	N	A	A	A
CARBOLIC ACID (PHENOL)	11, 14, 57	A	C	A	A	A	A	A
CARBON BISULFIDE		A	C	A	A	N	N	N
CARBONIC ACID	14, 57	A	A	A	A	A	A	N
CARBON TETRACHLORIDE	13, 3	A	C	A	C	A	A	A
CHLORACETIC ACID		C	C	C	A	A	C	A
CHLOROBENZENE (DRY)		A	C	A	C	A	A	A
CHLOROFORM		A	C	A	C	A	A	A
CHLORSULPHONIC ACID		B	C	C	A	A	C	A
CHROMIC ACID	19, 58	A	A	A	A	A	A	A
CITRIC ACID	20	A	A	A	A	A	A	A
COPPER ACETATE		A	C	C	A	A	A	N
COPPER CHLORIDE	5	C	B	A	A	A	A	A
COPPER CYANIDE	3	A	A	A	A	A	A	N
COPPER NITRATE	3	A	A	A	A	A	A	A
COPPER SULFATE	21	A	A	A	A	A	A	A
CREOSOTE	3	A	C	A	C	A	A	A
CRESYLIC ACID (50%)		A	C	A	A	A	A	N
CYCLOHEXANE		A	C	A	C	A	A	A
DETERGENT		N	A	A	A	A	N	A
DIETHYLAMINE	57	A	C	C	C	N	A	A
DIETHYLENE GLYCOL		A	A	A	A	A	N	A
DOWTHERMS		A	C	A	C	N	N	N
ETHERS (ETHYL)		A	C	B	C	A	B	A
ETHYL ACETATE		A	C	C	C	A	C	A
ETHYL ALCOHOL	12	A	A	A	A	A	A	A
ETHYL CHLORIDE		A	C	A	C	A	A	A
ETHYLENE CHLORIDE	22	A	C	B	C	A	A	N
ETHYLENE GLYCOL	12	A	A	A	A	A	A	A
ETHYL MERCAPTAN		A	C	N	N	N	N	N
ETHYLENE OXIDE		A	C	C	C	A	C	A
FATTY ACIDS	14	A	C	A	A	A	A	A
FERRIC CHLORIDE	6	C	A	A	A	A	A	A
FERRIC NITRATE		A	A	A	A	A	A	A
FERRIC SULFATE	24	B	A	A	A	A	A	A
FERROUS CHLORIDE		C	A	A	A	A	A	A
FERROUS SULFATE	14	B	A	A	A	A	A	A
FILTER AID	15	A	A	A	C	A	A	A
FLUOSILICIC ACID	6, 25, 26	B	A	A	A	A	A	C
FORMALDEHYDE		A	A	C	A	A	A	A
FORMIC ACID	3, 58	A	A	B	B	A	A	A
FRUIT JUICES		A	C	A	A	A	A	A
FURFURAL	57	A	C	C	C	A	A	A
GALLIC ACID (5%)		A	C	A	A	A	B	A
GASOLINE		A	C	A	A	A	A	A

CHEMICAL COMPATIBILITY OF METERING PUMPS - PERFORMANCE

LIQUID	REF. NO.	316 S.S	HYPALON	VITON	PVC	TFE	KYNAR 150°F	CERAMIC	
GLUCOSE	6, 11, 27	A	A	A	A	A	A	A	
GLYCEROL (GLYCERIN)		A	A	A	A	A	A	A	
HEPTANE, HEXANE		A	A	A	C	A	A	A	
HYDRAZINE (35%)		28	A	B	C	N	N	A	B
HYDROBROMIC ACID	29	C	A	A	A	A	A	A	
HYDROCHLORIC ACID (37%)	5, 30	C	A	A	A	A	A	A	
HYDROCYANIC ACID	6,26,25	A	A	A	A	A	A	A	
HYDROFLUORIC ACID		C	A	A	A	A	A	C	
HYDROFLUOSILICIC ACID		6,25,26,57	B	A	A	A	A	A	C
HYDROGEN PEROXIDE		31, 59	B	A	A	A	A	A	A
HYDROGEN SULFIDE	11, 3	A	A	A	A	A	A	A	
INKS	19	A	A	A	A	A	N	N	
IODINE SOLUTION	32, 57	C	B	A	C	A	A	A	
KEROSENE		A	C	A	A	A	A	A	
LACTIC ACID		A	A	A	A	A	A	A	
LEAD ACETATE		15	A	C	C	A	A	A	A
LIME SLURRIES	A		A	A	A	A	A	N	
LINSEED OIL	A		A	A	A	A	A	A	
MAGNESIUM CARBONATE	A		A	A	A	A	A	A	
MAGNESIUM CHLORIDE	6, 34	C	A	A	A	A	A	A	
MAGNESIUM HYDROXIDE	6, 15	A	A	A	A	A	A	N	
MAGNESIUM NITRATE	14, 5	A	A	A	A	A	A	A	
MAGNESIUM SULFATE		A	A	A	A	A	A	A	
MALEIC ACID (DILUTE)		5, 14	A	C	A	A	A	A	A
MALIC ACID		14	A	B	A	A	A	A	A
MELAMINE RESINS	5	A	C	N	A	A	N	A	
MERCURIC CHLORIDE		C	A	A	A	A	A	A	
MERCURIC CYANIDE		A	A	A	A	A	A	N	
MERCURY		A	A	A	A	A	A	A	
METHYL ACETATE	57	A	C	C	N	A	A	N	
METHYL ACETONE	35	A	C	C	C	N	N	N	
METHYL ALCOHOL		A	A	B	A	A	A	A	
METHYLAMINE		A	C	C	N	N	C	N	
METHYL BROMIDE		A	C	A	C	N	A	N	
METHYL CELLOSOLVE		A	C	C	N	A	A	A	
METHYL CHLORIDE (LIQ.)	36, 14	A	C	C	C	A	A	A	
METHYLETHYL KETONE		A	C	C	C	A	C	A	
METHYLENE CHLORIDE		A	C	B	C	A	C	A	
MOLASSES		A	A	A	A	A	A	N	
MONOCHLORACETIC ACID		C	N	N	A	A	A	A	
MORPHOLINE	57	A	C	C	A	A	A	A	
NAPHTHA	13	A	C	A	A	A	A	A	
NAPHTHALENE	11	A	C	A	C	A	A	A	
NICKEL CHLORIDE	14	A	A	A	A	A	A	A	
NICKEL NITRATE		A	A	A	A	A	A	A	
NICKEL SULFATE	14	A	A	A	A	A	A	A	
NICOTINIC ACID	60	A	C	A	A	N	A	A	
NITRIC ACID (10%)		A	A	A	A	A	A	A	
NITRIC ACID (70%) TO 100°F		60	B	C	B	A	A	A	
NITROBENZENE		A	C	C	C	A	B	A	
OILS, ANIMAL	11, 58	A	C	A	A	A	A	A	
OIL, COTTONSEED		A	A	A	A	A	A	A	
OILS, FUEL		37, 14	A	A	A	A	A	A	
OLEIC ACID		3	A	C	C	A	A	A	
OLEUM (20-25%)		A	C	B	C	A	C	A	

CHEMICAL COMPATIBILITY OF METERING PUMPS - PERFORMANCE

LIQUID	REF. NO.	316 S.S.	HYPALON	VITON	PVC	TFE	KYNAR 150°F	CERAMIC
OXALIC ACID		B	A	A	A	A	A	A
PALMITIC ACID	3	A	C	A	A	A	A	N
PERCHLORIC ACID (10%)		C	B	N	B	N	A	N
PERCHLOROETHYLENE (DRY)	11	A	C	A	C	N	A	N
PHENOL (CARBOLIC ACID)	11	A	C	A	A	A	A	A
PHOSPHORIC ACID	6, 11, 39	A	A	A	A	A	A	A
PHOSPHORUS TRICHLORIDE		N	C	A	C	A	A	A
PICRIC ACID	57	A	A	A	C	N	A	N
POTASSIUM BICARBONATE		A	A	A	A	N	A	A
POTASSIUM BROMATE		N	N	N	A	N	A	N
POTASSIUM BROMIDE		A	A	A	A	A	A	A
POTASSIUM CARBONATE	40	A	A	A	A	A	A	A
POTASSIUM CHLORATE	3	A	A	A	A	A	A	A
POTASSIUM CHLORIDE	5, 41	B	A	A	A	A	A	A
POTASSIUM CHROMATE		A	A	A	A	A	A	N
POTASSIUM CYANIDE		A	A	A	A	A	A	N
POTASSIUM DIPHOSPHATE		A	N	A	A	N	N	N
POTASSIUM HYDROXIDE	42	A	A	C	A	A	A	C
POTASSIUM MONOPHOSPHATE		A	A	A	A	N	N	N
POTASSIUM NITRATE		A	A	A	A	A	A	A
POTASSIUM PERMANGANATE	5, 43	A	A	A	A	A	A	A
POTASSIUM SULFATE	41, 5	A	A	A	A	A	A	N
POTASSIUM SULFIDE		A	N	A	A	A	A	A
POTASSIUM SULFITE		A	B	A	A	N	N	N
POTASSIUM TETRABORATE		N	N	N	A	N	N	N
PROPANE (LIQ.)		A	A	B	A	A	A	A
PROPYL ALCOHOL	12, 58	A	A	A	B	A	A	N
PROPYLENE GLYCOL		A	A	A	C	A	A	A
RESINS & ROSINS		A	N	A	N	N	N	N
SEA WATER		B	A	A	A	A	A	A
SILVER NITRATE		A	A	A	A	A	A	A
SOAP SOLUTIONS (STEARATES)	6, 57	A	A	A	A	A	A	A
SODIUM ACETATE		A	C	A	A	A	A	A
SODIUM ALUMINATE 27Be		A	A	A	B	A	A	A
SODIUM BICARBONATE		A	A	A	A	A	A	A
SODIUM BISULFATE (TO 100°F)		A	A	A	A	A	A	A
SODIUM BISULFITE (TO 100°F)		A	A	A	A	A	A	A
SODIUM BORATE	14	A	A	A	A	A	A	N
SODIUM CARBONATE	44	A	A	A	A	A	A	A
SODIUM CHLORATE	14	A	A	A	A	A	A	A
SODIUM CHLORIDE	3	B	A	A	A	A	A	A
SODIUM CHLORITE (TO 20%)	45	C	N	N	C	N	A	A
SODIUM CHROMATE		A	N	A	A	A	A	N
SODIUM CYANIDE		A	A	A	A	A	A	A
SODIUM DI- OR TRIPHOSPHATE		A	A	A	A	A	A	A
SODIUM FLUORIDE	25, 46	B	A	A	A	A	A	C
SODIUM HYDROXIDE 20%	5, 3, 6	A	A	C	A	A	A	C
SODIUM HYDROXIDE 50%	5, 3, 6	A	A	C	A	A	A	C
SODIUM HYPOCHLORITE	30, 13, 47	C	A	B	A	A	A	N
SODIUM MONOPHOSPHATE		A	A	A	A	A	A	A
SODIUM NITRATE	48	A	A	A	A	A	A	A
SODIUM PERBORATE		A	B	A	B	A	N	N
SODIUM PEROXIDE	6	A	A	A	B	A	A	A
SODIUM POLYPHOSPHATE		A	B	A	A	A	A	A
SODIUM SILICATE	49	A	A	A	B	A	A	A

CHEMICAL COMPATIBILITY OF METERING PUMPS - PERFORMANCE

440.050.190.010D

ISSUE 0 8-95

LIQUID	REF. NO.	316 S.S	HYPALON	VITON	PVC	TFE	KYNAR 150°F	CERAMIC
SODIUM SULFATE	50	A	A	A	A	A	A	A
SODIUM SULFIDE	1, 48	A	A	A	B	A	A	N
SODIUM SULFITE	44	A	A	A	A	A	A	A
SODIUM THIOSULFATE (HYPO)	51	B	A	A	B	A	A	A
STARCH		A	A	A	A	A	N	A
STEARIC ACID	37	A	B	A	A	A	A	A
SUGAR SOLUTIONS	14	A	B	N	A	A	A	A
SULFUR CHLORIDE	57	C	A	A	N	A	A	A
SULFUR MOLTEN		A	C	A	A	A	A	A
SULFURIC ACID (0-40%)	5	C	A	A	A	A	A	A
SULFURIC ACID (40-95%)	5, 58	C	A	A	A	A	A	A
SULFURIC ACID (95-100%)	58	A	B	A	A	A	A	A
SULFUROUS ACID		B	A	A	A	A	A	A
TANNIC ACID	52	A	A	A	A	A	N	A
TARTARIC ACID	6, 44	A	A	A	A	A	A	A
TITANIUM DIOXIDE		A	A	A	B	A	N	N
TOLUOL & TOLUENE	36	A	C	A	C	A	B	A
TRICHLOROETHYLENE	57	A	C	A	C	A	A	A
TURPENTINE	13	A	C	A	A	A	A	A
UREA FORMALDEHYDE		A	N	N	N	A	A	A
VARNISH & SOLVENTS	14	A	C	A	N	A	N	A
VINEGAR		A	A	N	A	A	N	A
VINYL ACETATE		A	C	C	C	A	A	A
WATER, DEIONIZED		A	A	A	A	A	A	A
WATER, SALT		B	A	A	A	A	N	A
WHISKEY AND WINES	58	A	A	A	A	A	A	A
XYLENE OR XYLOL	13	A	C	A	C	A	A	A
ZINC CHLORIDE	6, 53	C	A	A	A	A	A	A
ZINC HYDROSULFITE		B	N	A	A	A	N	N
ZINC SULFATE		A	A	A	A	A	A	A

**NOTES:**

**WARNING: TO AVOID POSSIBLE SEVERE PERSONAL INJURY AND/OR DAMAGE TO EQUIPMENT WHEN DEALING WITH ANY CHEMICAL, IT IS THE RESPONSIBILITY OF THE EQUIPMENT USER TO OBTAIN AND FOLLOW THE SAFETY PRECAUTIONS OF THE MANUFACTURER OF THE CHEMICAL.**

**RATING KEY**

- A ACCEPTABLE
- B SATISFACTORY WHERE MINOR ATTACK IS ACCEPTABLE
- C SHOULD NOT BE USED
- N INFORMATION LACKING

UNLESS OTHERWISE NOTED, CONCENTRATION OF AQUEOUS SOLUTIONS ARE SATURATED. ALL RATINGS ARE AT ROOM TEMPERATURE UNLESS SPECIFIED.

**NOTES:**

1. WARNING: DRIED RESIDUE OF SPILLED SOLUTIONS IS EXPLOSIVE.
2. SS TO 180°F
3. PVC TO 125°F
4. HYPALON TO 180°F
5. SS TO 125°F 10%, PVC TO 125°F
6. PVC TO 125°F, 29%, SS TO 180°F, 29%
7. SS TO 70°F, 5%
8. PVC TO 105°F, 40%, SS TO 180°F SAT
9. VITON TO 180°F
10. PVC TO 100°F PURE
11. VITON TO 158°F
12. SS TO 140°F
13. USE SLURRY VALVES
14. PVC TO 105°F, SS TO 180°F
15. PVC TO 100°F, SS TO 100°F
16. SS TO 70°F DILUTE, PVC TO 125°F
17. PVC TO 100°F, 50%, SS TO 70°F, 5%
18. PVC TO 100°F, 25%, SS TO 180°F, 50%
19. PVC TO 100°F, SS TO 160°F
20. VITON TO 120°F
21. PVC TO 125°F, 36%, SS TO 180°F 10%
22. FLUORIDATION REQUIRES AN ANTI-SYPHON PUMP INSTALLATION CONSULT LOCAL REGULATIONS FOR DETAILS.
23. PVC TO 30%
24. PVC TO 125°F, 50%, SS TO 70°F, 5%
25. MAY CAUSE SURFACE PITTING TO SS
26. PVC TO 125°F, 48%
27. HYPALON TO 130°F
28. PVC TO 100°F, 50%, SS TO 100°F, 50%
29. PVC TO 70°F, 10%, SS TO 70°F, 10%
30. SS TO 70°F, 5%, PVC 125°F SAT
31. PVC TO 100°F, SS TO 70°F
32. VITON TO 100°F
33. HYPALON TO 150°F
34. SS TO 70°F, 10%
35. PVC TO 125°F, 80%, SS TO 70°F, 80%
36. PVC TO 100°F, SAT, SS TO 180°F, 50%
37. SS TO 180°F, 5%
38. PVC TO 70°F, 50% OR TO 125°F, 30%, SS TO 180°F, 50%
39. SS TO 140°F, 10%
40. SS TO 180°F, 50%
41. PVC TO 105°F
42. PVC TO 125°F, 4%, SS TO 70°F, 5%
43. PVC TO 125°F, 15%, SS TO 70°F, 5%
44. SS TO 125°F
45. PVC TO 125°F, 41 Be, SS TO 140°F, 41 Be
46. PVC TO 125°F, 30%
47. PVC TO 125°F, 50%, SS TO 70°F, 50%
48. PVC TO 100°F, 10%, SS TO 150°F
49. PVC TO 100°F, SS TO 180°F, 70%
50. KYNAR TO 70°F
51. KYNAR TO 120°F
52. KYNAR TO 120°F, 30%
53. KYNAR TO 100°F

Statements and suggestions set forth herein are based upon the best information and practices known to Wallace & Tiernan, Inc. However, it should not be assumed either that information is complete on the subjects covered or that all possible circumstances, safety measures, precautions, etc., have been included. These statements and suggestions are not intended to reflect state, municipal, or insurance requirements or national safety codes; where applicable, those sources should be consulted directly. Moreover, since the conditions of use are beyond its control, Wallace & Tiernan, Inc. makes no guarantee of results and assumes no liability in connection with the information contained herein.

When dealing with the installation, operation or maintenance of a specific Wallace & Tiernan product, the manuals and data sheets pertaining to that product should be studied carefully. In case of any doubt about a specific installation, direct inquiries to your local W&T representative.

U.S. Filter/Wallace & Tiernan have an extensive range of other products for many applications and services you might be interested in.

For instance:

**1 We feed free-flowing solids**

with Volumetric Feeders for successful process control of powdered and granular materials. To be metered dry or made up into constant strength slurries or solutions.

**2 We measure and proportion liquids**

with Dosing Pumps - big and small, diaphragm and plunger, giving a wide range of flows and pressures.

**U.S. FILTER**  
WALLACE & TIERNAN

## products for today's needs

**3 We indicate flow of liquids and gases**

with Variable-Area Flowmeters - from small purge meters up to transmitting meters. The 'Armoured Division' will combat high pressure high temperature and withstand attack from corrosive chemicals.

**4 We dose chlorine, monitor and maintain a residual in water**

with solution feed chlorinators for chlorine gas and hypochlorite, for treating potable water, cooling and industrial wash waters and effluent treatment.

**5 We measure both chlorine and SO<sub>2</sub> residuals with one instrument**

enabling centre point zero control to be carried out to remove chlorine and ozone from potable and effluent prior to discharge.

**6 We make systems to produce chlorine on site**

using a package Electrolytic Generator System (OSEC) with capacities from 2kg to 1 tonne per day that require only salt and electricity.

**7 We measure pressure, absolute, gauge, vacuum and differential**

using Capsule and Bourdon Tube Gauges with

guaranteed accuracy from large individually calibrated dials and from Digital Indicators employing modern electronic circuitry and bright LED numerals: Portable Calibrators for checking pneumatic instrumentation.

**8 We make up hydrated lime from quicklime**

with the Lime Slaker - providing a compact efficient process with very short retention time, producing a thick paste instead of conventional slurry.

**9 We make up polyelectrolyte solution**

with the Polyprep system - automatically and economically producing homogeneous batches of solution of the desired concentration.

**10 We make packaged systems**

to incorporate U.S. Filter/Wallace & Tiernan equipment into complete tested skid and wall mounted systems that require the minimum of site installation and commissioning.

**11 We make swimming pool water safe and attractive to bathers**

with a system which provides automatic control of the chlorine residual and pH to pre-determined set levels - resulting in optimum conditions for swimming at all times.

**12 We detect traces of Chlorine, Ozone and Sulfur Dioxide in the air**

with monitoring devices that will automatically set up an alarm condition in the event of such a gas leak occurring, as low as 0.5ppm.

**13 We monitor the active constituents of free chlorine, pH, conductivity & Redox**

with OROCI and DEPOLOX 4, the most reliable and effective monitors available.

**We provide extensive support for all**

**14 our products**

with a 40 strong field technical sales and service team backed up with excellent spares availability.

If you would like additional product and service information without any obligation please complete the reply card and post to us



## after sales and service



When you invest in top quality equipment, you deserve top quality after sales support to ensure

that you continue to achieve maximum performance from that equipment.

We have a comprehensive service operation strategically located throughout Mexico who can offer:

- Breakdown service.
- Advice on and supervision of installation of new U.S. Filter/Wallace & Tiernan equipment.
- Commissioning of new installations and systems.
- On site training for your operators and maintenance staff.
- Service Contracts can be selected to meet your own specific requirement and budget ranging from a single annual overhaul to multiple visits.

- Advice on a wide range of system applications, based on information collected over 75 years of experience in the field.
- All Engineers carry with them basic spare parts for the full range of standard equipment. They are also backed up by a large Head Office spares organisation which can guarantee a first class supply service.

In addition to our Field Service, we can offer a Repair Service at HQ for those jobs which are too big to carry out at site (eg major refurbishment of pump and other equipment, PCB, etc).

These services are also available to our overseas clients, either through our fully qualified agents or by direct negotiation with Headquarters.

## U.S. Filter/Wallace & Tiernan worldwide

With global markets and operating centres in the USA, UK, France, Germany, Australia, Canada, Brazil and Mexico, U.S. Filter/Wallace & Tiernan is firmly established as a world leader in water and wastewater treatment.

With over eighty years experience and a background of innovative product development, the Company has been responsible for major advancements in water and waste water treatment technology.

The Company's unrivalled technical expertise and research and development capabilities support international manufacturing facilities, producing a comprehensive range of water treatment products for world markets.



**U.S. FILTER**  
WALLACE & TIERNAN

U.S. Filter/Wallace & Tiernan de Mexico SA de CV  
via Jose Lopez Portillo No. 321, Santa Maria Cautepoc,  
Tultitlan, Edo. De Mexico, CP 54900 Mexico  
(52) 5 879 0260 phone (52) 5 875 2171 fax







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**NONCOMPLIANCE NOTIFICATION**

## Mark Bennett

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**From:** Mark Bennett  
**Sent:** Thursday, October 04, 2012 10:38 AM  
**To:** kharris@waterboards.ca.gov; Peter von Langen (pvonlangen@waterboards.ca.gov)  
**Subject:** Noncompliance Notification  
**Attachments:** Noncompliance Notice.docx

Noncompliance notification for 10/3/2012.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

[www.carpsan.com](http://www.carpsan.com)



Carpinteria Sanitary District  
**MEMORANDUM**

Date: 10/4/2012

To: Mr. Ken Harris – Interim Executive Officer  
Central Coast Regional Water Quality Control Board

From: Mark Bennett - Operations Manager

CC: Peter Von Langen – Central Coast RWQCB  
Craig Murray, P.E. – CSD General Manager

Re: Noncompliance Notification

---

On October 3, 2012 at 4:08 a.m. the disinfection system at the Carpinteria Sanitary District's wastewater treatment facility malfunctioned. It was restored to full operability the same day at 9:45 a.m. The District estimates the volume of fully treated, but non-disinfected effluent discharged during this event to be 281,250 gallons. Routine effluent sampling was conducted within the period that the equipment was not operational. Results will be reported pursuant the District's NPDES permit and MRP requirements.

The cause of the malfunction is suspected to be an air-locked chemical feed pump. The District had over 1,200 gallons of sodium hypochlorite in inventory at that time. There is no additional evidence that points to causation, and it is noted that the chemical feed pump in question has operated reliably for over a decade and is regularly inspected and maintained.

The District notified the Central Coast Water Board of the event and left telephone messages for Peter Von Langen and also for his supervisor. The District also notified both the Santa Barbara County Environmental Health Department and the Preharvest Shellfish Unit, Environmental Management Branch of the California Department of Public Health.

## Mark Bennett

---

**From:** Christen, Joe (CDPH-DDWEM-EMB) <Joe.Christen@cdph.ca.gov>  
**Sent:** Friday, December 13, 2013 10:44 AM  
**To:** Mark Bennett  
**Subject:** RE: Oct 3 notification

Hi Mark –

I also have the following emails with regards to Vanessa's calculations. She had determined that there would not be an impact to the growing area.

~ Joe

**From:** Zubkousky-White, Vanessa (CDPH-DDWEM-EMB)  
**Sent:** Wednesday, October 03, 2012 12:08 PM  
**To:** Christen, Joseph (CDPH-DDWEM-EMB)  
**Subject:** Carpenteria

According to my calculations, there shouldn't be an impact to the growing area.  
The radius I calculated was 1.2 miles. You should do the calculations on your own to make sure I did them correctly.

**From:** Zubkousky-White, Vanessa (CDPH-DDWEM-EMB)  
**Sent:** Wednesday, October 03, 2012 12:31 PM  
**To:** Christen, Joseph (CDPH-DDWEM-EMB)  
**Subject:** Carpenteria

Hey,

The treatment plant called back with an estimated volume of 281,250 gallons of secondary treated effluent non-chlorinated effluent released.

My new calculation is 1.57 miles. I told Mark Bennett that we would send him an updated contact list.

---

**From:** Mark Bennett [<mailto:MarkB@carpsan.com>]  
**Sent:** Friday, December 13, 2013 9:41 AM  
**To:** Christen, Joe (CDPH-DDWEM-EMB)  
**Cc:** Zubkousky-White, Vanessa (CDPH-DDWEM-EMB)  
**Subject:** RE: Oct 3 notification

Thanks. When Vanessa called me back she said she had done a calculation or estimation of the possible effected area. Approximately one square mile I recall and it was not a concern for any of the harvest areas. I don't have any records of the calls so if any of you have anything else I would appreciate it!

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

**From:** Christen, Joe (CDPH-DDWEM-EMB) [<mailto:Joe.Christen@cdph.ca.gov>]  
**Sent:** Friday, December 13, 2013 9:31 AM  
**To:** Mark Bennett  
**Cc:** Zubkousky-White, Vanessa (CDPH-DDWEM-EMB)  
**Subject:** Oct 3 notification

Good morning Mark –

I understand that you called Sam Rankin about the notification we received regarding the loss of chlorination at the Carpinteria WWTP on October 3, 2013. I have an email from Vanessa Zubkousky of our program (below) from October 3 @ 1124 indicating that you had called notified our office of the loss of disinfection the morning of October 3.

I hope this helps.

~ Joe  
Joe Christen  
Environmental Scientist  
California Dept of Public Health  
850 Marina Bay Parkway  
Richmond, CA 94804  
510 412-4638  
[Joe.Christen@cdph.ca.gov](mailto:Joe.Christen@cdph.ca.gov)

---

**From:** Zubkousky-White, Vanessa (CDPH-DDWEM-EMB)  
**Sent:** Wednesday, October 03, 2012 11:24 AM  
**To:** Christen, Joseph (CDPH-DDWEM-EMB)  
**Subject:** Carpenteria lost chlorination

Hi Joe,

Carpenteria lost chlorination this morning from 4:08- 9:46 AM. They were discharging ~500 gallons per minute. They may call back with an estimate of total gallons discharged without chlorination.

I'm going to try and do some calculations and look up the currents.

We may want to follow up with an updated notification list for all the treatment plants.

Vanessa Zubkousky-White  
Environmental Scientist  
California Department of Public Health  
Preharvest Shellfish Unit  
850 Marina Bay Pkwy., G165  
Richmond, CA 94804  
Phone (510) 412-4631  
Fax (510) 412-4637  
[vanessa.zubkousky@cdph.ca.gov](mailto:vanessa.zubkousky@cdph.ca.gov)

## Mark Bennett

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**From:** Christen, Joe (CDPH-DDWEM-EMB) <Joe.Christen@cdph.ca.gov>  
**Sent:** Friday, December 13, 2013 9:31 AM  
**To:** Mark Bennett  
**Cc:** Zubkousky-White, Vanessa (CDPH-DDWEM-EMB)  
**Subject:** Oct 3 notification

Good morning Mark –

I understand that you called Sam Rankin about the notification we received regarding the loss of chlorination at the Carpinteria WWTP on October 3, 2013. I have an email from Vanessa Zubkousky of our program (below) from October 3 @ 1124 indicating that you had called notified our office of the loss of disinfection the morning of October 3.

I hope this helps.

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850 Marina Bay Pkwy., G165  
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Phone (510) 412-4631  
Fax (510) 412-4637  
[vanessa.zubkousky@cdph.ca.gov](mailto:vanessa.zubkousky@cdph.ca.gov)



MARK BENNETT  
5641 CIELO AVE  
GOLETA, CA 93117-1826

Page: 13 of 17  
Bill Cycle Date: 09/08/12 - 10/07/12  
Account: 287000358419  
Foundation Account: FAN 00059339

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**805 452-3962**  
MARK BENNETT

Call Detail - Continued

Time	Place Called	Number Called	Rate Code	Feature Code	Min	Airtime Charges	LD/Addl Charges
Monday, 10/01							
01:24p	INCOMI CL	805-705-5248	M2AM	M2AM	1	0.00	0.00
02:54p	INCOMI CL	805-705-5248	M2AM	M2AM	2	0.00	0.00
02:56p	SANBAR CA	805-451-7809	M2AM	M2AM	1	0.00	0.00
05:08p	INCOMI CL	805-451-7821	M2AM	M2AM	5	0.00	0.00
05:32p	INCOMI CL	805-451-7809	M2AM	M2AM	2	0.00	0.00
Tuesday, 10/02							
08:01a	CARPIN CA	805-684-7214	RM15		1	0.00	0.00
08:32a	CARPIN CA	805-684-7214	RM15		1	0.00	0.00
08:33a	CARPIN CA	805-684-7214	RM15		1	0.00	0.00
08:33a	CARPIN CA	805-684-7214	RM15		1	0.00	0.00
10:25a	INCOMI CL	805-684-7214	RM15		1	0.00	0.00
11:43a	SANBAR CA	805-284-6889	M2AM	M2AM	8	0.00	0.00
12:57p	INCOMI CL	805-284-6889	M2AM	M2AM	3	0.00	0.00
02:22p	SANBAR CA	805-451-7806	M2AM	M2AM	1	0.00	0.00
02:23p	SANBAR CA	805-451-7806	M2AM	M2AM	1	0.00	0.00
02:25p	SANBAR CA	805-451-7806	M2AM	M2AM	1	0.00	0.00
02:26p	INCOMI CL	805-451-7806	M2AM	M2AM	1	0.00	0.00
04:24p	SANBAR CA	805-451-7821	M2AM	M2AM	2	0.00	0.00
Wednesday, 10/03							
08:18a	SANBAR CA	805-570-9446	M2AM	M2AM	1	0.00	0.00
08:39a	SANBAR CA	805-570-9446	M2AM	M2AM	1	0.00	0.00
09:07a	SANBAR CA	805-685-4141	RM15		2	0.00	0.00
11:18a	RICHMO CA	510-412-4631	RM15		2	0.00	0.00
11:21a	SAN LU CA	805-549-3147	RM15		2	0.00	0.00
11:23a	SANBAR CA	805-681-4900	RM15		2	0.00	0.00
11:25a	SANBAR CA	805-681-4944	RM15		2	0.00	0.00
11:27a	RICHMO CA	510-412-4635	RM15		2	0.00	0.00
12:20p	RICHMO CA	510-412-4631	RM15		2	0.00	0.00
12:22p	SAN LU CA	805-549-3688	RM15		2	0.00	0.00
01:47p	INCOMI CL	805-451-7804	M2AM	M2AM	4	0.00	0.00
Thursday, 10/04							
08:02a	INCOMI CL	805-451-7809	M2AM	M2AM	1	0.00	0.00
08:37a	INCOMI CL	805-451-7809	M2AM	M2AM	1	0.00	0.00
08:39a	INCOMI CL	805-451-7809	M2AM	M2AM	1	0.00	0.00
08:48a	INCOMI CL	805-681-4200	RM15		2	0.00	0.00
09:02a	INCOMI CL	818-261-4537	M2AM	M2AM	5	0.00	0.00
09:13a	SAN LU CA	805-549-3688	RM15		1	0.00	0.00
09:13a	SAN LU CA	805-549-3147	RM15		3	0.00	0.00
11:16a	INCOMI CL	805-766-3894	M2AM	M2AM	4	0.00	0.00
12:46p	INCOMI CL	805-453-5322	M2AM	M2AM	1	0.00	0.00
01:41p	SANBAR CA	805-451-7821	M2AM	M2AM	7	0.00	0.00
07:44p	INCOMI CL	805-451-6050	M2AM	M2AM	1	0.00	0.00
Friday, 10/05							
10:46a	INCOMI CL	805-705-5248	M2AM	M2AM	1	0.00	0.00
11:39a	SANBAR CA	805-451-7821	M2AM	M2AM	8	0.00	0.00
12:05p	SANBAR CA	805-452-9879	M2AM	M2AM	3	0.00	0.00
12:12p	SANBAR CA	805-451-6050	M2AM	M2AM	4	0.00	0.00
01:39p	SANBAR CA	805-451-7821	M2AM	M2AM	1	0.00	0.00
01:39p	CALL WAIT	805-451-7821	M2AM	CW	2	0.00	0.00

Time	Place Called	Number Called	Rate Code	Feature Code	Min	Airtime Charges	LD/Addl Charges
Friday, 10/05							
09:31p	SANBAR CA	805-451-6050	M2AM	M2AM	1	0.00	0.00
09:32p	SANBAR CA	805-451-6050	M2AM	M2AM	1	0.00	0.00
09:32p	SANBAR CA	805-451-6050	M2AM	M2AM	1	0.00	0.00
09:33p	SANBAR CA	805-451-6050	M2AM	M2AM	1	0.00	0.00
Saturday, 10/06							
07:58a	INCOMI CL	805-895-1057	M2AM	M2AM	2	0.00	0.00
Sunday, 10/07							
12:35p	INCOMI CL	805-451-7803	M2AM	M2AM	2	0.00	0.00
02:58p	INCOMI CL	805-451-7821	M2AM	M2AM	2	0.00	0.00
Subtotal					660	0.00	0.00

Rate Code:

M2AM = Unlimited Mobile to Any Mobile  
RM15 = 1500 Anytime w/Rollover Shared  
UNW9 = Unlimited Night & Weekend

Feature Code:

CW = Call Waiting  
M2AM = Mobile to Any Mobile

Data Detail

Time	To/From	Type/Unit	Rate Code
Friday, 09/07			
11:38p	Sent 805-451-7821	Text Message	MSGF 0.00
11:39p	Rcvd 805-451-7821	Text Message	MSGF 0.00
11:40p	Sent 805-451-7821	Text Message	MSGF 0.00
11:42p	Rcvd 805-451-7821	Text Message	MSGF 0.00
11:42p	Sent 805-451-7821	Text Message	MSGF 0.00
11:43p	Rcvd 805-451-7821	Text Message	MSGF 0.00
11:51p	Rcvd 805-451-7821	Text Message	MSGF 0.00
11:51p	Rcvd 805-451-7821	Text Message	MSGF 0.00
11:51p	Rcvd 805-451-7821	Text Message	MSGF 0.00
Saturday, 09/08			
12:02a	Sent 805-451-7821	Text Message	MSGF 0.00
05:22p	Sent 805-451-7821	Text Message	MSGF 0.00
05:27p	Rcvd 805-451-7821	Text Message	MSGF 0.00
06:51p	Rcvd 661-303-1409	MTM TEXT MESSAG	MSGF 0.00
09:04p	Sent 661-303-1409	MTM TEXT MESSAG	MSGF 0.00
Monday, 09/10			
06:13p	Rcvd 805-451-7821	Text Message	MSGF 0.00
Tuesday, 09/11			
12:45p	Rcvd 805-451-7821	Text Message	MSGF 0.00
12:46p	Sent 805-451-7821	Text Message	MSGF 0.00
12:46p	Rcvd 805-451-7821	Text Message	MSGF 0.00
12:47p	Sent 805-451-7821	Text Message	MSGF 0.00
12:50p	Rcvd 805-451-7821	Text Message	MSGF 0.00
12:50p	Sent 805-451-7821	Text Message	MSGF 0.00
12:51p	Sent 805-451-7821	Text Message	MSGF 0.00
12:56p	Rcvd 805-451-7821	Text Message	MSGF 0.00
12:56p	Sent 805-451-7821	Text Message	MSGF 0.00
01:02p	Rcvd 805-451-7821	Text Message	MSGF 0.00
01:02p	Sent 805-451-7821	Text Message	MSGF 0.00
01:03p	Rcvd 805-451-7821	Text Message	MSGF 0.00

---

**DATA AND RECORDS FOR OCT 3 EVENT**



DATE: 10-3-12 DAY: Wed. OPERATOR: JK 6-DAY  Weather: overcast

**INF - 001:**

Flow MGD 1.279  
 Peak MG 2.440  
 TSS mg/L 338  
 pH 7.65

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L 114  
 Primary Sludge Depth Ft. \_\_\_\_\_  
 Primary Sludge TS mg/L 21260  
 Primary Sludge TVS mg/L 16905

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L	2532	2510	2521
#1 TVSS mg/L	2160	2144	2152
#2 TSS mg/L	2444	2468	2456
#2 TVSS mg/L	2088	2100	2094
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			<u>210</u>

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. 0.0  
 Final #2 Sludge Depth Ft. 0.0 Am  
 RAS TSS mg/L 7708

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 234  
 Bisulfite Lbs. 239  
 EFF. Chlorine Residual mg/L 0.00/8.8+

**EFF - 001:**

Flow MGD 1.371 Time Collected Analyzed  
 Peak Flow MG 2.661 Collected By By  
 TSS mg/L 9  
 Effluent Settleable Solids mL 0.1 9:50 JK JK  
 Chlorine Residual Avg mg/L 0.00  
 Chlorine Residual Max mg/L 0.00  
 CL2 Res. After DeChlor mg/L 0.00 9:50 JK JK  
 pH 7.30 9:50 JK JK  
 Turbidity NTU 1.79  
 Effluent Temperature (6-day) \_\_\_\_\_

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L 16257  
 Digester Sludge TVS mg/L 11858  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 5-9  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	0.18	0.17
PRIMARY		1.0
WAS	24	30
RAS %	13%	30

**SLUDGE DEWATERING:**

Screw Press Flow MGD 0.11428  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l 16257  
 Press Filtrate mg/l 375  
 Press Cake mg/l 168,663

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Determination of Chlorine Residual Carpinteria Sanitary District

Date:	10-3-12	Analyst:	FR
Reagent #	R-256, R-320		

Spec Standard Check

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.21	0.90	1.61
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mLs)	Final Result (mg/L)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10	0.00	
EFF - 001	9:50	10:00	10	0.00	P
EFF-001 Dup.(≤ 30% RPD)			10	0.00	
			10	0.00	
BOD Eff. (6-Day Only)			10		
Plant Eff Before Bechlor	9:50	10:00	10	0.00	
" "	" "	10:05	10	0.00	
	11:00	11:05	10	8.8+	

All test done by "Standard Method" (20th Ed.) SM4500Cl G

$$\frac{(\text{Result 1} - \text{Result 2})}{(\text{Result 1} + \text{Result 2})/2} \times 100 = \text{RPD}$$



# CSD Laboratory

## Total & Fecal Coliform (MTF)

Form 9921BE-0

Lab #: \_\_\_\_\_

LTB Solution # <b>R-288</b> BGB Solution # _____ EC Solution # _____ Phos. Buffer # <b>R-318</b>	Sampling Point: <b>EFF - 001</b> Date & Time Collected: <b>10-4-12 / 9:50</b> Sample collected By: <b>JK</b>	Results: Coliform MPN/100 ML <b>&lt; 1.8</b> <hr/> Fecal MPN/100 ML <b>&lt; 1.8</b>
---	---	---

Dilutions In	10					1					0.1					0.01				
	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0
Portions In ML																				
Hours																				
Persumptive 24	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Confirmed 24																				
48																				
Fecal Coliform																				
Date/Time	<b>10-4-12</b>					<b>10-5-12</b>										<b>9-6-12</b>				
Started:	<b>10:25</b>					<b>9:15</b>										<b>8:30</b>				
Remarks:											Analyzed By: <b>JK</b>									

All test done by "Standard Method" (20th Ed.) SM9221B/SM9221C,E

### Completed Test

NOTE: Double confirmation into Brilliant Green Lactose Bile broth for total coliforms and EC broth for fecal coliforms may be used. Consider positive EC broth elevated temperature (44.5°C) result as a positive completed test response. (9221 B.3)

BGB Result:

EC Result:

Completed Test (Y/N)

(if NO continue to further confirmation procedure)

Parallel positive BGB broth cultures and negative EC broth cultures indicate the presence of non fecal coliforms and must be submitted to the completed test procedure to validate the presence of coliforms.

Date & Time Started: \_\_\_\_\_

Initial: \_\_\_\_\_

Date & Time Finished: \_\_\_\_\_

Initial: \_\_\_\_\_

1. A positive from the "confirmed" results is streaked onto the Les Endo Agar, then incubated for 24-hrs at 35°C

	1	2	3	4	5
24-hrs:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Circle colony morphology) Typical, Atypical, Negative

2. An isolated coliform colony is transferred back to LTB and incubated.  
 Test is positive and completed with gas production.

Completed:

	1	2	3	4	5
24-hrs:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48-hrs:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CSD Laboratory  
Total & Fecal Coliform (MTF)

Form 9921BE-0

Lab #: \_\_\_\_\_

LTB Solution # <b>R-288</b> BGB Solution # EC Solution # Phos. Buffer # <b>R-318</b>	Sampling Point: <b>EFF - 001</b> Date & Time Collected: <b>10-2-12 / 10:10</b> Sample collected By: <b>Fee</b>	Results: Coliform MPN/100 ML <b>21.8</b> Fecal MPN/100 ML <b>21.8</b>
---	---	---

Dilutions In	10					1					0.1					0.01				
	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0
Portions In ML																				
Hours																				
Persumptive 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Confirmed 24																				
48																				
Fecal Coliform																				
Date/Time <b>10-2-12</b>	Date/Time <b>10-3-12</b>					Date/Time					Date/Time					Date/Time <b>10-4-12</b>				
Started: <b>10:30</b>	1st Read: <b>9:50</b>					2nd Read:					3rd Read:					Last Read: <b>9:00</b>				
Remarks:										Analyzed By: <b>Fee</b>										

All test done by "Standard Method" (20th Ed.) SM9221B/SM9221C,E

### Completed Test

NOTE: Use the completed test on at least 10% of positive confirmed tubes. Simultaneous inoculation into BGB broth for total coliforms and EC broth for fecal coliforms may be used. Consider positive EC broth elevated temperature (44.5 c) results as a positive completed test response. (9221 B.3)

BGB Result:

EC Result:

Completed Test (Y/N)

---

**SCADA IMPROVEMENTS INFORMATION**

## Mark Bennett

---

**From:** Nader Vakilian <aiaautomation@earthlink.net>  
**Sent:** Wednesday, October 10, 2012 7:59 AM  
**To:** Mark Bennett  
**Subject:** Quotation for Modicon PLC Programming  
**Attachments:** CarpinteriaModiconPLCQuotation.pdf

Good Morning Mark,

I have the quotation for PLC programming ready for your review. Please let me know if you have any question or comment. I will wait for your authorization before start to work on it.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc  
(818) 261-4537

## Mark Bennett

---

**From:** Mark Bennett  
**Sent:** Wednesday, October 10, 2012 8:03 AM  
**To:** Craig Murray  
**Subject:** FW: Quotation for Modicon PLC Programming  
**Attachments:** CarpinteriaModiconPLCQuotation.pdf

Craig here is the quote from Nader to make the modifications to the Modicon PLC for dose and residual alarms. Calculations and averaging done in the PLC, latching alarm and acknowledgment from SCADA computer. I want to get this done asap.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

[www.carpsan.com](http://www.carpsan.com)

---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Wednesday, October 10, 2012 7:59 AM  
**To:** Mark Bennett  
**Subject:** Quotation for Modicon PLC Programming

Good Morning Mark,

I have the quotation for PLC programming ready for your review. Please let me know if you have any question or comment. I will wait for your authorization before start to work on it.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc  
(818) 261-4537

## Mark Bennett

---

**From:** Mark Bennett  
**Sent:** Wednesday, October 10, 2012 8:05 AM  
**To:** Nader Vakilian  
**Subject:** RE: Quotation for Modicon PLC Programming

Approved! Let's get it done.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

[www.carpsan.com](http://www.carpsan.com)

---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Wednesday, October 10, 2012 7:59 AM  
**To:** Mark Bennett  
**Subject:** Quotation for Modicon PLC Programming

Good Morning Mark,

I have the quotation for PLC programming ready for your review. Please let me know if you have any question or comment. I will wait for your authorization before start to work on it.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc  
(818) 261-4537



## Mark Bennett

---

**From:** Nader Vakilian <aiaautomation@earthlink.net>  
**Sent:** Wednesday, October 17, 2012 8:13 PM  
**To:** Mark Bennett  
**Subject:** PLC Project

**Importance:** High

Good Morning Mark,

I am sorry that I did not get to come to the plant during this week. I am planning to be there Monday morning. I also need to ask you if I can go to the plant on Saturday morning as I need to install the program and let it run for more than 24 hours, so if anything needs to be modified, I can do it on Monday. Would it be possible for me to be at the plant for few hours on Saturday morning? I will be there by 8.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc  
(818) 261-4537

## Mark Bennett

---

**From:** Mark Bennett  
**Sent:** Thursday, October 18, 2012 9:55 AM  
**To:** Nader Vakilian  
**Subject:** RE: PLC Project

That is fine. I will tell the on duty operator you are coming by. Also if you need anything you know you can call me.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

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---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Wednesday, October 17, 2012 8:13 PM  
**To:** Mark Bennett  
**Subject:** PLC Project  
**Importance:** High

Good Morning Mark,

I am sorry that I did not get to come to the plant during this week. I am planning to be there Monday morning. I also need to ask you if I can go to the plant on Saturday morning as I need to install the program and let it run for more than 24 hours, so if anything needs to be modified, I can do it on Monday. Would it be possible for me to be at the plant for few hours on Saturday morning? I will be there by 8.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc  
(818) 261-4537

## Mark Bennett

---

**From:** Nader Vakilian <aiaautomation@earthlink.net>  
**Sent:** Monday, November 05, 2012 8:16 AM  
**To:** Mark Bennett  
**Subject:** RE: Plant Visit

Thank you for the information. I am planning to be there on Wednesday. I will reconfirm it with before coming there.

See you then,  
Nader

---

**From:** Mark Bennett [<mailto:MarkB@carpsan.com>]  
**Sent:** Monday, November 05, 2012 7:40 AM  
**To:** Nader Vakilian  
**Subject:** RE: Plant Visit

Everything seems to be working ok except the residual max is not clearing at midnight. I don't know if it's the PLC or the HMI. I also have some issues with some of the trends I'm not able to view. I'm here all week.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

[www.carpsan.com](http://www.carpsan.com)

---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Monday, November 05, 2012 7:10 AM  
**To:** Mark Bennett  
**Subject:** Plant Visit

Good Morning Mark,

I am planning to stop by your plant during this week. Is there a day that you will not be available this week? Also, any status update on the changes that I have recently made on HMI? I hope everything is going well.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc.  
(818)261-4537

## Mark Bennett

---

**From:** Mark Bennett  
**Sent:** Monday, November 05, 2012 7:40 AM  
**To:** Nader Vakilian  
**Subject:** RE: Plant Visit

Everything seems to be working ok except the residual max is not clearing at midnight. I don't know if it's the PLC or the HMI. I also have some issues with some of the trends I'm not able to view. I'm here all week.

Mark Bennett  
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Carpinteria, CA 93013  
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**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Monday, November 05, 2012 7:10 AM  
**To:** Mark Bennett  
**Subject:** Plant Visit

Good Morning Mark,

I am planning to stop by your plant during this week. Is there a day that you will not be available this week? Also, any status update on the changes that I have recently made on HMI? I hope everything is going well.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc.  
(818)261-4537

## Mark Bennett

---

**From:** Mark Bennett  
**Sent:** Monday, November 05, 2012 8:30 AM  
**To:** Nader Vakilian  
**Subject:** RE: Plant Visit

Great see you then.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

[www.carpsan.com](http://www.carpsan.com)

---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Monday, November 05, 2012 8:16 AM  
**To:** Mark Bennett  
**Subject:** RE: Plant Visit

Thank you for the information. I am planning to be there on Wednesday. I will reconfirm it with before coming there.

See you then,  
Nader

---

**From:** Mark Bennett [<mailto:MarkB@carpsan.com>]  
**Sent:** Monday, November 05, 2012 7:40 AM  
**To:** Nader Vakilian  
**Subject:** RE: Plant Visit

Everything seems to be working ok except the residual max is not clearing at midnight. I don't know if it's the PLC or the HMI. I also have some issues with some of the trends I'm not able to view. I'm here all week.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
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Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

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---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Monday, November 05, 2012 7:10 AM  
**To:** Mark Bennett  
**Subject:** Plant Visit

Good Morning Mark,

I am planning to stop by your plant during this week. Is there a day that you will not be available this week? Also, any status update on the changes that I have recently made on HMI? I hope everything is going well.

Thank you,

**Nader Vakilian**

Application Development Engineer

AIA Automation, Inc.

(818)261-4537

## Mark Bennett

---

**From:** Nader Vakilian <aiaautomation@earthlink.net>  
**Sent:** Monday, November 05, 2012 8:16 AM  
**To:** Mark Bennett  
**Subject:** RE: Plant Visit

Thank you for the information. I am planning to be there on Wednesday. I will reconfirm it with before coming there.

See you then,  
Nader

---

**From:** Mark Bennett [<mailto:MarkB@carpsan.com>]  
**Sent:** Monday, November 05, 2012 7:40 AM  
**To:** Nader Vakilian  
**Subject:** RE: Plant Visit

Everything seems to be working ok except the residual max is not clearing at midnight. I don't know if it's the PLC or the HMI. I also have some issues with some of the trends I'm not able to view. I'm here all week.

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---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Monday, November 05, 2012 7:10 AM  
**To:** Mark Bennett  
**Subject:** Plant Visit

Good Morning Mark,

I am planning to stop by your plant during this week. Is there a day that you will not be available this week? Also, any status update on the changes that I have recently made on HMI? I hope everything is going well.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc.  
(818)261-4537

## Mark Bennett

---

**From:** Mark Bennett  
**Sent:** Tuesday, November 20, 2012 8:21 AM  
**To:** Nader Vakilian  
**Subject:** RE: HMI Changes Invoice

Thanks for the help. I will get this processed asap. Have a great Thanksgiving.

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

[www.carpsan.com](http://www.carpsan.com)

---

**From:** Nader Vakilian [<mailto:aiaautomation@earthlink.net>]  
**Sent:** Tuesday, November 20, 2012 8:19 AM  
**To:** Mark Bennett  
**Subject:** HMI Changes Invoice

Good Morning Mark,

I have included an invoice for the recent visits and changes to the HMI application. Please let me know if you have any question.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc.  
(818)261-4537



## Mark Bennett

---

**From:** Nader Vakilian <aiaautomation@earthlink.net>  
**Sent:** Monday, October 22, 2012 5:50 AM  
**To:** Mark Bennett  
**Subject:** Invoice for PLC Programming  
**Attachments:** carpin-invoice70.pdf; carpin-invoice69.pdf

Good Morning Mark,

I have included the invoice for PLC modification, and installation and modification of OS and SQL. I have also included the LiftStation#6 Invoice as I am not sure if you had received it or not. Please let me know if there are any issues with the system.

Thank you,  
**Nader Vakilian**  
Application Development Engineer  
AIA Automation, Inc.  
(818)261-4537



# Invoice

AIA Automation, Inc.  
 5974 Maury Ave.  
 Woodland Hills, CA 91367  
 Tel: (818) 261-4537  
 Fax: (818) 704-7151

Invoice Number	Project Reference	Invoice Date	Term
114678	SCADA APPLICATION	November 20, 2012	Net 30

	Qty	Type	Description	Labor	Material	Extended Price
1	1	SUPP	<b>Engineering Services – Onsite Support</b>	\$0.00	\$600.00	\$600.00
2			4 hours including travel time (11/17 & 19 /2012)			
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28	Please make your check payable to: AIA Automation, Inc. Thank you				<b>Labor Total</b>	<b>\$600.00</b>
29					<b>Material Total</b>	<b>\$0.00</b>
30					<b>Shipping</b>	
31					<b>Total</b>	<b>\$0.00</b>
32					<b>Grand Total</b>	<b>\$600.00</b>



# Invoice

AIA Automation, Inc.  
 5974 Maury Ave.  
 Woodland Hills, CA 91367  
 Tel: (818) 261-4537

Invoice Number	Project Reference	Invoice Date	Term
114671	Modicon PLC Programming	October 22, 2012	Net 30

	Qty	Type	Description	Labor	Material	Extended Price
1	1	PROG	Modicon PLC Logic Development	\$0.00	\$1,500.00	\$1,500.00
2	1	PROG	HMI RSView FactoryTalk Modification	\$0.00	\$600.00	\$600.00
3	1	PROG	Daily Totalize Report Modification	\$0.00	\$150.00	\$150.00
4	1	PROG	WIN911 Alarm Modification	\$0.00	\$300.00	\$300.00
5	1	PROG	Field Startup	\$0.00	\$1,200.00	\$1,200.00
6						
7	1	PROG	Apply Required Updates for OS and SQL	\$0.00	\$2,400.00	\$2,400.00
8						
9						
10						
11						
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28	Please make your check payable to: AIA Automation, Inc. Thank you				<b>Labor Total</b>	<b>\$6,150.00</b>
29					<b>Material Total</b>	<b>\$0.00</b>
30					<b>Shipping</b>	\$0.00
31					<b>Total</b>	<b>\$0.00</b>
32					<b>Grand Total</b>	<b>\$6,150.00</b>

October 30, 2013

Mark Bennett  
Operations Manager  
Carpinteria Sanitary District  
5351 Sixth Street  
Carpinteria, CA 93013  
(805) 684-7214 x17 phone  
(805) 566-6599 fax

Subject: Strantrol 960 Controller Demo unit

D & H Water Systems, Inc is pleased to offer the following proposal for your consideration.



**QTY MODEL EQUIPMENT**

1	Model-960 Controller	Siemens /Stranco Strantrol Model 960 ( <u>D</u> ual <u>O</u> xidant <u>C</u> ontrol System) Original Pricing was \$12,600.0
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Pricing on Demo unit

**\$4,950.00**

**Note:** This equipment was used for approximately 2 weeks as a demo. It is sold as is and carries a 30 day money back warranty if it fails to operate.

**Conditions of Sale:**

- Payment terms: Net 30 Days.
- This quote is firm for 60 days or until unit is sold.
- The unit has been tested and is ready to be shipped.
- Quotation does not include any taxes.
- Shipping is included.
- This quotation is limited to the products and services as listed and excludes any item or service not listed.



Resulting Purchase Order should be made out to:

D&H Water Systems Inc  
603 Seagaze Dr. #241  
Oceanside, CA 92054

Please do not hesitate to contact me if you have any questions, or require further information.

Sincerely

Lucy Thudium  
Account Executive



603 Seagaze Dr. # 241  
 Oceanside, CA 92054  
 ph: 760-722-6893

# Invoice



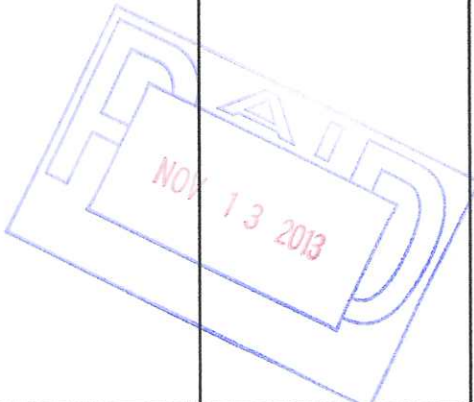
Date	Invoice #
11/1/2013	2013-439

<b>Bill To</b>
Carpinteria Sanitary District 5300 Sixth Street Carpinteria, CA 93013

<b>Ship To</b>
Carpinteria Sanitary District 5351 Sixth Street Carpinteria, CA. 93013

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
5650-1	Net 30	L	11/1/2013	Best way		

Quantity	Description	Price Each	Amount
1	W2T1555 960 Controller Sales Tax Carpinteria 8.0%	4,950.00 8.00%	4,950.00T 396.00



<b>Total</b>		\$5,346.00
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**ENGINEER'S ESTIMATE FOR FACILITY UPGRADE PROJECT**



DATE: November 27, 2013  
 SUBJECT: CSD Aerated Sludge Holding Tank Replacement  
 WO#: 8545B.10  
 COPIES TO: file

4600 East Washington St., Suite 500  
 Phoenix, Arizona 85034  
 P. 602.263.9500  
 F. 602.265.1422

**TRANSMITTAL FORM**

ADDRESS: Carpinteria Sanitary District  
 5300 Sixth Street  
 Carpinteria, CA 93013

ATTENTION: Mr. Craig Murray, General Manager

THE FOLLOWING ITEMS ARE:

- REQUESTED
- ENCLOSED
- SENT SEPARATELY
- REPORT
- TEST RESULT
- SPECIFICATION
- COST ESTIMATE
- CHECK PRINT
- PROGRESS EST.
- CALCULATIONS
- OTHER

VIA: Overnight Mail

NO. OF COPIES	DESCRIPTION
1	Carpinteria Sanitary District Aerated Sludge Holding Tank Replacement: Final Cost Estimate

THESE DATA ARE SUBMITTED:

- AT YOUR REQUEST
- FOR YOUR APPROVAL
- FOR YOUR REVIEW
- FOR YOUR ACTION
- FOR YOUR FILES
- FOR YOUR INFORMATION

GENERAL REMARKS:

Dear Craig,

Please find enclosed the Carpinteria Sanitary District Aerated Sludge Holding Tank Replacement project – final cost estimate. Please note that we are showing a 5% contingency and 5% bid market allowance, if these two factors are reduced to 0% the total estimated construction cost would be \$5.14 M. In addition, we are assuming 24 months construction, which impacts the cost shown under the General Conditions.

Feel free to contact me at 602-474-4214 if you have any questions.

Sincerely,

CAROLLO ENGINEERS, INC.

Andrew Gilmore, P.E.  
 Project Manager  
 Enclosures

## AACEI Cost Estimate Classification Matrix for Process Industries<sup>1</sup>

		Primary Characteristic	Secondary Characteristic			
ANSI Standard Z94.0	AACE Estimate Class	Level of Project Definition	End Usage	Methodology	Expected Accuracy Range	Preparation Effort
		Expressed as % of complete project definition (engineering)	Typical purpose of the estimate	Typical estimating method	Typical variation in low and high ranges (a)	Typical degree of effort relative to least cost index of 1 (b)
Order-of-Magnitude Estimate -30/+50	Class 5	0% to 2%	Concept screening	Capacity factored, parametric models, judgment, or analogy	L: -20% to -50% H: +30% to +100%	1
Budget Estimate -15/+30	Class 4	1% to 15%	Study or feasibility	Equipment factored, or parametric models	L: -15% to -30% H: +20% to +50%	2 to 4
	Class 3	10% to 40%	Budget, authorization, or control	Semi-detailed unit costs with assembly level line items	L: -10% to -20% H: +10% to +30%	3 to 10
Definitive Estimate -5/+15	Class 2	30% to 70%	Control or bid/tender	Detailed unit cost with forced detailed take-off	L: -5% to -15% H: +5% to +20%	4 to 20
	Class 1	50% to 100%	Check estimate or bid/tender	Detailed unit cost with detailed take-off	L: -3% to -10% H: +3% to +15%	5 to 100

**Notes:**

- (a) The state of process technology and availability of applicable reference cost data affect the range markedly. The +/- value represents typical percentage variation of actual costs from the cost estimate after application of contingency. (b) If the cost index value of "1" represents 0.005 percent, then an index value of 100 represents 0.5 percent. Estimate preparation effort is highly dependent upon the size of the project and the quality of estimating data and tools.

<sup>1</sup> Reprinted with the permission of AACE International, 209 Prairie Ave., Suite 100, Morgantown, WV 25601 USA. Phone 800-858-COST/304-296-8444. Fax: 304-291-5728. Internet: [www.aacei.org](http://www.aacei.org)

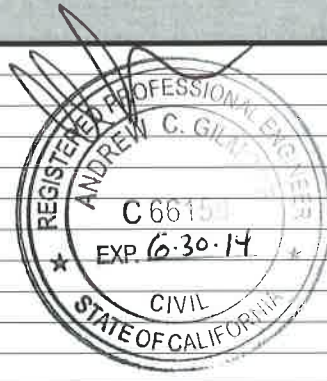


**PROJECT SUMMARY**

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Zip Code:** 93013  
**Carollo Job #** 8545B10

**Estimate Class:** 1  
**PIC:** Bob Gillette  
**PM:** ACG  
**Date:** November 27, 2013  
**By:** ZL  
**Reviewed:** ACG

NO.	DESCRIPTION	TOTAL
01	General Condition	\$726,445
02	Site Work	\$350,171
03	Aerated SHT System	\$2,071,833
04	Dewatering Feed Pumps	\$364,584
05	Chemical Feed System	\$397,919
06	Dewatered Solids Truck Ramp	\$48,002
07	Electrical	\$303,321
<b>TOTAL DIRECT COST</b>		<b>\$4,262,276</b>
	Contingency	0.0% \$0
	Subtotal	<b>\$4,262,276</b>
	General Contractor Overhead, Profit & Risk	10.0% \$426,228
	Subtotal	<b>\$4,688,503</b>
	Escalation to Mid-Point	5.5% \$257,726
	Subtotal	<b>\$4,946,229</b>
	Sales Tax (Based on 50% of direct cost)	4.0% \$197,849
	Subtotal	<b>\$5,144,078</b>
	Bid Market Allowance	0.0% \$0
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>\$5,144,078</b>



*The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our professional opinion of accurate costs at this time and is subject to change as the project design matures. Carollo Engineers have no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented as shown.*

- Notes:**
- ENR Construction Cost Index (CCI) at time of estimate is based on 20-Cities average CCI value.
  - Escalation to Mid-Point of Construction is based on annual inflation rate of 4% compounded to April 2014.
  - Sales tax assumes that 50% of total direct cost (including contingency) is taxable at Carpinteria sales tax rate of 8.0% , use a net tax rate of 4.0% (50% of 8.0%).



Project: Aerated Sludge Holding Tank Design  
 Client: Carpinteria Sanitary District  
 Location: Carpinteria, CA  
 Carollo Job # 8545910

### RECAP MATRIX

Date : November 27, 2013

Capacity:

By: ZL

Connected HP:

Estimate Class: 1

SPEC. DIVISION/ ELEMENT DESCRIPTION	DIV. 01 GEN REGTS	DIV. 02 SITE WORK	DIV. 03 CONC	DIV. 04 MSNRY	DIV. 05 METALS	DIV. 06 WOOD & Plastics	DIV. 07 MOIST PROTN	DIV. 08 DOORS & WDS	DIV. 09 FINISHES	DIV. 10 SPECIAL- TIES	DIV. 11 EQUIP	DIV. 12 FURN	DIV. 13 SPECIAL CONST	DIV. 14 CONVEY	DIV. 15 PLUMBING & MECH	DIV. 16 ELECT/ I & C	DIV. 17 INST. & CONT.	ELEMENT TOTALS	ELEMENT % of Total	TOTAL ESTIMATED CONST COSTS
01 General Condition	\$726,445																	\$726,445	17.04%	876,736
02 Site Work	\$210,942	\$23,733						\$10,507			\$300,181		\$19,848		\$85,141			\$350,171	8.22%	422,618
03 Aerated SHT System	\$432,017	\$427,353		\$100,944							\$112,000				\$425,808		\$335,991	\$2,071,833	48.61%	2,500,465
04 Dewatering Feed Pumps						\$14,400					\$52,800		\$60,000		\$191,966	\$34,210	\$26,408	\$364,684	8.55%	440,011
05 Chemical Feed System	\$21,591	\$60,558		\$23,308	\$4,755	\$14,400		\$1,836							\$82,022	\$2,675	\$73,977	\$397,919	9.34%	480,243
06 Dewatered Solids Truck Ramp	\$1,242	\$40,405			\$6,355												\$1,418	\$48,002	1.13%	57,993
07 Electrical																		\$303,921	7.12%	366,073
<b>Total Direct Cost</b>	<b>726,445</b>	<b>665,791</b>	<b>552,088</b>	<b>23,308</b>	<b>112,054</b>	<b>14,400</b>	<b>0</b>	<b>12,343</b>	<b>0</b>	<b>0</b>	<b>464,981</b>	<b>0</b>	<b>79,948</b>	<b>0</b>	<b>784,936</b>	<b>388,287</b>	<b>437,794</b>	<b>\$4,262,276</b>		<b>5,144,078</b>
<b>Percent of Total</b>	<b>17.04%</b>	<b>15.62%</b>	<b>12.95%</b>	<b>0.55%</b>	<b>2.63%</b>	<b>0.34%</b>	<b>0.00%</b>	<b>0.29%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>10.91%</b>	<b>0.00%</b>	<b>1.87%</b>	<b>0.00%</b>	<b>18.42%</b>	<b>9.11%</b>	<b>10.27%</b>	<b>100.00%</b>		

COMMENTS / NOTES

1. Note that the above Divisional costs DO NOT include all of the applicable mark-ups for the total construction or project cost. The far right-hand columns provide the Allocated Indirect Costs for each Element and the Total Estimated Construction Costs. However, any other Program Indirect Costs are not included. Refer to the PROJECT SUMMARY for the detail regarding these values.

## DETAILED COST ESTIMATE

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Element:** 01 General Condition

**Date :** November 27, 2013  
**By :** ZL  
**Reviewed:** ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 01 - General Conditions</b>						
01000	Secretaries	6	MO	\$2,743.00	\$16,458	
01000	Mechanics	6	MO	\$7,330.14	\$43,981	
01000	Field Engineers	12	MO	\$4,960.61	\$59,527	
01000	Office Engineer	12	MO	\$4,960.61	\$59,527	
01000	Chief Engineer	6	MO	\$5,714.93	\$34,290	
01000	Master Mechanic	4	MO	\$7,648.75	\$30,595	
01000	General Superintendent	18	MO	\$8,571.87	\$154,294	
01000	Construction Manager	6	MO	\$8,115.06	\$48,690	
01000	Project Manager	6	MO	\$9,257.62	\$55,546	
01000	Office Trailer	24	MO	\$3,000.00	\$72,000	
	Move In/Out Of All Equip And Temp					
01000	Facilities, Allow	\$4,260,000	PCT	1%	\$42,600	
01000	Bonds & Insurance, Allow (Min)	\$4,260,000	PCT	1%	\$42,600	
01000	Other Mob/Demob Allowances	\$4,260,000	PCT	1%	\$42,600	
01000	Dust Control	9	MO	\$2,637.50	\$23,737	
<b>Total</b>						<b>\$726,445</b>
<b>Grand Total</b>						<b>\$726,445</b>

## DETAILED COST ESTIMATE

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Element:** 02 Site Work

**Date :** November 27, 2013  
**By :** ZL  
**Reviewed:** ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 02 - Site Construction</b>						
02000	Demo Existing Digesters	1	EA	\$60,000.00	\$60,000	
02000	Demo Existing Chemical Storage	1	LS	\$15,000.00	\$15,000	
02000	Demo Existing Shed	1	LS	\$2,000.00	\$2,000	
	Digester dewatering, cleaning, and disposal of sludge					
02000		1	LS	\$20,000.00	\$20,000	
02000	Demo Existing Chemical Feed System	1	LS	\$2,500.00	\$2,500	
02000	Demo Existing Fuel Tank Pad	1	LS	\$1,000.00	\$1,000	
02000	Misc Site Work	\$191,765	PCT	10%	\$19,177	
02000	Groundwater Pumping	80	DAY	\$200.00	\$16,000	
02000	Demo Existing Digester Building	1	LS	\$6,000.00	\$6,000	
02000	Demo Existing Odor Scrubber Pad	1	LS	\$1,500.00	\$1,500	
02000	Demo Existing Fuel Tank	1.00	LS	\$5,275.00	\$5,275	
02300	Cat 235 Trackhoe 1.12Cy Bucket, Class B (Medium Digging), 0-20' D	144.81	CY	\$4.27	\$618	
	Native Trench Backfill/Unconfined Struct. Bf, Class B Material					
02300		126.66	CY	\$16.72	\$2,117	
02580	60" Precast Manhole, Xtra Depth Over 8' 60" X 8' Deep Precast Manhole, No Ring & Cover, No Earthwork	2.00	VLF	\$307.45	\$615	
02580	Concrete Manhole Invert, Single Channel	1.00	EA	\$2,756.05	\$2,756	
02580	Concrete Manhole Invert, Single Channel	1.00	EA	\$350.64	\$351	
02742	3" Ac Paving On 6" Abc	20,000.00	SF	\$2.80	\$56,033	
<b>Total</b>						<b>\$210,942</b>
<b>Division 03 - Concrete</b>						
03000	Misc Concrete	21,575.69	PCT	10%	\$2,158	
03300	8" Edge Forms Slabs On Grade, Add	36.00	LF	\$6.66	\$240	
03300	8" Flat Non-Formed S.O.G.	1.78	CY	\$323.28	\$575	
	8" Sloped S.O.G. Edge Forms (To 30%), Add					
03300		260.00	LF	\$8.07	\$2,098	
03300	8" Sloped Slab On Grade (To 30%)	9.63	CY	\$333.35	\$3,210	
03300	18" Edge Forms, Slab On Grade, Add	28.00	LF	\$28.19	\$789	
03300	18" Structural Flat Mat On Grade	2.27	CY	\$356.87	\$810	
03300	12" Edge Forms, Slab On Grade, Add	60.00	LF	\$11.38	\$683	
03300	12" Flat Non-Formed S.O.G.	5.40	CY	\$273.20	\$1,475	
03300	12" Elevated Slab To 20'	4.63	CY	\$426.08	\$1,973	
03300	12" Straight Wall, To 8' High	11.11	CY	\$875.04	\$9,722	
<b>Total</b>						<b>\$23,733</b>
<b>Division 08 - Doors and Windows</b>						
08000	Filtrate Manhole Access Hatch	1.00	EA	\$2,057.25	\$2,057	
08000	Central Gallery Access Hatch	1.00	EA	\$8,450.00	\$8,450	
<b>Total</b>						<b>\$10,507</b>
<b>Division 13 - Special Construction</b>						
13212	1,000 Gal. Double Wall Fuel Tank Installed Above Ground Incl. All Appurts.	1.00	EA	\$19,848.00	\$19,848	
<b>Total</b>						<b>\$19,848</b>
<b>Division 15 - Mechanical</b>						
15000	Misc. Piping and Valving	77,400.87	PCT	10%	\$7,740	
15000	6" glass lined DIP - yard piping	100.00	LF	\$73.84	\$7,384	
15116	6" 150# Flanged Cast Steel Plug Valve	6.00	EA	\$2,033.60	\$12,202	
15251	8" 90° 125# Cldi Fxf Ell	8.00	EA	\$1,103.23	\$8,826	
15251	8" Flg Cldi Pipe In Open Trench	50.00	LF	\$71.69	\$3,585	
15251	8" Cl 52 Cldi Mj Pipe In Open Trench	10.00	LF	\$36.74	\$367	
15251	6" X 6" Cldi Mj Tee Or Wye	2.00	EA	\$1,535.61	\$3,071	
15251	6" 90° Cldi Mj Bend	2.00	EA	\$966.77	\$1,934	
15252	1" Sch 80 Thrd Cs Pipe In Open Trench	50.00	LF	\$14.50	\$725	
15255	12" 316L Sst Fxf 90 Deg Elb, 10S	6.00	EA	\$845.13	\$5,071	
15255	12" 10S 316L Flanged Sst Pipe In A Bldg	50.00	LF	\$499.95	\$24,998	
15257	2" Type L Copper Piping In A Building	180.00	LF	\$30.06	\$5,412	
15257	2" Wrought Copper Straight Tee	1.00	EA	\$147.96	\$148	
	2" 90° Short Radius Wrought Copper Elbow					
15257		5.00	EA	\$90.05	\$450	
15265	.75" Sch 80 Pvc Pipe In A Bldg	70.00	LF	\$13.49	\$945	
15265	1" Sch 80 Pvc Pipe In A Bldg	70.00	LF	\$14.06	\$984	
15265	.75" Sch 80 Pvc Pipe In A Bldg	60.00	LF	\$13.49	\$810	
15265	2" Sch 80 Pvc Pipe In A Bldg	30.00	LF	\$16.35	\$491	
<b>Total</b>						<b>\$85,141</b>
<b>Grand Total</b>						<b>\$360,171</b>



## DETAILED COST ESTIMATE

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Element:** 03 Aerated SHT System

**Date:** November 27, 2013  
**By:** ZL  
**Reviewed:** ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 02 - Site Construction</b>						
02000	Aggregate Base Rock	917.78	CY	\$80.00	\$73,422	
02000	Vibroreplacement Stone Column (design/mob/material/install/testing)	170	EA	\$1,025.00	\$174,250	
02000	Misc Site Work	\$411,444	PCT	5%	\$20,572	
02260	Sheet Piling, 27#/Sf To 20' Deep, Pulled & Salvaged (Pits Only)	1800	SF	\$75.00	\$135,000	
02300	D6 Dozer, Class B (Medium Dig), Grade, Cut, Fill & Compact, 150' Haul	586.5185185	CY	\$3.26	\$1,911	
02300	Cat 235 Trackhoe 1.12Cy Bucket, Class B (Medium Digging), 0-20' D	2141.48	CY	\$4.27	\$9,136	
02300	20 Cy Dump Truck, 30 Miles/Round Trip	1554.961481	CY	\$11.40	\$17,725	
<b>Total</b>						<b>\$432,017</b>
<b>Division 03 - Concrete</b>						
03000	Misc Concrete	\$388,539	PCT	10%	\$38,854	
03300	26" X 96" Straight Continuous Footing	78.52	CY	\$253.36	\$19,894	
03300	26" X 96" Straight Continuous Footing	116.3	CY	\$253.36	\$29,466	
03300	26" X 96" Straight Continuous Footing	16.27	CY	\$253.36	\$4,122	
03300	10" Sloped Slab On Grade (To 30%)	60.28	CY	\$313.13	\$18,876	
03300	12" Sloped S.O.G. Edge Forms (To 30%), Add	106	LF	\$11.73	\$1,243	
03300	12" Sloped S.O.G. Edge Forms (To 30%), Add	205	LF	\$11.73	\$2,404	
03300	18" Straight Wall >8' High	246.61	CY	\$685.00	\$168,928	
03300	18" Straight Wall >8' High	117.56	CY	\$685.00	\$80,529	
03300	18" Straight Wall >8' High	58.78	CY	\$685.00	\$40,264	
03300	12" Elevated Slab, 21'-26' High	28.59	CY	\$487.34	\$13,933	
03300	12" Elevated Slab, 21'-26' High	18.22	CY	\$487.34	\$8,879	
<b>Total</b>						<b>\$427,393</b>
<b>Division 05 - Metals</b>						
05000	Misc Metal	\$91,767	PCT	10%	\$9,177	
05500	Aluminum Osha Handrail	624	LF	\$78.18	\$48,784	
05500	Aluminum Stairs, Including Railing And Supports	64	RSR	\$671.60	\$42,982	
<b>Total</b>						<b>\$100,944</b>
<b>Division 11 - Equipment</b>						
11294	Sluice Gate, Stainless Steel, 36" X 36"	1	EA	\$13,699.79	\$13,700	
11294	Sluice Gate, Stainless Steel, 24" X 24"	2	EA	\$10,115.83	\$20,232	
11376	PD Blowers	2	EA	\$87,500.00	\$175,000	
11378	Membrane Disk Fine Bubble Diffused Aeration System	1	LS	\$91,250.00	\$91,250	
<b>Total</b>						<b>\$300,181</b>
<b>Division 15 - Mechanical</b>						
15000	6" Glass Lined DIP	80	LF	\$40.00	\$3,200	
15000	Misc. Piping and Valving	\$387,098	PCT	10%	\$38,710	
15000	6" Glass Lined DIP	80	LF	\$40.00	\$3,200	
15000	8" Glass Lined DIP	60	LF	\$93.73	\$5,624	
15000	8" Glass Lined DIP	100	LF	\$93.73	\$9,373	
15112	Add For Motor Operator 12" Through 20"	2	EA	\$4,220.00	\$8,440	
15112	12" 150# Fxf Awwa Butterfly Valve, No Op	2	EA	\$3,699.18	\$7,398	
15112	12" 150# Fxf Awwa Butterfly Valve, No Op	2	EA	\$3,699.18	\$7,398	
15112	10" 150# Fxf Awwa Butterfly Valve, No Op	6	EA	\$2,960.70	\$17,764	
15116	6" 150# Flanged Cast Steel Plug Valve	4	EA	\$2,033.60	\$8,134	
15116	8" 150# Flanged Cast Steel Plug Valve	2	EA	\$2,705.05	\$5,410	
15251	8" X 8" Cldi Mj Tee Or Wye	1	EA	\$1,796.23	\$1,796	
15251	8" 90° Cldi Mj Bend	12	EA	\$1,104.15	\$13,250	
15251	8" 90° 125# Cldi Fxf Ell	4	EA	\$1,103.23	\$4,413	
15251	6" X 6" Cldi Mj Tee Or Wye	2	EA	\$1,535.61	\$3,071	
15251	6" 90° Cldi Mj Bend	12	EA	\$966.77	\$11,601	
15251	6" 90° 125# Cldi Fxf Ell	4	EA	\$988.61	\$3,954	
15255	12" 10S 316L Flanged Sst Pipe In A Bldg	300	LF	\$499.95	\$149,986	
15255	12" 316L Sst Fxf 90 Deg Elb, 10S	16	EA	\$845.13	\$13,522	
15255	12" 316L Sst Fxf Tee, 10S	5	EA	\$1,761.53	\$8,808	
15255	12" 316L Sst Fxf 45 Deg Elb, 10S	1	EA	\$736.43	\$736	
15255	12" 10S 316L Flanged Sst Pipe In A Bldg	90	LF	\$499.95	\$44,996	
15255	10" 316L Sst Fxf Tee, 10S	2	EA	\$1,419.09	\$2,838	

## DETAILED COST ESTIMATE

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Element:** 03 Aerated SHT System

**Date :** November 27, 2013  
**By :** ZL  
**Reviewed:** ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
15255	10" 316L Sst Fxf 90 Deg Elb, 10S	8	EA	\$699.74	\$5,598	
15255	10" 316L Sst Fxf 45 Deg Elb, 10S	4	EA	\$601.26	\$2,405	
15255	10" 10S 316L Flanged Sst Pipe In A Bldg	110	LF	\$382.96	\$42,126	
15265	1.5" Sch 80 Pvc Pipe In A Bldg	135	LF	\$15.22	\$2,055	
<b>Total</b>						<b>\$425,808</b>
<b>Division 16 - Electrical</b>						
16000	Valve Actuator (Between 6"-12" Size)	9	EA	\$5,500.00	\$49,500	
<b>Total</b>						<b>\$49,500</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Analyzer (DO, PH, TSS)	6	EA	\$3,165.00	\$18,990	
17000	Level Probe	2	EA	\$1,055.00	\$2,110	
17000	Thermal Mass Flow Transmitter	2	EA	\$3,481.50	\$6,963	
17000	Pressure Transducer	2	EA	\$3,481.50	\$6,963	
17000	4" Magnetic Flowmeter	1	EA	\$3,798.00	\$3,798	
17000	Pressure Gauge	4	EA	\$274.30	\$1,097	
17000	Pressure Switch	1	EA	\$379.80	\$380	
17000	Liquid Suction Detector	1	EA	\$3,270.50	\$3,270	
17000	6" Magnetic Flowmeter	1	EA	\$7,596.00	\$7,596	
17000	Pressure Transmitter	2	EA	\$2,532.00	\$5,064	
17000	Gallery Control Panel UCP-900	1	EA	\$52,750.00	\$52,750	
17000	Allen Bradley Stratix 5700	2	EA	\$2,110.00	\$4,220	
17000	Fiber Optic Patch Panel	2	EA	\$211.00	\$422	
17000	Allen Bradley Stratix 8000	1	EA	\$5,275.00	\$5,275	
17000	PLC Programming Software	1	EA	\$13,187.50	\$13,187	
17000	Shop Drawings	1	EA	\$15,825.00	\$15,825	
17000	Testing	1	EA	\$21,100.00	\$21,100	
17000	Training	1	EA	\$6,330.00	\$6,330	
17000	PLC Programming	1	EA	\$158,249.99	\$158,250	
17507	Solids Density Meter	1	EA	\$2,400.00	\$2,400	
<b>Total</b>						<b>\$335,991</b>
<b>Grand Total</b>						<b>\$2,071,833</b>

## DETAILED COST ESTIMATE

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Element:** 04 Dewatering Feed Pumps

04 Dewatering Feed Pumps

**Date :** November 27, 2013  
**By :** ZL  
**Reviewed:** ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 11 - Equipment</b>						
Dewatering Feed Pump - Progressive Cavity						
11312		2	EA	\$40,000.00	\$80,000	
Sludge Transfer Pump - Large Capacity						
11312	Centrifugal Submersible	1	EA	\$32,000.00	\$32,000	
<b>Total</b>						<b>\$112,000</b>
<b>Division 15 - Mechanical</b>						
15000	6" Glass Lined DIP	200	LF	\$40.00	\$8,000	
15000	6" Glass Lined DIP	100	LF	\$40.00	\$4,000	
15000	8" Glass Lined DIP	32.00	LF	\$93.73	\$2,999	
15000	4" Glass Lined DIP	600.00	LF	\$62.08	\$37,248	
15000	Misc. Piping and Valving	174,514.18	PCT	10%	\$17,451	
15000	4" Glass Lined DIP	100.00	LF	\$62.08	\$6,208	
15114	4" 125# Ci Fxf Check Valve Bronze Mtd	2.00	EA	\$1,257.82	\$2,516	
15114	6"- 200 Psi Ci Fxf Swing Check Valve	1.00	EA	\$2,316.83	\$2,317	
15116	6" 150# Flanged Cast Steel Plug Valve	5.00	EA	\$2,033.60	\$10,168	
15116	4" 150# Flanged Cast Steel Plug Valve	4.00	EA	\$1,421.74	\$5,687	
15116	8" 150# Flanged Cast Steel Plug Valve	1.00	EA	\$2,705.05	\$2,705	
15116	4" 150# Flanged Cast Steel Plug Valve	2.00	EA	\$1,421.74	\$2,843	
15116	6" 150# Flanged Cast Steel Plug Valve	4.00	EA	\$2,033.60	\$8,134	
15251	8" Cldi Flg Straight Tee In Place	4.00	EA	\$1,712.23	\$6,849	
15251	8"X 6" 125# Cldi Fxf Concentric Rdcr	2.00	EA	\$1,127.07	\$2,254	
15251	8" 90° 125# Cldi Fxf Ell	3.00	EA	\$1,103.23	\$3,310	
15251	8" 125# Cast Iron Blind Flange	2.00	EA	\$271.08	\$542	
15251	6" Cldi Flg Straight Tee In Place	6.00	EA	\$1,480.71	\$8,884	
15251	6" 90° 125# Cldi Fxf Ell	10.00	EA	\$988.61	\$9,886	
15251	6" 45° 125# Cldi Fxf Ell	2.00	EA	\$988.61	\$1,977	
15251	4" Cldi Flg Straight Tee In Place	4.00	EA	\$1,023.85	\$4,095	
15251	4" 90° 125# Cldi Fxf Ell	16.00	EA	\$690.17	\$11,043	
15251	4" Cldi Flg Straight Tee In Place	4.00	EA	\$1,023.85	\$4,095	
15251	4" 90° 125# Cldi Fxf Base Ell	26.00	EA	\$810.42	\$21,071	
15251	6" Cldi Flg Straight Tee In Place	1.00	EA	\$1,480.71	\$1,481	
15251	6"X 4" 125# Cldi Fxf Concentric Rdcr	2.00	EA	\$927.38	\$1,855	
15251	8" 45° 125# Cldi Fxf Ell	1.00	EA	\$988.61	\$989	
15251	6" 90° 125# Cldi Fxf Ell	2.00	EA	\$988.61	\$1,977	
15251	4" 90° 125# Cldi Fxf Ell	2.00	EA	\$690.17	\$1,380	
<b>Total</b>						<b>\$191,966</b>
<b>Division 16 - Electrical</b>						
16000	Valve Actuator (Between 6" and 12" Size)	5	EA	\$5,500.00	\$27,500	
16000	Misc Electrical	31,100.00	PCT	10%	\$3,110	
16412	MCC Sludge Pump Feeder Breaker	1	EA	\$3,600.00	\$3,600	
<b>Total</b>						<b>\$34,210</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Feed Pump Dry-Run Switch	2	EA	\$1,200.00	\$2,400	
17000	Pressure Switch	2	EA	\$360.00	\$720	
17000	Pressure Gauge	2	EA	\$260.00	\$520	
17000	Annular Seal	2	EA	\$960.00	\$1,920	
17000	Area Velocity Flow Module	1	EA	\$6,500.00	\$6,500	
17000	4" Magnetic Flowmeter	1	EA	\$5,486.00	\$5,486	
17000	Liquid Suction Detector	2	EA	\$3,270.50	\$6,541	
17000	Allen Bradley Stratix 5700	1	EA	\$2,110.00	\$2,110	
17000	Fiber Optic Patch Panel	1	EA	\$211.00	\$211	
<b>Total</b>						<b>\$26,408</b>
<b>Grand Total</b>						<b>\$364,584</b>

## DETAILED COST ESTIMATE

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Element:** 05 Chemical Feed System

**Date :** November 27, 2013  
**By :** ZL  
**Reviewed:** ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 02 - Site Construction</b>						
02000	Aggregate Base Rock	63.02	CY	\$80.00	\$5,042	
02000	Misc Site Work	19,627.86	PCT	10%	\$1,963	
02300	D6 Dozer, Class B (Medium Dig), Grade, Cut, Fill & Compact, 150' Haul	423.78	CY	\$3.26	\$1,381	
02300	Cat 235 Trackhoe 1.12Cy Bucket, Class B (Medium Digging), 0-20' D	756.22	CY	\$4.27	\$3,226	
02300	Controlled Density Fill (Cdf)	65.19	CY	\$94.95	\$6,190	
02300	20 Cy Dump Truck, 30 Miles/Round Trip	332.44	CY	\$11.40	\$3,789	
<b>Total</b>						<b>\$21,591</b>
<b>Division 03 - Concrete</b>						
03000	Misc Concrete	55,052.43	PCT	10%	\$5,505	
03300	12" Sloped S.O.G. Edge Forms (To 30%), Add	176	LF	\$11.73	\$2,064	
03300	12" Sloped Slab On Grade (To 30%)	53.78	CY	\$361.22	\$19,427	
03300	12" Sloped S.O.G. Edge Forms (To 30%), Add	40	LF	\$11.73	\$469	
03300	12" Straight Wall, To 8' High	22.81	CY	\$875.04	\$19,960	
03300	48" Structural Flat Mat On Grade	37.04	CY	\$267.18	\$9,896	
03300	48" Edge Forms, Slab On Grade, Add	80	LF	\$40.46	\$3,237	
<b>Total</b>						<b>\$60,558</b>
<b>Division 04 - Masonry</b>						
04220	Standard Concrete Block, 8"	780	SF	\$17.24	\$13,447	
04220	Standard Concrete Block, 8"	572	SF	\$17.24	\$9,861	
<b>Total</b>						<b>\$23,308</b>
<b>Division 05 - Metals</b>						
05000	Metal Roof Beams	1	LS	\$3,200.00	\$3,200	
05310	Steel Deck, 1-1/2" X 20 Ga.	440	SF	\$3.53	\$1,555	
<b>Total</b>						<b>\$4,755</b>
<b>Division 06 - Wood and Plastics</b>						
06000	FRP Grating	600	SF	\$24.00	\$14,400	
<b>Total</b>						<b>\$14,400</b>
<b>Division 08 - Doors and Windows</b>						
08000	Fiberglass Door	3.00	EA	\$611.90	\$1,836	
<b>Total</b>						<b>\$1,836</b>
<b>Division 11 - Equipment</b>						
11242	Sodium Hypo Feed Pump - Diaphragm	2	EA	\$12,000.00	\$24,000	
11242	Sodium Bisulfite Feed Pump - Diaphragm	2	EA	\$12,000.00	\$24,000	
11312	Chemical Sump Pump	2	EA	\$2,400.00	\$4,800	
<b>Total</b>						<b>\$52,800</b>
<b>Division 13 - Special Construction</b>						
13000	FRP Storage Tank	2	EA	\$30,000.00	\$60,000	
<b>Total</b>						<b>\$60,000</b>
<b>Division 15 - Mechanical</b>						
15000	Pump Discharge Valves and Accessories	2	LS	\$12,000.00	\$24,000	
15000	Solution Diffuser	2	EA	\$1,000.00	\$2,000	
15000	Small Diameter Piping, Gauges & Fittings	2	LS	\$21,100.00	\$42,200	
15000	Exhaust Fan	2	EA	\$1,600.00	\$3,200	
15000	Misc. Piping and Valving	74,565.00	PCT	10%	\$7,456	
15430	Emergency Eye/Face Wash and Shower Equipment	2	EA	\$1,582.50	\$3,165	
<b>Total</b>						<b>\$82,021</b>
<b>Division 16 - Electrical</b>						
16500	10' Round Tapered Steel Floodlight Pole	2	EA	\$1,337.51	\$2,675	
<b>Total</b>						<b>\$2,675</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Tank Level Transmitter	2	EA	\$3,165.00	\$6,330	
17000	5/16" Magnetic Flowmeter	1	EA	\$4,431.00	\$4,431	
17000	5/32" Magnetic Flowmeter	1	EA	\$4,431.00	\$4,431	
17000	Pressure Switch	4	EA	\$379.80	\$1,519	
17000	Pressure Gauge	8	EA	\$274.30	\$2,194	
17000	Chemical System Control Panel UCP-700	1	EA	\$52,750.00	\$52,750	
17000	Allen Bradley Stratix 5700	1	EA	\$2,110.00	\$2,110	
17000	Fiber Optic Patch Panel	1	EA	\$211.00	\$211	
<b>Total</b>						<b>\$73,977</b>
<b>Grand Total</b>						<b>\$397,919</b>



## DETAILED COST ESTIMATE

**Project:** Aerated Sludge Holding Tank Design  
**Client:** Carpinteria Sanitary District  
**Location:** Carpinteria, CA  
**Element:** 06 Dewatered Solids Truck Ramp

**Date :** November 27, 2013  
**By :** ZL  
**Reviewed:** ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 02 - Site Construction</b>						
02000	Misc Site Work	\$1,129	PCT	10%	\$113	
02300	Native Trench Backfill/Unconfined Struct. Bf, Class B Material	25	CY	\$16.72	\$418	
02300	Cat 235 Trackhoe 1.12Cy Bucket, Class B (Medium Digging), 0-20' D	166.67	CY	\$4.27	\$711	
<b>Total</b>						<b>\$1,242</b>
<b>Division 03 - Concrete</b>						
03000	Misc Concrete	\$36,732	PCT	10%	\$3,673	
03300	12" Sloped S.O.G. Edge Forms (To 30%), Add	180	LF	\$11.73	\$2,111	
03300	12" Sloped Slab On Grade (To 30%)	41.67	CY	\$361.22	\$15,052	
03300	12" X 48" Straight Continuous Footing	5.48	CY	\$358.52	\$1,965	
03300	12" Straight Wall, To 8' High	7.33	CY	\$875.04	\$6,414	
03300	12" X 48" Straight Continuous Footing	8.44	CY	\$358.52	\$3,026	
03300	12" Straight Wall, To 8' High	9.33	CY	\$875.04	\$8,164	
<b>Total</b>						<b>\$40,405</b>
<b>Division 05 - Metals</b>						
05500	Steel, Primed Osha Handrail	92	LF	\$69.08	\$6,355	
<b>Total</b>						<b>\$6,355</b>
<b>Grand Total</b>						<b>\$48,002</b>

## DETAILED COST ESTIMATE

Project: Aerated Sludge Holding Tank Design  
 Client: Carpinteria Sanitary District  
 Location: Carpinteria, CA  
 Element: 07 Electrical

Date : November 27, 2013  
 By : ZL  
 Reviewed: ACG

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Division 16 - Electrical</b>						
16000	208V Lighting Panel	1	EA	\$2,505.62	\$2,506	
16000	Lighting Transformer	1	EA	\$5,617.87	\$5,618	
16000	Lighting for Sludge Tanks	1	EA	\$11,140.80	\$11,141	
16000	Testing	1	EA	\$12,660.00	\$12,660	
16000	NEMA 4X 480V Distribution Panel	1	EA	\$8,308.12	\$8,308	
16000	Existing Panelboard Modifications	1	EA	\$1,899.00	\$1,899	
16000	NEMA 4X Disconnect Switch	2	EA	\$3,437.19	\$6,874	
16000	NEMA 4X 10-15 HP VFD	3	EA	\$5,881.62	\$17,645	
16000	12-Conduit Duct Bank	100	LF	\$71.91	\$7,191	
16000	3-Conduit Duct Bank	40	LF	\$18.00	\$720	
16000	Conduit Supports	1	EA	\$9,097.26	\$9,097	
16000	Wire Terminations	1	EA	\$4,604.02	\$4,604	
16000	Boxes	1	EA	\$13,609.50	\$13,609	
16000	Wall Penetration	12	EA	\$506.40	\$6,077	
16000	Submittals	1	EA	\$15,825.00	\$15,825	
16060	Grounding	1	EA	\$5,760.30	\$5,760	
16123	250 Mcm Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	1110	LF	\$6.32	\$7,012	
16123	3/0 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	2205	LF	\$4.40	\$9,692	
16123	2 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	1032	LF	\$2.15	\$2,217	
16123	3 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	75	LF	\$1.75	\$131	
16123	6 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	85	LF	\$1.04	\$88	
16123	8 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	1113	LF	\$0.75	\$832	
16123	10 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	6090	LF	\$0.59	\$3,588	
16123	12 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	5451	LF	\$0.46	\$2,507	
16123	14 Ga Stranded 600V Xhhw Cu Wire, 3 Or More Wires Pulled In Conduit	28104	LF	\$0.42	\$11,709	
16123	2 Shielded Pairs 16 Ga Instrument Cable & Multi-Conductor Cable, In Cable Tray	4442	LF	\$1.21	\$5,384	
16123	2 Shielded Triads 16 Ga Instrument & Multi-Conductor Cable In Cable Tray	209	LF	\$2.29	\$479	
16130	2.5" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	335	LF	\$23.00	\$7,705	
16130	2" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1785	LF	\$18.26	\$32,599	
16130	1.5" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	964	LF	\$14.97	\$14,433	
16130	1" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	560	LF	\$11.36	\$6,364	
16130	.75" Pvc Coated Grs Conduit, In A Bldg W/Unlimited.Height	1647	LF	\$10.86	\$17,880	
16130	2.5" Grs Conduit, In A Bldg With Unlimited Ht	50	LF	\$21.04	\$1,052	
16130	1" Grs Conduit, In A Bldg With Unlimited Ht	15	LF	\$10.50	\$158	
16130	.75" Grs Conduit, In A Bldg With Unlimited Ht	250	LF	\$9.89	\$2,473	
16130	2" Sch 40 Pvc Rigid Conduit In Open Trench	1170	LF	\$1.92	\$2,241	
16130	1.5" Sealtite Conduit Run To Electric Motor In Bldg	6	LF	\$6.13	\$37	
16130	1" Sealtite Conduit Run To Electric Motor In Bldg	9	LF	\$4.82	\$43	
16130	.75" Sealtite Conduit Run To Electric Motor In Bldg	275	LF	\$4.56	\$1,253	
16222	NEMA 12 480V Distribution Panel	1	EA	\$4,932.12	\$4,932	
16305	Electrical System Study	1	EA	\$33,760.00	\$33,760	
16500	Lighting For Chemical Building	1	EA	\$3,798.00	\$3,798	



**DETAILED COST ESTIMATE**

Project: **Aerated Sludge Holding Tank Design**  
 Client: **Carpinteria Sanitary District**  
 Location: **Carpinteria, CA**  
 Element: **07 Electrical**

Date : **November 27, 2013**  
 By : **ZL**  
 Reviewed: **ACG**

SPEC. NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
<b>Total</b>						<b>\$301,902</b>
<b>Division 17 - Instrumentation and Controls</b>						
17000	Fiber Optic Cabling	805	LF	\$1.76	\$1,418	
<b>Total</b>						<b>\$1,418</b>
<b>Grand Total</b>						<b>\$303,321</b>

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**OPERATING ANNUAL BUDGET DOCUMENTATION**



# Carpinteria Sanitary District

5300 Sixth Street, Carpinteria, CA 93013  
(805) 684-7214 • Admin Fax (805) 684-7213 • Plant Fax (805) 566-6599

**Board of Directors**

Lin Graf, President  
Mike Damron  
Patricia Horwitz  
Mike Modugno  
Jeff Moorhouse

**General Manager**

Craig M. Murray, P.E.

July 5, 2011

Mr. Lin Graf  
President  
Board of Directors  
Carpinteria Sanitary District

**Re: Letter of Transmittal - FY 2011/12 Annual Budget**

Submitted for your review is the proposed FY 2011/12 Annual Budget for the Carpinteria Sanitary District. This financial guideline projects the administrative, operating, maintenance, and capital improvement funding requirements for the upcoming fiscal year. Based upon projected revenues and beginning fund balances, adequate resources are available to fund the proposed appropriations and maintain fund balances at policy levels. Inflationary effects have been taken into consideration as well as projected needs to carry out the District's budgetary goals and objectives.

During the prior fiscal year, the District prepared a comprehensive wastewater rate and fees study and an associated financial model. Following significant review and public outreach, the Board of Directors approved an updated sewer service charge rate structure through adoption of District Ordinance No. 12. Effective July 1, 2011 the annual sewer service charge per residential dwelling unit will increase from \$512.00 to \$515.00. The non-residential rates structure was modified concurrently to be simpler and easier to administer. Rate impacts for the non-residential user class will vary based on several factors, but the changes are intended to establish equitable rates for all users. Overall, sewer service charge revenue for FY 2011/12 is expected to increase by approximately \$223,000 over the prior year. Based on revenue requirements outlined in the rate and fee study, a series of incremental rate increases – 4.5% per year – was also authorized and will be implemented going forward.

The District continues to implement a "pay as you go" approach for capital improvement projects. Currently, there are seven ongoing projects with an approved budget of \$2,515,200. The Plum Street Sewer Relocation Design Project was authorized in FY 2010/11 and is augmented this year by \$900,000 to fund construction activities. Additionally, four smaller projects, with an aggregate budget of \$69,000, are proposed. The District expects to receive \$600,000 in grant proceeds from the State Water Resource Control Board to assist with the construction costs for the ongoing Bluffs Sewer Relocation Project.



Total revenue for FY 2011/12 is projected to be \$5,399,600, which represents an increase of 3.9% over the prior fiscal year. Operating expenses are expected to be approximately \$3,118,600, or 2.2% higher than in FY 2010/11. Debt service payments of approximately \$1,223,600 will be made in the coming year, and it is noted that the proposed budget results in a projected debt ratio of 1.37%, well above the minimum ratio of 1.25% required by the 2003 Refinancing Revenue Bonds covenants.

## REVENUE PROJECTION

Total revenues for FY 2010/11 are projected to be \$5,399,600 or \$202,200 more than the prior fiscal year projection. A summary of each revenue category is provided below:

**Sewer Service Charges (SSC).** As the result of Ordinance No. 12, approved by the Board of Directors on June 7, 2011, the District's SSC revenue is projected to be \$4,215,000 in the coming year. This is an increase of approximately \$235,000 from the prior year estimate. Residential SSC revenue makes up 73.5% of the total, with the non-residential sector contributing 26.5%. During the previous fiscal year, ten residential units were added to the District's sewer system.

**Property Taxes.** The District receives 1% of the property tax increment collected by the Santa Barbara County Assessor for those parcels within the District's service area (with limited exceptions). Due to declining property values throughout the region, and several taxpayer claims resulting in tax impounds, the District anticipates a reduction in property tax revenue for the first time in recent history. For budgetary purposes, the District's projected property tax revenue is anticipated to be \$450,400, which is 1.2% lower than the projection for the prior fiscal year.

**Other Revenues.** The District's other sources of revenue include interest income, permit and inspection fees, and other miscellaneous fees and charges. Interest rates earned in the LAIF investment pool have declined to historical lows, and an appropriate reduction in interest income has been projected. The District also expects to receive revenue from four participating wastewater agencies to cover their pro-rata share of costs associated with the Safety and Training Officer position. Grant proceeds totaling \$600,000 are also included in this revenue category.

**Development Impact Fees (DIF).** Development Impact Fee (DIF) revenue is variable and cannot be projected accurately on a year-to-year basis. Furthermore, because DIF revenue is restricted and may be used only for qualifying capital improvements, it is typically assumed to be zero for budgetary purposes. The District Board adopted Ordinance No. 13 in June 2011 which increased the DIF from \$2,400 to \$2,936 per equivalent dwelling unit (EDU) of new construction.

## OPERATING EXPENSES

Overall operating expenses have increased by 2.2% or \$68,100 from the prior fiscal year projection. A brief description of individual expense accounts is provided below.



**Wages and Benefits.** Projected salary and benefit costs for FY 2011/12 have increased by \$37,500, or 2% from the previous fiscal year. This increase may be attributed to several factors, including:

- Merit/step increases for qualified employees
- Increased Workers' Compensation Insurance premiums
- PERS retirement program cost escalation and a higher employer rate contribution

The District will continue to employ sixteen staff members, with eleven assigned to the Plant/Collection Department, four assigned to the Administration Department, and one assigned to the Safety and Training Department.

The Salary Matrix included in the budget document reflects 0.3% increase from the prior fiscal year. The base wage rates are tied to the Consumer Price Index (CPI) for Urban Wage Earners and Clerical Workers in the Los Angeles-Orange-Riverside area as provided by the U.S. Bureau of Labor Standards (BLS). The increase in the coming year reflects a carry-over from 2009, when the CPI was negative 1.2%.

The CalPERS retirement benefit will continue with the 2% @ 55 Program for Miscellaneous Member groups, and the District will continue to pay the employees' contribution to CalPERS, which is currently 7.0% of earned wages. In FY 2011/12 the District's employer contribution will increase from 9.776% to 10.763% of regularly earned wages. This rate increase can be attributed primarily to poor performance in the investment pool over recent years.

The District will continue to participate in the California Risk Management Agency (CSRMA) pooled liability insurance program. The CSRMA pool is administered by Alliant Insurance Services. The District's workers' compensation policy is through the CSRMA pool and the x-modification factor has been increased from 0.98 to 1.24 for the 2010/11 FY, resulting in a substantial increase in premium.

There is no projected increase in the cost for health benefits for FY 2011/12 as the District elected to provide a lower level of benefits to employees to avoid an 18% increase in premiums for continuing the same plan coverage. Employees can pay the cost to upgrade medical insurance coverage to benefit levels that are equivalent to what was offered in the prior fiscal year.

**General Expenses.** General expenses, incurred in each of the three departments, include routine expenses such as training, office supplies, licenses and permits, mileage reimbursement and other recurrent items. The proposed budget for this account is \$217,200, which represents a reduction of 7.1% or \$16,500 over the prior fiscal year. Savings have been projected in several line items including department expenses, election expenses, liability insurance, conference and training, and employee mileage reimbursements. Increases are anticipated in the areas of vehicle fuel, uniform service, licenses and permits, and equipment rental and leases. The District leased two copiers during the previous fiscal year to replace outdated equipment.



**Environmental Monitoring.** This portion of the annual budget supports the quality control efforts required to monitor our NPDES discharge permit parameters as well as to perform plant process control tests. The proposed budget is \$51,500, approximately 2% higher than the prior fiscal year.

**Utilities.** The majority of this budget account is for electricity purchased from Southern California Edison. The budget for this category is \$235,800 or 7.6% of the total operating budget. The proposed budget is \$18,500 or 8.5% higher than the prior year, as a result from higher costs of electricity and natural gas, and a small increase in the administration building security system service. A reduction in telephone expenses is projected due to replacing the dial-up telephone systems to cellular communications at all lift stations during the previous fiscal year.

**Biosolids Disposal.** The District contracts with Engel & Gray, Inc. for transporting and composting of biosolids. The current contract cost of transporting and disposals is \$55.26 per ton for this fiscal year plus a fuel surcharge. A \$35,000 increase from the previous fiscal year is projected due to higher costs of diesel fuel included in the contract. A fuel surcharge is currently adding 34% to the unit cost per ton. Under this contract, the District's biosolids are processed and recycled within Santa Barbara County.

**Supplies & Equipment.** This budget category includes costs for chemicals and related supplies used in the wastewater treatment plant and collection system. The budget for this category is \$209,300, or about 6.7% of the total operating budget. An increase of \$2,000 or 1% over the previous year budget is projected due to higher costs of fuels and chemicals. Other savings have been projected in general supplies, tools, and safety equipment.

**Repairs & Maintenance.** The budget projected for this category provides funding for all scheduled and unscheduled maintenance and repairs for the District owned assets and equipment. The projected budget is \$177,900, or 5.7% of the total operating budget. This is a reduction of \$23,100 or 11.5% from the previous fiscal year. Savings are forecast in the areas of lift station, trunk line maintenance and grounds maintenance. A small increase is projected for the treatment plant maintenance and vehicle maintenance.

**Professional Services.** Professional service costs in FY 2011/12 are projected to be \$120,500 or 3.9% of the overall budget. This is an increase of \$16,000 or 15.3% from previous fiscal year. The increase is attributed to the SCADA computer system that is used to monitor treatment plant processes and to generate alarms. Expenses in this area during FY 2010/11 were negligible because a major software/hardware upgrade was underway and funded as a capital improvement project. Computer related expenses and public relations have modest projected budget increases.

**Other Expenses.** This account supports outside expenses, such as related administration fees for property tax collections by the County of Santa Barbara, the Bank of New York (revenue bond) trustee's administration fee, the District's pro-rata portion of the Santa Barbara LAFCO's annual budget and costs associated with participation in the Integrated Regional Water Management Plan process. The projected cost of Santa Barbara County administration fee has increased by \$3,000, while the projected Regional Grant/Planning costs have been reduced.



## **NON-OPERATING EXPENSES**

**Capital Improvement Projects.** The proposed budget for all Capital Improvement Program (CIP) projects authorized in FY 2011/12 is \$3,484,200. The carryover of ongoing projects from prior years totals \$2,515,200. An increase of \$939,000 is projected, which includes four new capital acquisitions and a \$900,000 augmentation to the budget for the Plum Street Sewer Replacement Project to fund construction activities. A list of newly proposed projects and planned capital expenditures is presented in Section 7.0 of the budget document.

**Debt Service.** The District's debt liability is the repayment of the 2003 Wastewater Revenue Refunding Bonds, which refinanced original revenue bonds issued for the District's 1993 wastewater treatment plant upgrade project. Refinancing resulted in more favorable interest rates and significant savings. The total payments for FY 2011/12 are \$1,223,600. This amount is due in two payments, one on January 1, 2012 and the other one on July 1, 2012.

The FY 2011/12 budget, as presented, results in a debt service ratio (revenue minus operating expenses divided by debt service obligation) of 1.37, which exceeds the minimum required ratio of 1.25. The increase in SSC revenue resulting from the adoption of District Ordinance No. 12 was crucial to maintaining the ratio at prescribed levels for the coming fiscal year.

## **CASH POSITION**

It is estimated that FY 2011/12 will start with a beginning combined cash and equivalent balance of about \$8,707,000 (General Fund, CIP, and DIF Fund) and will end with a combined cash balance, after payment of projected operating and non-operating expenses, of about \$6,280,200. A higher balance may exist at the end of FY 2011/12 depending on the status of authorized capital improvement projects.

## **A LOOK INTO THE FUTURE**

The District's priorities continue to emphasize the long and short-term improvements to the wastewater collection system. CIP implementation will continue to be a top priority for the District for the next five years and beyond. The plan will be initiated on a "pay-as-you-go" basis using a combination of SSC revenue and accumulated reserves.

The District's collection system staff will utilize data generated from the completed system-wide pipeline CCTV inspection program to plan for strategic repairs, restoration and rehabilitation efforts to be implemented in the coming years. The District will continue to utilize its Collection System Master Plan and its hydraulic model and GIS for critical project planning and project management purposes.

Several major construction projects are expected to commence in the coming fiscal year. The Bluffs Sewer Relocation Project will move forward and is expected to demand significant staff and consultant time during the implementation phase. Likewise, the South Coast Beach Communities Septic to Sewer Project has made significant progress, with one phase anticipated to enter the

Mr. Lin Graf  
Page 6 of 6

construction phase in the first quarter of the fiscal year.

The District continues to work diligently to control costs, and we have developed a lean operating budget for FY 2011/12. Staff will strive to stay within the budget, and while it is always our goal to operate efficiently, it is important to make appropriate investments in maintenance and equipment renewal to ensure the community has a safe and reliable wastewater treatment and disposal system.

Sincere thanks are expressed to District staff for their assistance and common sense approach in the development of this year's budget. It could not be done without them.

Respectfully Submitted,



---

Craig M. Murray, P.E.  
General Manager

Enclosures:   1. Resolution No. R-243  
                  2. Fiscal Year 2011/12 Budget



## **RESOLUTION NO. R-243**

### **RESOLUTION OF THE BOARD OF DIRECTORS OF CARPINTERIA SANITARY DISTRICT ADOPTING THE OPERATING AND CAPITAL BUDGET FOR THE FISCAL YEAR 2011/12 AND ESTABLISHING CONTROLS ON CHANGES IN APPROPRIATIONS FOR THE VARIOUS FUNDS**

**WHEREAS**, the Board of Directors of Carpinteria Sanitary District including the Board Finance Committee has reviewed a preliminary budget for Fiscal Year 2011/12 and has made changes therein;

**NOW, THEREFORE, IT IS HEREBY RESOLVED, DETERMINED, AND ORDERED** by the Board of Directors of **CARPINTERIA SANITARY DISTRICT** as follows:

1. That the budget document which is on file with the Secretary to the Board, a summary of which is attached hereto as Exhibit A - Budget Snapshot, is adopted as the final operating and capital budget for the District for the Fiscal Year 2011/12.
2. That the amount designated in the final Fiscal Year 2011/12 operating budget is hereby appropriated and may be expended by the departments or funds for which they are designated and such appropriation shall be neither increased nor decreased except as provided herein.
3. That funds are hereby appropriated from the General Fund and placed into the Capital Improvement Fund to fully fund authorized capital expenditures which total \$3,484,200. The designated funds may be expended for ongoing and newly approved projects for which they are designated and such appropriation shall be neither increased nor decreased except as provided herein.
4. That the following controls are hereby placed on the use and transfer of budgeted funds:
  - a. The General Manager is responsible for keeping expenditures within budget allocations for positions, salaries, operational expenses and capital acquisitions and may adopt budget policies as necessary to carry out that responsibility. No expenditure of funds shall be authorized unless sufficient funds have been appropriated by the Board or General Manager as described herein.

- b. The General Manager may exercise discretion in administration of the budget to respond to changed circumstances, provided that any modification in excess of \$25,000 shall require approval by the Board.
  - c. The Board must authorize any increase in the overall operating budget, capital budget, salary budget and number of authorized regular personnel positions above the level identified in the final operating and capital budget. The General Manager may authorize the hiring of temporary or part-time staff as necessary, within the limits imposed by the available funds in the operating and capital budget.
5. That authorization is made for any carry over or continuing appropriations for the capital budget.

**PASSED AND ADOPTED** by the Board of Directors of the **CARPINTERIA SANITARY DISTRICT** on the fifth day of July 2011, by the following vote to wit:

**AYES:** Modugno, Horwitz, Damron, Moorhouse, Graf

**NAYS:** None

**ABSENT:** None

**ABSTENTIONS:** None

  
\_\_\_\_\_  
Lin Graf  
President, Board of Directors





# Carpinteria Sanitary District

## FISCAL YEAR 2011/12 BUDGET



### BOARD OF DIRECTORS

Lin Graf— President

Mike Damron — President Pro-Tem

Pat Horwitz — Treasurer

Jeff Moorhouse — Secretary

Mike Modugno — Secretary Pro-Tem

### DISTRICT STAFF

Craig Murray, P.E.—General Manager

Hamid Hosseini—Finance Director



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## DISTRICT BOARD OF DIRECTORS AND STAFF

### BOARD OF DIRECTORS

Lin Graf	President
Michael Damron	President Pro Tem
Patricia Horwitz	Treasurer
Jeff Moorhouse	Secretary
Mike Modugno	Secretary Pro Tem

The District Board of Directors meets on the first and third Tuesday of each month at 5:30 p.m. in the District's Administrative Offices.

### STANDING COMMITTEES

#### **Finance Committee**

Patricia Horwitz	Chairperson
Mike Modugno	Member

#### **Personnel Committee**

Jeff Moorhouse	Chairperson
Michael Damron	Member

#### **Public Relations Committee**

Lin Graf	Chairperson
Jeff Moorhouse	Member

The Finance Committee meets on the third Monday of each month at 8:30 am at the Administration office located at 5300 Sixth Street. The Personnel and Public Relations Committees do not have a set meeting schedule, but rather meet on an as-needed basis.

### DISTRICT SUPPORT STAFF

Craig Murray, P.E.	General Manager
Hamid Hosseini	Finance Director
Mark Bennett	Operations Manager
Judy Kirkman	Office Manager
Anthony Trembley	Legal Counsel – Nordman, Cormany, Hair & Compton, LLP

## **1.0 BUDGET FORWARD**

This section provides the reader a comprehensive overview of the District's proposed annual budget for the 2011/12 fiscal year. The budget has been developed to uphold the main tenet of providing the users of the wastewater system the most environmentally sound and cost-effective method of collecting and treating wastewater, regardless of the demands placed upon the system.

### ***District Mission***

The mission of the Carpinteria Sanitary District is **to provide its customers with reliable and cost-effective wastewater treatment.**

### ***Budget Goals***

The primary goals of the District, which are the basis for establishing the annual operating and capital budgets, include:

- Ensure that the collection and treatment systems remain reliable regardless of the climatic, political and economic conditions.
- Ensure that the system collects, treats and disposes of wastewater effectively without endangering the public health, the environment and within the limits of all discharge permits.
- Ensure that the system has ample hydraulic capacity to handle the demands placed upon it.
- Maintain a highly qualified, professional staff that can be relied upon to operate and upkeep critical facilities to the highest standards of our industry.

### ***Budget Objectives***

The District's budgeting objectives remain focused in three major areas: reliability, effectiveness and capacity. During the current recessionary times, the District is striving to attain these goals in the most efficient manner possible. Cost control measures are in place to keep expenditures as low as practicable. Objectives for the 2011/12 fiscal year are summarized below.

#### **Reliability**

- Continue the asset based management program and scheduled servicing and replacement of process equipment, sewer mains, lift stations and emergency standby systems.
- Continue a systematic program for the replacement of high maintenance and obsolete equipment determined through the District's asset management program.
- Continue employee training programs for the maintenance and operations staff to ensure cost-effective equipment protection. The utilization of in-house staff enhances staff morale while reducing system downtime.



- Implement the District's Sewer System Management Plan (SSMP) and use data from comprehensive collection system cleaning and CCTV inspection program to optimize maintenance activities and plan rehabilitation and replacement projects.
- Continue to refine the Board adopted multi-year capital improvement plan to ensure system upgrades and expansions are consistent with customer demand and State and Federal regulations.
- Implement solids handling facilities improvement project to establish redundancy in the solids digestion and handling processes.

### **Effectiveness**

- Continue to implement energy efficiency projects at the wastewater treatment plant and the remote lift stations. Complete energy efficiency lighting replacements.
- Continue the enforcement of the Industrial Source Control Program and Grease Control Program which serve as the primary methods to reduce the introduction of toxic or harmful substances into the wastewater system which may cause harm to the system, its personnel, or the treatment process.
- Continue the training program for the operations personnel to ensure uniform process control and NPDES permit compliance.
- Continue with the training program to enhance the collection system and maintenance staff's skill and professional attention consistent with the goals and demands of District facilities and the customer.
- Continue the long range cost-effective biosolids recycling program compliant with all applicable State and Federal regulations.
- Provide the customer with courteous and professional service, with accurate information and facts, and with a public education awareness program on proper sewer usage and hazardous waste disposal alternatives.
- Perform outreach to customers and the general public to communicate details regarding ongoing projects and programs.

### **Capacity**

- Continue to refine the treatment process through the investigation of alternative processes, operator training and upgraded state of the art equipment.
- Strengthen the provisions of the sewer use ordinance, where needed, limiting the introduction of uncontaminated water from sources such as building gutters and cooling systems as well as the gradual elimination of use of septic systems within the District boundaries.
- Continue the sewer main, interceptor and manhole cleaning program to remove built up deposits of debris, grease and roots.
- Complete planned trunk sewer replacement project south of Carpinteria Avenue to provide additional hydraulic capacity upstream of Lift Station No. 2.

## **GIS System**

- Effectively utilize outside consultant and in-house resources to enhance the functionality of the District's GIS based data management system.
- Integrate newly collected CCTV digital video and inspection data to allow user access to this information from the GIS consoles.
- Develop in-house training for District users to enhance internal ability to update and modify the GIS platform and to use the GIS as a tool to optimize daily functions throughout the agency.

## ***Budget Summary***

The remainder of this section contains figures and financial data in spreadsheet format that summarize the proposed FY 2011/12 budget, as follows:

- **Budget Snapshot** – brief overview of the proposed FY 2011/12 budget
- **Expense Summary Chart** – graphical presentation of projected expenses
- **Pro-Forma Statement** – historical comparison of proposed 2011/12 budget
- **Debt Service Schedule** – bond repayment schedule through 2025 maturation
- **Organization Chart** – proposed District staffing and structure for 2011/12

Carpinteria Sanitary District

**Budget Snapshot**

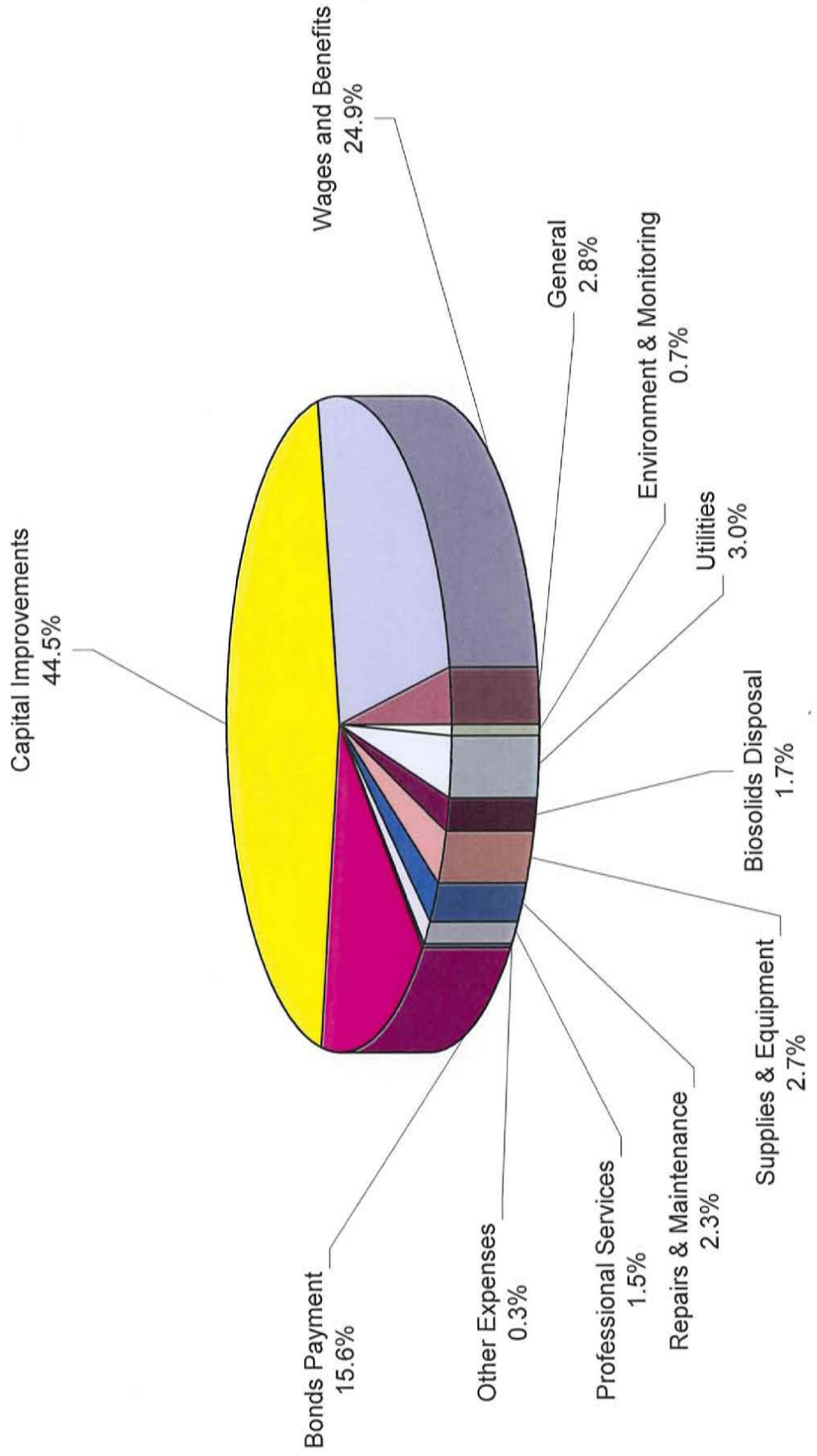
**Fiscal Year 2011/2012**

Description	2010/2011 Budget	2010/11 10 Months Actual	% Expended/ YTD	2011/2012 Budget	\$ Increase (Decrs.)	% Change
<b><u>REVENUES</u></b>						
Sewer Service Charges (SSC)	3,980,000	3,885,304	98%	4,215,000	235,000	5.9%
Property Taxes	456,000	433,335	95%	450,400	(5,600)	-1.2%
Interest Income	64,000	36,107	56%	32,000	(32,000)	-50.0%
Other Fees & Income	15,000	3,377	23%	15,000	0	0.0%
Development Impact Fees (DIF)	0	2,400	NA	0	0	0.0%
Other Sources of Cash/Grant	600,000	0	NA	600,000	0	0.0%
Other Districts' Contributions/Safety Officer	82,400	82,334	NA	87,200	4,800	5.8%
Total Gross Revenues	5,197,400	4,442,856	85%	5,399,600	202,200	3.9%
<b><u>EXPENSES</u></b>						
<b><u>1) Operating Expenses:</u></b>						
Wages and Benefits	1,911,900	1,585,879	83%	1,949,400	37,500	2.0%
General	233,700	149,283	64%	217,200	(16,500)	-7.1%
Environment & Monitoring	50,500	25,091	50%	51,500	1,000	2.0%
Utilities	217,300	183,364	84%	235,800	18,500	8.5%
Biosolids Disposal	100,000	90,786	91%	135,000	35,000	35.0%
Supplies & Equipment	207,300	150,991	73%	209,300	2,000	1.0%
Repairs & Maintenance	201,000	106,464	53%	177,900	(23,100)	-11.5%
Professional Services	104,500	55,749	53%	120,500	16,000	15.3%
Other Expenses	24,300	14,366	59%	22,000	(2,300)	-9.5%
Total Operating Expenses:	3,050,500	2,361,973	77%	3,118,600	68,100	2.2%
<b><u>2) Non-Operating Expenses:</u></b>						
Debt Service	1,225,800	1,225,778	100%	1,223,600	(2,200)	-0.2%
Capital Improvement Projects	2,895,200	2,764,619	95%	3,484,200	589,000	20.3%
Total Non-Operating Expenses:	4,121,000	3,990,397	3%	4,707,800	586,800	14.24%
Total Uses of Cash:	7,171,500	6,352,370	89%	7,826,400		
Surplus (Deficit) for the Year	-1,974,100	-1,909,515	97%	-2,426,800		
Ratio	1.26			1.37		



# Carpinteria Sanitary District Expense Summary FY 2011/2012

Total Projected Expenditures = \$7,826,400



**Carpinteria Sanitary District**  
Pro-Forma Statement

Description	Actual	Projected	Budget	Projected					
	2009/10	Actual 2010/11		2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
1 Sewer Service Charge Revenues	3,997,832	3,980,000	4,215,000	4,217,675	4,375,188	4,587,477	4,810,013	5,043,287	
Other Revenue									
2 Property Taxes	448,794	456,000	450,400	460,560	469,771	479,167	488,750	498,525	
3 Development Impact Fees	25,666	2,400	0	0	0	0	0	0	
4 Other Fees and Income	77,082	28,485	15,000	15,000	15,000	15,000	15,000	15,000	
5 Interest Income	117,068	64,000	32,000	59,589	117,468	148,310	179,794	210,076	
6 Other Districts Contribution/Safety Officer	32,055	82,334	87,200	91,048	92,729	94,444	96,192	97,976	
7 Other Source of Cash/Grant			600,000	0	0	0	0	0	
8 Total Revenue	4,698,497	4,613,219	5,399,600	4,843,872	5,070,156	5,324,398	5,589,749	5,864,864	
<b>Expenses:</b>									
9 Wages & Benefits	1,718,238	1,911,900	1,949,400	1,967,495	1,997,620	2,097,501	2,202,376	2,312,495	
10 General Operating Expenses	178,240	233,700	217,200	240,711	247,932	255,370	263,031	270,922	
11 Environmental Monitoring	40,055	50,500	51,500	52,015	53,575	55,183	56,838	58,543	
12 Utilities	211,723	217,300	235,800	228,165	239,573	251,552	264,130	277,336	
13 Sludge Disposal	98,311	100,000	135,000	103,000	106,090	109,273	112,551	115,927	
14 Supplies and Equipment	186,190	207,300	209,300	213,519	219,925	226,522	233,318	240,318	
15 Repairs and Maintenance	137,413	201,000	177,900	207,030	213,241	219,638	226,227	233,014	
16 Professional Services	86,294	104,500	120,500	107,635	110,864	114,190	117,616	121,144	
17 Other Expenses	14,117	24,300	22,000	25,029	25,780	26,553	27,350	28,170	
18 Total Operating Expenses	2,670,581	3,050,500	3,118,600	3,144,599	3,214,600	3,355,782	3,503,437	3,657,869	
19 Operating Exp. Increase (Decrease)	-1.5%	14.2%	2.2%	0.8%	2.2%	4.4%	4.4%	4.4%	
20 Net Available	2,027,916	1,562,719	2,281,000	1,699,273	1,855,556	1,968,616	2,086,312	2,206,995	
21 Scheduled Installment Payment	1,227,368	1,225,800	1,223,600	1,224,200	1,228,000	1,223,800	1,222,800	1,224,900	
22 CIP	1,023,877	2,895,200	3,484,200	1,050,400	1,535,872	1,029,251	1,286,844	1,155,820	
23 Net cash for the year	-223,329	-2,558,281	-2,426,800	-575,327	-908,316	-284,435	-423,332	-173,725	
24 Debt Services Ratio (>1.25%)	1.65	1.27	1.37	1.39	1.51	1.61	1.71	1.80	



**Carpinteria Sanitary District  
2003 Refunding Bonds-Debt Service Schedule**

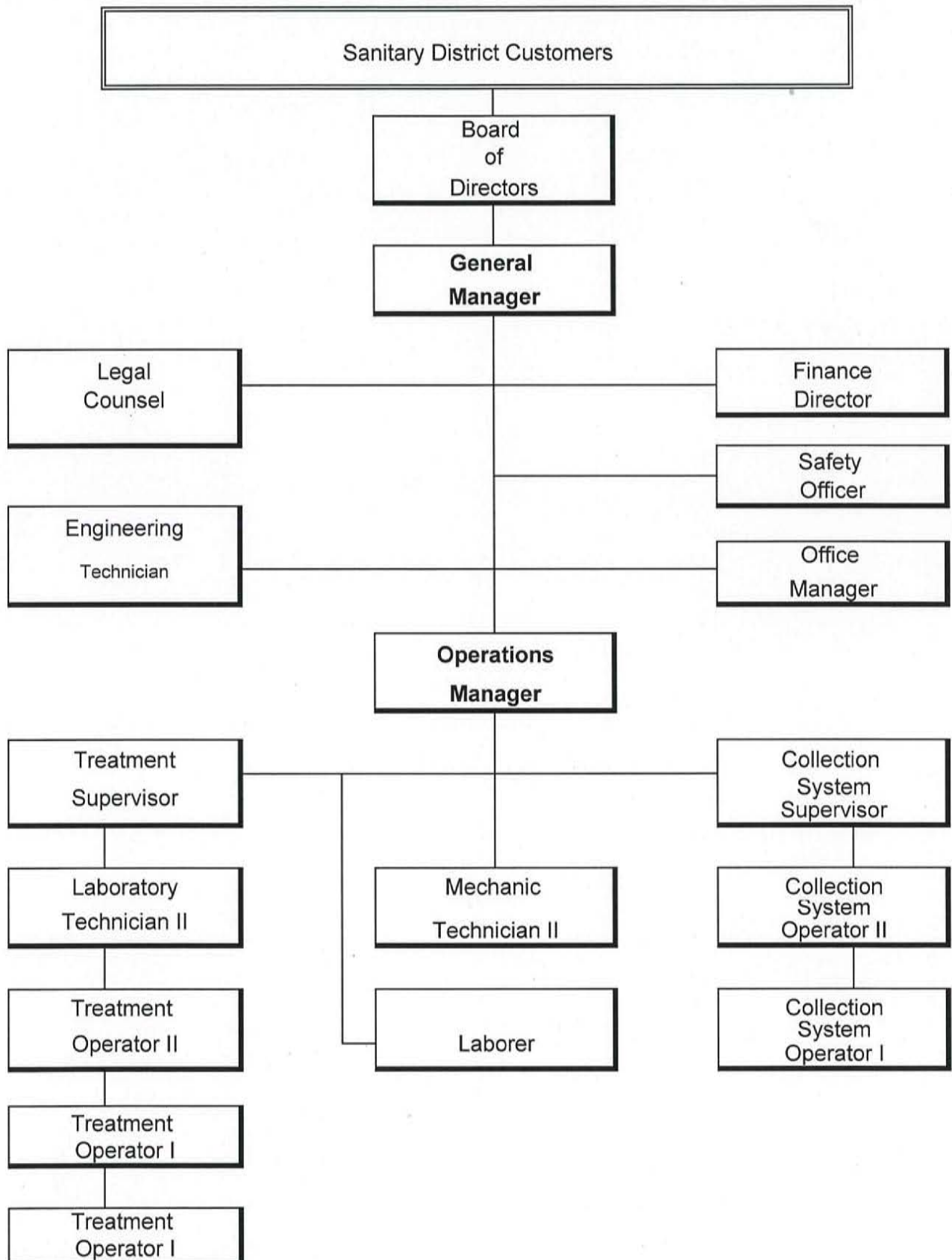
<b>Date</b>	<b>Principal</b>	<b>Interest</b>	<b>Semiannual Total</b>	<b>Fiscal Total</b>
7/01/2003	\$275,000	\$283,475.21	\$558,475.21	\$558,475.21
1/01/2004		\$342,437.50	\$342,437.50	
7/01/2004	\$540,000	\$342,437.50	\$882,437.50	\$1,224,875.00
1/01/2005		\$333,257.50	\$333,257.50	
7/01/2005	\$555,000	\$333,257.50	\$888,257.50	\$1,221,515.00
1/01/2006		\$327,013.75	\$327,013.75	
7/01/2006	\$570,000	\$327,013.75	\$897,013.75	\$1,224,027.50
1/01/2007		\$320,601.25	\$320,601.25	
7/01/2007	\$580,000	\$320,601.25	\$900,601.25	\$1,221,202.50
1/01/2008		\$314,076.25	\$314,076.25	
7/01/2008	\$595,000	\$314,076.25	\$909,076.25	\$1,223,152.50
1/01/2009		\$306,638.75	\$306,638.75	
7/01/2009	\$615,000	\$306,638.75	\$921,638.75	\$1,228,277.50
1/01/2010		\$296,183.75	\$296,183.75	
7/01/2010	\$635,000	\$296,183.75	\$931,183.75	\$1,227,367.50
<b>1/01/2011</b>		<b>\$285,388.75</b>	<b>\$285,388.75</b>	
<b>7/01/2011</b>	<b>\$655,000</b>	<b>\$285,388.75</b>	<b>\$940,388.75</b>	<b>\$1,225,777.50</b>
1/01/2012		\$274,253.75	\$274,253.75	
7/01/2012	\$675,000	\$274,253.75	\$949,253.75	\$1,223,507.50
1/01/2013		\$262,103.75	\$262,103.75	
7/01/2013	\$700,000	\$262,103.75	\$962,103.75	\$1,224,207.50
1/01/2014		\$248,978.75	\$248,978.75	
7/01/2014	\$730,000	\$248,978.75	\$978,978.75	\$1,227,957.50
1/01/2015		\$234,378.75	\$234,378.75	
7/01/2015	\$755,000	\$234,378.75	\$989,378.75	\$1,223,757.50
1/01/2016		\$218,901.25	\$218,901.25	
7/01/2016	\$785,000	\$218,901.25	\$1,003,901.25	\$1,222,802.50
1/01/2017		\$202,416.25	\$202,416.25	
7/01/2017	\$820,000	\$202,416.25	\$1,022,416.25	\$1,224,832.50
1/01/2018		\$184,786.25	\$184,786.25	
7/01/2018	\$855,000	\$184,786.25	\$1,039,786.25	\$1,224,572.50
1/01/2019		\$165,976.25	\$165,976.25	
7/01/2019	\$890,000	\$165,976.25	\$1,055,976.25	\$1,221,952.50
1/01/2020		\$145,951.25	\$145,951.25	
7/01/2020	\$930,000	\$145,951.25	\$1,075,951.25	\$1,221,902.50
1/01/2021		\$124,561.25	\$124,561.25	
7/01/2021	\$975,000	\$124,561.25	\$1,099,561.25	\$1,224,122.50
1/01/2022		\$102,136.25	\$102,136.25	
7/01/2022	\$1,020,000	\$102,136.25	\$1,122,136.25	\$1,224,272.50
1/01/2023		\$78,676.25	\$78,676.25	
7/01/2023	\$1,070,000	\$78,676.25	\$1,148,676.25	\$1,227,352.50
1/01/2024		\$53,932.50	\$53,932.50	
7/01/2024	\$1,120,000	\$53,932.50	\$1,173,932.50	\$1,227,865.00
1/01/2025		\$27,612.50	\$27,612.50	
7/01/2025	\$1,175,000	\$27,612.50	\$1,202,612.50	\$1,230,225.00
<b>Totals</b>	<b>\$17,520,000</b>	<b>\$9,984,000.21</b>	<b>\$27,504,000.21</b>	<b>\$26,945,525.00</b>

Source: Official Statement-Carpinteria Sanitary District 2003 Wastewater Revenue Refunding Bonds, 1/23/2003

# Carpinteria Sanitary District

## Organization Chart

Fiscal Year 2011/12



## 2.0 REVENUE PROJECTION

### Revenue Policy

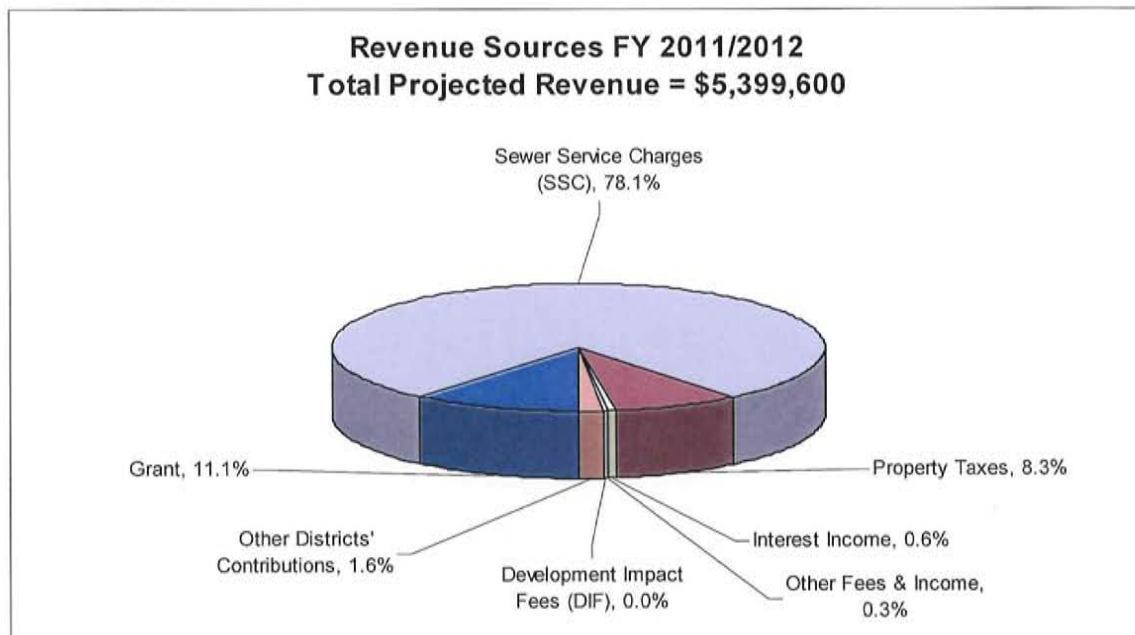
The Carpinteria Sanitary District must collect sufficient funds to maintain a prudent and balanced budget based on projected operational and capital expenses, while maintaining, at a minimum, a required debt service ratio of 1.25.

### Sources of Revenue

The Carpinteria Sanitary District's main sources of revenue are:

- Sewer Service Charges (SSC)
- Property Taxes
- Interest Income
- Other Fees and Income

Sewer service charges make up over 78.1% of the District's total revenue. The following figure shows a percentage breakdown of projected revenue for the 2011/12 fiscal year by source.





## **SEWER SERVICE CHARGES (SSC)**

During the previous fiscal year, the District engaged Raftelis Financial Consultants, Inc. to conduct a comprehensive wastewater rates and fees study that could be utilized to evaluate and enhance the user charges for the District's wastewater service to ensure that there is a proportionate recovery of costs from the various user classes.

The study involved a comprehensive review of the District's financial plan, user classifications, and rate structure for the wastewater enterprise. The consultant also reviewed the District's revenue requirements to determine the appropriate level of revenue adjustments to maintain financial sufficiency and rate stability. Based on their findings, the consultant recommended that the District implement a 4.5% increase to the SSC every year for the next five years commencing July 1<sup>st</sup>, 2011.

The incremental rate adjustments are necessary to fund operating and capital expenses, to maintain targeted reserve fund levels, and to meet debt service obligations. A powerful computer model was developed as part of the rate and fee update process which allowed the District to analyze a myriad of funding scenarios. A series of modest increases was determined to be the most appropriate means of meeting revenue requirements with the lowest impact to the customer base.

A key aspect of the rate study was reapportionment of costs between the residential and non-residential customer classes. Water conservation efforts of the past decade have changed residential wastewater flow rates and characteristics. In the first year, the updated rate structure puts a higher burden on the non-residential customers to re-establish equitable charges based on volume and wastewater strength.

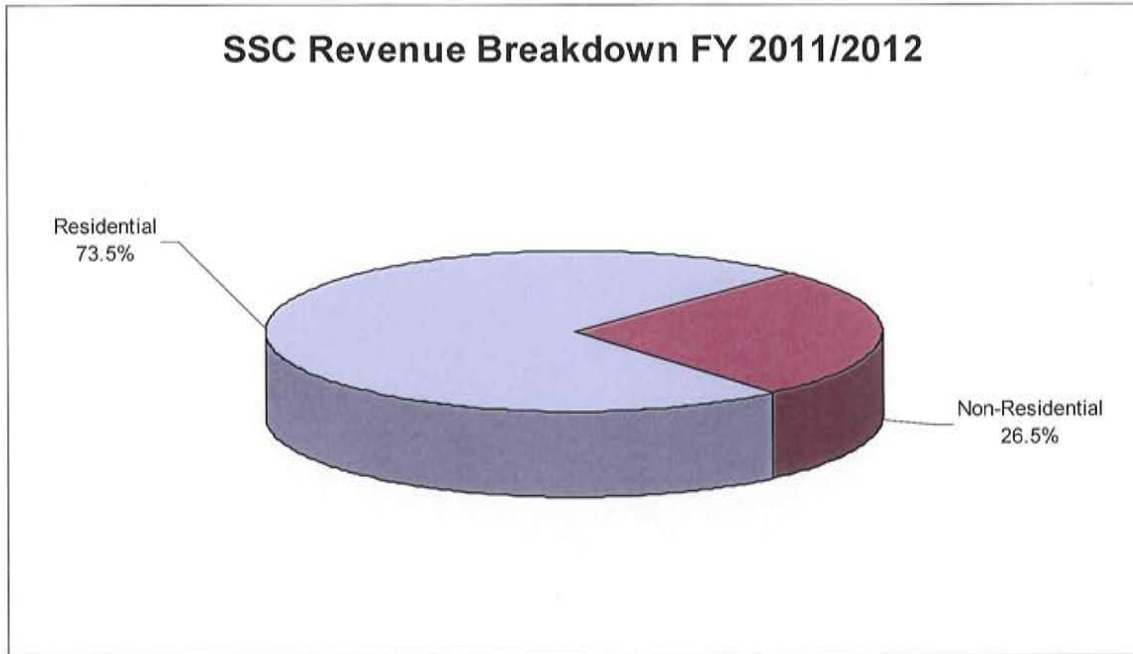
The updated sewer service charges and rate structure were enacted through adoption of District Ordinance No. 12 on June 7, 2011.

**Residential Sewer Service Charges:** Residential sewer service charges continue to be based on a flat rate per dwelling unit. In FY 2011/12, the annual charge per unit will be \$515.00 per year, just \$3 higher than the prior year. This rate is based on an average water use of 185 gallons per day. The total residential Sewer Service Charge revenue is projected to be about \$3,096,180, or about 73.5% of the total SSC revenue. This represents an increase of approximately \$23,000 or 0.8% from the prior year. The increase is associated with new residential development and the \$3 increase per unit. Currently, the total number of residential dwelling units being served by the District is 6,012.

**Non-Residential Sewer Service Charges:** The District's updated non-residential rate structure is much simpler than the system it replaces. Customers are classified into six classifications based on wastewater strength, ranging from low to very high strength. For each strength classification, charges are determined based on a unit cost per 1,000 gallons of water used (based on a 3-year annual average). The unit rates uniformly assume that 90% of water used is returned to the sanitary sewer system. Additionally, the non-residential rate structure includes a minimum charge per parcel (or account) that is equivalent to one residential unit charge, or \$515 in the current year.

The District annually updates non-residential user information by performing a survey of commercial and industrial connections within its service area in February of each year. The survey also records changes in occupancy during the year, particularly those that have an impact on wastewater strength or projected flow rates. The District maintains and updates assessors' parcel number (APN) information each year to reflect any changes, including lot splits or property owners name and mailing addresses.

The total non-residential revenue for FY 2011/12 is projected to be \$1,118,820, or 26.5% of the District's total SSC revenue. This is approximately \$210,000 more revenue than projected in the prior year. This significant increase is the result of the rate reapportionment described previously. The total number of non-residential customers remains approximately 550.



**Sewer Service Charge Billings and Collections:** Residential and non-residential sewer service charges are collected by the Santa Barbara County Assessor's office on behalf of the District on the annual property tax rolls. The SSC revenue is guaranteed by the County under the "Teeter Plan". Under this plan the County will pay the District 100 percent of the SSC funds requested by the District for collection. The County will then retain the penalties for all past due accounts. The SSC for each parcel is shown on the property tax billing as a separate line item. The County's fee for printing of the additional line is one dollar per parcel. This fee is added to the SSC by the County and paid by the property owners. The District attempts to collect sewer service charges for all new connections during the same fiscal year.

### **PROPERTY TAXES**

Property tax revenue is the District's second largest revenue source. Property tax revenue collected by the County Assessor consists of secured, unsecured, supplementary, unitary, and special assessment property taxes. The secured property tax is based on the assessed value of the property and may be increased a maximum of two percent per year by law. Secured property tax revenue has generally increased each year due to the rising in property values and changes in assessed value following property transfers.

The District typically receives one percent (1%) of the total property tax collected for parcels and other assets within its service area. The Santa Barbara County property tax



revenue projection is \$450,400, which is \$5,600 less than previous fiscal year. The growth rate projection by the County for the District property tax revenue is -0.39% for 2011/12 fiscal year due to declining property values.

During the past several years, the County has received a significant number of assessment appeals cases including Silver Sands Mobile Home Park within the District service area. California Government Code 26906.1 authorizes the County Auditor-Controller, with the approval of the Board of Supervisors, to impound the disputed revenues of any tax upon secured or unsecured property levied and collected by the county for the county or any revenue district when a claim or action is filed for the return of the revenues. This action does not require the Board to conclude that refunds are reasonable likely in whole or in part. The impounded tax revenues are held in an interest bearing fund until the assessment appeals actions are considered final. The District's share of impoundment was \$1,538 for the previous fiscal year, and it is estimated to be approximately \$3,500 for fiscal year 2011/12.

**Appropriation Limit**

The District receives data from the State of California Department of Finance each year on Price and Population information for the purpose of calculating an annual Appropriation Limit. This process, required by State law, is intended to ensure that the District is not collecting excess property tax. The determination, which shows the District to be well within limitations for the coming fiscal year, is presented in the following table:

	<b>Description</b>	<b>FY 2010/11</b>	<b>FY 2011/12</b>
A	Prior Year Appropriation Limit	\$2,968,871	\$2,925,525
B	Change in Calif. Per Capita Income	0.9746	1.0251
C	Change in District's Population	1.0109	1.0044
C1	Change in County Population	1.0111	1.0075
D	Multiplying Factor (Larger of C or C1 times B)	0.9854	1.0328
E	New Appropriation Limit	\$2,925,525	3,021,482
F	Property Tax Collected/ Estimate	\$456,000	\$456,000
G	Under Limit	\$2,469,525	\$2,571,482

## **INTEREST INCOME**

This source of income comes from interest earned on District funds deposited at Santa Barbara Bank & Trust, the State of California Local Agency Investment Fund (LAIF), and the Santa Barbara County Treasurer's pool. The interest rate for Fiscal Year 2011/12 is computed based on an expected average balance and a 0.5% interest rate for both restricted and non-restricted funds. This amount is projected to be approximately \$32,000, or about 50% less than the previous fiscal year revenue.

## **OTHER FEES & INCOME**

This source of revenue includes miscellaneous fees charged by the District for issuing and processing permits for sewer system connections and plumbing alterations. The projected revenue for FY 2011/12 from these sources is \$15,000. Other miscellaneous revenue may be accounted for in this category.

### **Development Impact Fees**

Development Impact Fees (DIF) are fees collected for new sewer connections and developments within the District's service area. This revenue is restricted for use on capital improvement projects that are capacity related.

As part of the rate and fee study conducted in 2011, the District's Development Impact Fees were reviewed and updated. The fee per equivalent dwelling unit (EDU) was increased from \$2,400 to \$2,936 through adoption of District Ordinance No. 13 in June 2011 and effective as of July 1, 2011. Non-Residential impact fees are computed based on estimates of water usage and wastewater strength for the given square footage of developed area.

Although the District generally collects a limited number of DIF fees each year from new connections and small developments, existing limitations on growth within the District's service area make this a variable and mostly insignificant source of revenue. Furthermore, because of the restricted nature of these funds, it is assumed for budgetary purposes that no DIF fees will be collected in this fiscal year. Any fees that are collected will be dedicated and accounted for in accordance with State law.

### **Joint Safety Officer Revenue**

In FY 2007/08 the District implemented a cooperative agreement with four other local sanitary districts to employ a joint Safety and Training Officer. This individual is an employee of the Carpinteria Sanitary District, with salary and benefits paid directly by the agency. However, costs for this entire program, including personnel costs, are apportioned amongst the participating agencies based on a simple formula. There are currently four agencies that are party to the cooperative arrangement. Each agency pays a pro-rata share at the outset of the fiscal year and the District's true cost burden is approximately 29% of the overall program cost. The anticipated contribution from other agencies for the Joint Safety and Training Officer will be approximately \$87,243 in FY 2011/12.

### **Other Sources of Cash**

The District has received a \$1.25M Proposition 50 Integrated Regional Water Management Plan Grant from the State Water Resources Control Board for the Bluffs



Sewer Relocation Project. This grant will fund approximately 50% of the project implementation cost. This capital project is currently in the final design stage and construction is expected to begin in Fall 2011. Grant funds are limited to construction activities and will be paid on a reimbursement basis. Project execution has been delayed and projected grant revenue in FY 2010/11 was not received. Accordingly, the estimate of \$600,000 in grant revenue is carried forward to FY 2011/12. The funds received will be restricted to this capital project and will supplement the existing project budget of \$1,470,200, previously authorized by the District Board of Directors and apportioned to this project.

## Revenue Summary

The total projected revenue for the 2011/12 fiscal year is shown in the following table:

Revenue Sources	2010/11 Budget Projection	2011/12 Proposed Budget	Dollar Variance	Percent Change
Sewer Service Charges (SSC)	\$3,980,000	\$4,215,000	\$235,000	6%
Property Taxes	\$456,000	\$450,400	<\$5,600>	<1%>
Interest Income	\$64,000	\$32,000	<\$32,000>	<50%>
Other Fees & Income	\$15,000	\$15,000	\$0	0%
Development Impact Fees (DIF)	\$0	\$0	\$0	0%
Joint Safety Officer Revenue	\$82,400	\$87,200	\$4,800	6%
Grant Income	\$600,000	\$600,000	0	0%
<b>Total Gross Revenues</b>	<b>\$5,197,400</b>	<b>\$5,399,600</b>	<b>\$202,200</b>	<b>4%</b>

The revenue projection for the coming fiscal year will be sufficient to support the District's operating costs and also to fund a portion of planned capital expenses. The following pages provide detailed revenue projections by account. A history of the District's residential sewer service charges is also provided, with a comparison against charges for other local wastewater agencies.

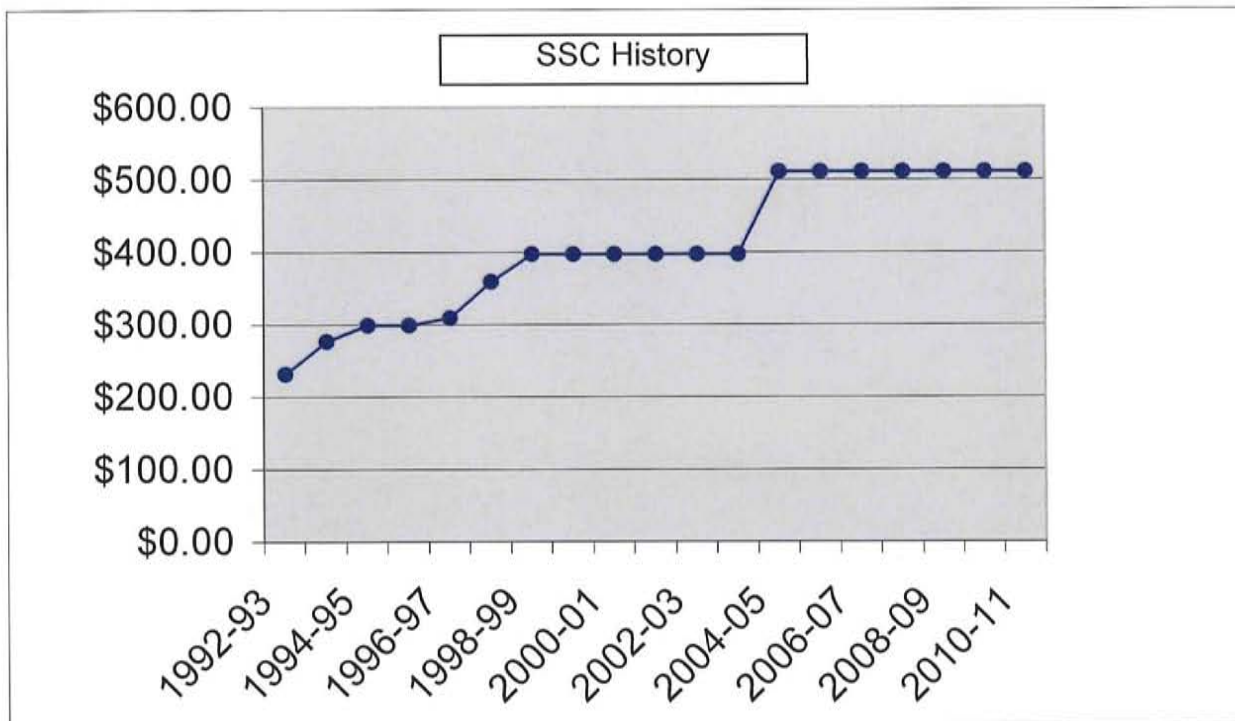
**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	3100	<b>Description:</b>
<b>Account Title</b>	Sewer Service Charges (SSC)	This account represents the total aggregate SSC that the District projects will be collected during the year. Per Ordinance 12, the residential SSC is \$515.00/year per equivalent dwelling unit. Non-residential SSCs are based on water use and wastewater strength.
<b>ACCOUNT NUMBER:</b>	3300	<b>Description:</b>
<b>Account Title</b>	Property Taxes	This revenue section represents the District's share of 1% of secured, unsecured, unitary, supplemental, and homeowner property tax relief collected by the County.
<b>ACCOUNT NUMBER:</b>	3400	<b>Description:</b>
<b>Account Title</b>	Interest Income (General Fund)	This account includes interest income earned on the District's cash balances at local banks, the State of California Local Agency Investment Fund (LAIF), Santa Barbara County Treasury, and the Santa Barbara Bank & Trust.
<b>ACCOUNT NUMBER:</b>	3130	<b>Description:</b>
<b>Account Title</b>	Development Impact Fees (DIF)	The budget does not include revenue related to collection of Development Impact Fees. All DIF revenue are used for the current and future capacity related capital improvement projects.
<b>ACCOUNT NUMBER:</b>	Various	<b>Description:</b>
<b>Account Title</b>	Other Fees and Income	These accounts represent miscellaneous fees charged by the District for service provided. These include annexation fees, sewer service permit fees, plan check fees, and inspection fees. Other miscellaneous revenue is covered under these accounts.
<b>ACCOUNT NUMBER:</b>	3380	<b>Description:</b>
<b>Account Title</b>	Other Districts' Contribution/Safety & Training Officer	This is the account for reimbursement of a shared employee/Safety Officer, from the other sanitary districts.

# Carpinteria Sanitary District

## History of Residential Sewer Service Charges

Residential Annual SSC	Mobile Homes Annual SSC	Ordinance Number	Fiscal Year	Actual SSC Charged	SSC Ordinance	Cost per Month
\$40	\$40	1978-1	1992-93	\$232.75	\$232.75	\$19.40
\$35	\$25	1978-3	1993-94	\$278.00	\$398.00	\$23.17
\$35	\$25	1979-1	1994-95	\$300.00	\$398.00	\$25.00
\$70	\$50	1981-1	1995-96	\$300.00	\$398.00	\$25.00
\$70	\$70	1987-2	1996-97	\$310.00	\$398.00	\$25.83
\$161	\$161	1989-5	1997-98	\$359.95	\$398.00	\$30.00
\$172	\$165	Ord#3	1998-99	\$398.00	\$398.00	\$33.17
\$190	\$183	Ord#4	1999-00	\$398.00	\$398.00	\$33.17
\$233	\$226	Ord#5 (1992)	2000-01	\$398.00	\$398.00	\$33.17
\$398	\$386	Ord#6 (1993)	2001-02	\$398.00	\$398.00	\$33.17
\$512	\$512	Ord#10 (2004)	2002-03	\$398.00	\$398.00	\$33.17
\$515	\$515	Ord#12 (2011)	2003-04	\$398.00	\$398.00	\$33.17
			2004-05	\$512.00	\$512.00	\$42.67
			2005-06	\$512.00	\$512.00	\$42.67
			2006-07	\$512.00	\$512.00	\$42.67
			2007-08	\$512.00	\$512.00	\$42.67
			2008-09	\$512.00	\$512.00	\$42.67
			2009-10	\$512.00	\$512.00	\$42.67
			2010-11	\$512.00	\$512.00	\$42.67
			2011-12	\$515.00	\$515.00	\$42.92

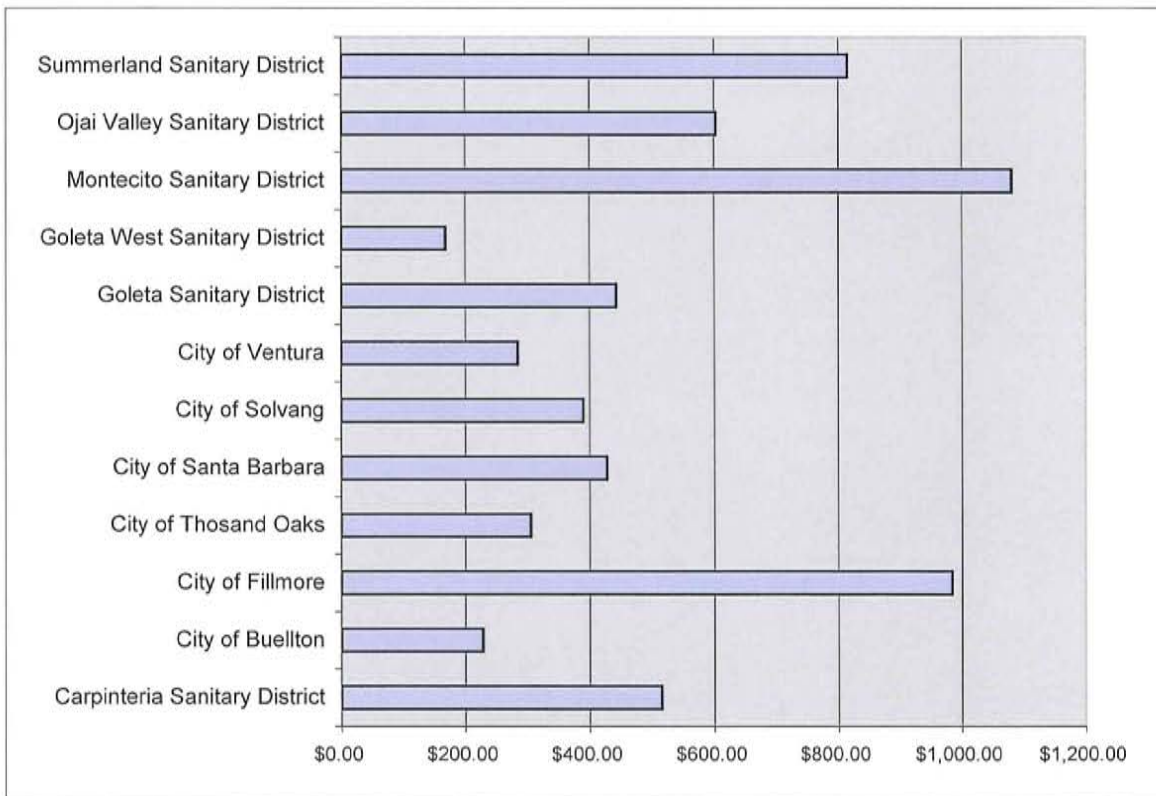




### Carpinteria Sanitary District

#### Peer Agencies' Sewer Service Charges

	Current Annual SSC 2010/11	Proposed SSC 2011/12
<b>Carpinteria Sanitary District</b>	<b>\$512.00</b>	<b>\$515.00</b>
City of Buellton	\$216.00	\$228.00
City of Fillmore	\$984.00	\$984.00
City of Thousand Oaks	\$341.40	\$305.00
City of Santa Barbara	\$410.52	\$427.32
City of Solvang	\$389.76	\$389.76
City of Ventura	\$284.00	\$284.00
Goleta Sanitary District	\$442.32	\$442.32
Goleta West Sanitary District	\$168.00	\$168.00
Montecito Sanitary District	\$960.00	\$1,080.00
Ojai Valley Sanitary District	\$602.52	\$602.52
Summerland Sanitary District	\$787.26	\$814.81

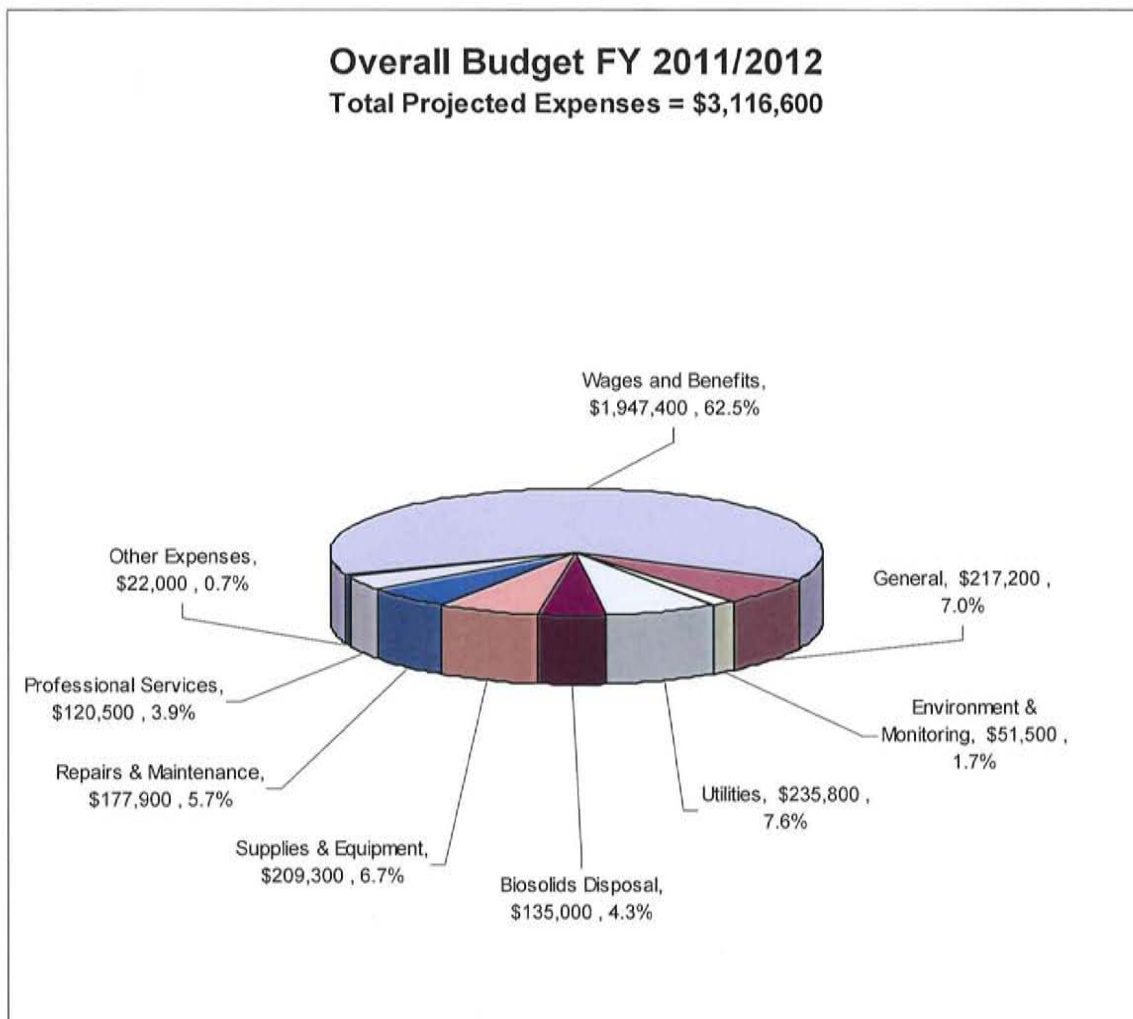




### 3.0 EXPENSE OVERVIEW

The Carpinteria Sanitary District's operating expense budget is separated into three departments: the Administration Department, the Plant/Collection Department, and the Safety and Training Department. The operating expense section of the overall budget includes expenses associated with the day-to-day operation of the agency, exclusive of projected expenses for capital purchases, capital improvements and debt service payments.

The following figure provides a graphical overview of the District's operating budget for FY 2011/12.



The Administration section includes the projected expenses associated with the administration of the District including employee salaries and benefits, auditing, legal, engineering, professional services, permitting fees, Board of Directors' expenses, District insurance and miscellaneous repairs for the upkeep of the Administration Building and

Board Room. The projected Administration department operating budget for FY 2011/12 is \$871,700, or 28% of the overall budget.

The Plant/Collection section includes the projected expenses associated with the operation and maintenance of the wastewater treatment plant, the collection system, and associated lift stations. Expenses include employee salaries and benefits, utilities, chemicals, equipment maintenance, professional services, biosolids disposal and general operating expenses. The projected Plant/Collection department operating budget for FY 2011/12 is \$2,127,500, or 68.2% of the overall budget.

The Safety and Training section includes the projected expenses associated with utilization of outside consultants and employment of a joint Safety and Training Officer. Other direct expenses associated with occupational safety and regulatory compliance are also included in the budget. The projected 2011/12 fiscal year budget for this department is \$119,400, or 3.8% of the overall budget.

The District's operating budget has taken into consideration the projected needs and projected costs for achieving key goals and objectives in the upcoming fiscal year. The operating expenses presented herein represent a summary of the more detailed expenses shown in the individual Administration and Plant/Collection budget sections.

The District's Office Manager submitted a letter of retirement from the District, effective August 19, 2011. The timeline for replacing this position is approximately the beginning of August, 2011. Based on the District's current post retirement health benefit, the current Office Manager is entitled to a proportional benefit upon retirement, and it is reflected in the budget.

## **Summary Data**

The remainder of this section contains figures and financial data in tabular and graphic format that summarize the projected expenditures District wide for the coming fiscal year, as follows:

- **All Department Operating Expenses**
- **CPI Cost Escalation Factor Summary**
- **FY 2011/12 Salary Matrix**
- **Personnel Cost Summary**
- **Employee Benefit Summary**
- **Standby Pay Detail**

**Carpinteria Sanitary District  
All Departments Budget  
Fiscal Year 2011/2012**

Account Number	Description	2010/11 Budget	2010/11 11 Months Actual	% Expended	2011/12 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010	Regular Salaries	1,267,000	1,047,457	83%	1,281,500	14,500	1.1%
5030	Overtime	12,500	8,074	65%	12,500	0	0.0%
5040	Special Duty Pay	36,800	31,492	86%	37,600	800	2.2%
5050	Directors Fees	17,500	9,950	57%	17,500	0	
	<b>Total Wages</b>	<b>1,333,800</b>	<b>1,096,974</b>	<b>82%</b>	<b>1,349,100</b>	<b>15,300</b>	<b>1.1%</b>
<b><u>Employee Benefits</u></b>							
5111	PERS	213,200	174,471	82%	228,600	15,400	7.2%
5112	Social Security	98,300	77,438	79%	99,800	1,500	1.5%
5120	Medical Insurance	164,800	159,294	97%	164,800	0	0.0%
5121	Retiree Health Benefit/GASB 45	0	0	0%	2,000	2,000	NA
5122	Unemployment Insurance	5,800	5,323	92%	6,100	300	5.2%
5124	Long Term Disability	8,500	8,302	98%	8,500	0	0.0%
5126	Life Insurance	4,200	4,070	97%	4,200	0	0.0%
5127	Dental/ Vision Self Funding Plan	40,000	27,360	68%	40,000	0	0.0%
5128	Workers' Compensation	40,900	31,681	77%	43,900	3,000	7.3%
5132	Employee Physicals & First Aid	2,400	967	40%	2,400	0	0.0%
	<b>Total Employee Benefits</b>	<b>578,100</b>	<b>488,905</b>	<b>85%</b>	<b>600,300</b>	<b>22,200</b>	<b>3.8%</b>
	<b>TOTAL PERSONNEL</b>	<b>1,911,900</b>	<b>1,585,879</b>	<b>83%</b>	<b>1,949,400</b>	<b>37,500</b>	<b>2.0%</b>
<b><u>General Expenses</u></b>							
5210	Departmental Expense	12,500	5,439	44%	10,500	(2,000)	-16.0%
5215	Office Supplies	9,700	3,853	40%	9,500	(200)	-2.1%
5222	Directors Confs. & Training	15,000	6,285	42%	15,000	0	0.0%
5226	Directors Election Expense	15,000	2,837	0%	0	(15,000)	-100.0%
5228	Directors Dental / Vision	12,500	11,131	89%	12,500	0	0.0%
5231	District Liability Insurance	71,500	60,811	85%	69,500	(2,000)	-2.8%
5241	Uniform Expenses	10,000	9,762	98%	10,500	500	5.0%
5242	Memberships and Dues	22,200	18,795	85%	22,000	(200)	-0.9%
5244	Conference & Training	23,000	5,264	23%	19,000	(4,000)	-17.4%
5246	Employee Education Reimb.	2,500	568	23%	2,500	0	0.0%
5260	Vehicle Fuel Expenses	15,800	11,776	75%	16,800	1,000	6.3%
5265	Employee Mileage Reimb.	2,400	415	17%	1,900	(500)	-20.8%
5270	Equipment Rental and Leases	1,600	640	40%	4,500	2,900	181.3%
5290	Licenses and Permits	20,000	11,707	59%	23,000	3,000	15.0%
	<b>Total General</b>	<b>233,700</b>	<b>149,283</b>	<b>64%</b>	<b>217,200</b>	<b>(16,500)</b>	<b>-7.1%</b>
<b><u>Environment &amp; Monitoring</u></b>							
5310	Monitoring-Equipment Expense	25,500	16,902	66%	26,000	500	2.0%
5320	Monitoring-Lab Work	15,000	8,189	55%	15,500	500	3.3%
5330	Prop. 65 Clean Up Expense	10,000	0	0%	10,000	0	0.0%
	<b>Total Environment &amp; Monit.</b>	<b>50,500</b>	<b>25,091</b>	<b>50%</b>	<b>51,500</b>	<b>1,000</b>	<b>2.0%</b>
<b><u>Utilities</u></b>							
5410	Natural Gas	1,700	1,238	73%	1,800	100	5.9%
5420	Electricity	184,200	160,802	87%	205,000	20,800	11.3%
5430	Telephone	13,200	8,944	68%	10,700	(2,500)	-18.9%
5440	Water	12,100	8,075	67%	12,100	0	0.0%
5450	Rubbish	4,700	3,376	72%	4,700	0	0.0%
5480	Underground Service Alert	800	359	45%	800	0	0.0%
5490	Building Alarm System	600	570	95%	700	100	16.7%
	<b>Total Utilities</b>	<b>217,300</b>	<b>183,364</b>	<b>84%</b>	<b>235,800</b>	<b>18,500</b>	<b>8.5%</b>



**Carpinteria Sanitary District**  
**All Departments Budget**  
**Fiscal Year 2011/2012**

Account Number	Description	2010/11 Budget	2010/11 11 Months Actual	% Expended	2011/12 Budget	\$ Increase (Decrs.)	% Change
<b><u>Sludge Disposal</u></b>							
5470	Biosolids Disposal	100,000	90,786	91%	135,000	35,000	35.0%
	Total Sludge Disposal	100,000	90,786	91%	135,000	35,000	35.0%
<b><u>Supplies &amp; Equipment</u></b>							
5510	General Supplies	16,500	9,576	58%	13,800	(2,700)	-16.4%
5521	Odor Control Chemicals	35,000	4,021	11%	35,000	0	0.0%
5522	Chlorine-SO2	115,000	108,028	94%	120,000	5,000	4.3%
5524	Polymers	25,000	21,183	85%	26,000	1,000	4.0%
5525	Tools/Small Parts	4,300	3,505	82%	3,000	(1,300)	-30.2%
5526	Fuel, Diesel, Lubricants	5,500	3,052	55%	6,500	1,000	18.2%
5527	Safety Equipment	6,000	1,626	27%	5,000	(1,000)	-16.7%
	Total Supplies & Equipment	207,300	150,991	73%	209,300	2,000	1.0%
<b><u>Repairs &amp; Maintenance</u></b>							
5610	Equipment (minor)	15,900	14,878	94%	15,800	(100)	-0.6%
5620	Building Maintenance	10,000	5,438	54%	10,000	0	0.0%
5630	Grounds Maintenance	10,100	5,873	58%	6,000	(4,100)	-40.6%
5640	Vehicle Maintenance	10,000	5,940	59%	10,100	100	1.0%
5650	Treatment Plant Maintenance	44,000	33,295	76%	45,000	1,000	2.3%
5680	Lift Station Maintenance	20,000	23,303	117%	9,000	(11,000)	-55.0%
5690	Trunk Line Maintenance	91,000	17,738	19%	82,000	(9,000)	-9.9%
	Total Repairs & Maint.	201,000	106,464	53%	177,900	(23,100)	-11.5%
<b><u>Professional Services</u></b>							
5821	Accounting (Annual Audit)	7,500	7,500	100%	7,500	0	0.0%
5831	Legal Counsel	24,000	14,068	59%	24,000	0	0.0%
5843	Computer Related Expenses	20,500	15,172	74%	24,900	4,400	21.5%
5844	SCADA Related Expenses	9,800	167	2%	20,000	10,200	104.1%
5847	Public Relations	13,700	12,186	89%	15,000	1,300	9.5%
5849	Other Professional Services	24,000	3,391	14%	24,000	0	0.0%
5851	Payroll Service-Paychex	4,500	3,266	73%	4,600	100	2.2%
5855	IDP/Monitoring Source Control	500	0	0%	500	0	0.0%
	Total Professional Services	104,500	55,749	53%	120,500	16,000	15.3%
<b><u>Other Expenses</u></b>							
6020	Admin Charges-SB County	7,000	8,003	114%	10,000	3,000	42.9%
6030	Debt Services Administration Fee	3,200	2,618	82%	3,200	0	0.0%
6031	LAFCO Pro-Rata Costs	4,100	3,745	91%	3,800	(300)	-7.3%
6032	Regional Grant/Planning Costs	10,000	0	0%	5,000	(5,000)	-50.0%
	Total Other Expenses	24,300	14,366	59%	22,000	(2,300)	-9.5%
<b>GRAND TOTALS</b>		<b>3,050,500</b>	<b>2,361,973</b>	<b>77%</b>	<b>3,118,600</b>	<b>68,100</b>	<b>2.2%</b>

## Consumer Price Index - Urban Wage Earners and Clerical Workers

### 12-Month Percent Change

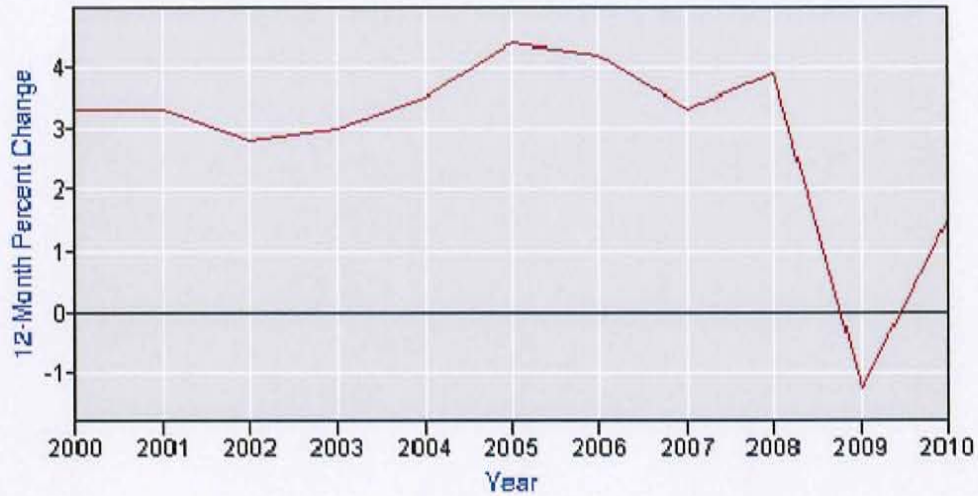
Series Id: CWURA421SA0


Not Seasonally Adjusted

Area: Los Angeles-Riverside-Orange County, CA

Item: All items

Base Period: 1982-84=100



Download:  [.xls](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
2000	2.2	2.7	3.5	2.4	2.9	3.4	3.6	3.4	3.5	3.9	3.7	3.6	3.3	2.9	3.6
2001	3.7	3.6	3.2	3.4	3.7	4.6	3.8	3.5	3.1	2.5	2.5	1.8	3.3	3.7	2.9
2002	2.5	2.7	2.8	3.1	2.9	1.6	2.2	2.6	2.8	3.2	3.7	4.1	2.8	2.5	3.1
2003	3.7	3.9	4.5	3.5	2.6	2.8	2.6	2.8	3.2	2.7	2.0	2.0	3.0	3.5	2.6
2004	2.2	2.1	1.8	2.4	3.8	4.3	4.0	3.3	3.2	4.7	5.4	4.6	3.5	2.8	4.2
2005	3.7	3.8	3.9	4.9	4.2	3.4	4.2	5.3	6.0	5.4	4.3	4.2	4.4	3.9	4.9
2006	5.2	5.0	4.5	4.5	5.3	5.4	5.1	4.4	3.2	1.8	2.5	3.3	4.2	5.0	3.3
2007	3.1	3.4	4.0	3.6	3.0	2.7	2.4	2.1	2.2	3.8	4.7	4.6	3.3	3.3	3.3
2008	4.6	3.7	3.6	3.7	4.1	6.1	6.6	5.7	5.0	3.5	0.6	-0.6	3.9	4.3	3.5
2009	-0.6	-0.5	-1.6	-2.1	-2.4	-2.8	-3.2	-2.1	-1.4	-0.6	1.2	2.5	-1.2	-1.7	-0.6
2010	2.3	1.8	2.4	2.4	2.0	1.0	1.0	1.0	0.5	0.9	1.0	1.6	1.5	2.0	1.0

## Carpinteria Sanitary District

### Salary Matrix - Monthly

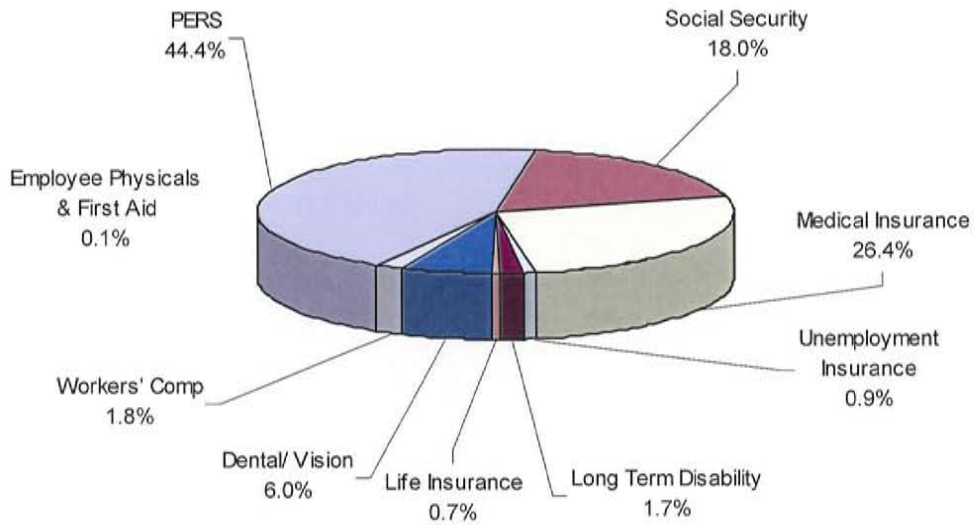
Fiscal Year 2011/12

Positions	A	B	C	D	E
Finance Director	7,775	8,165	8,574	9,002	9,452
Engineering Technician	4,886	5,129	5,387	5,656	5,939
Office Manager	5,538	5,815	6,106	6,410	6,731
Operations Manager	8,264	8,677	9,110	9,566	10,044
Treatment Supervisor	6,420	6,741	7,078	7,432	7,803
Operator in Training	3,737	3,925	4,121	4,327	4,543
Operator 1	4,221	4,432	4,654	4,887	5,130
Operator 2	4,618	4,850	5,092	5,347	5,615
Maintenance Tech 2	4,587	4,815	5,056	5,309	5,575
Laborer	3,131	3,289	3,452	3,626	3,807
Lab Tech 2	5,277	5,540	5,817	6,108	6,413
Collection System Supervisor	6,558	6,887	7,231	7,592	7,971
Collection System Operator 1	3,737	3,925	4,121	4,327	4,543
Collection System Operator 2	3,925	4,121	4,327	4,543	4,769
Safety Training Officer	5,776	6,065	6,369	6,687	7,022

The above matrix includes a 0.3% annual escalation factor (Los Angeles, Orange, Riverside) starting the first pay period after 6/30/2011

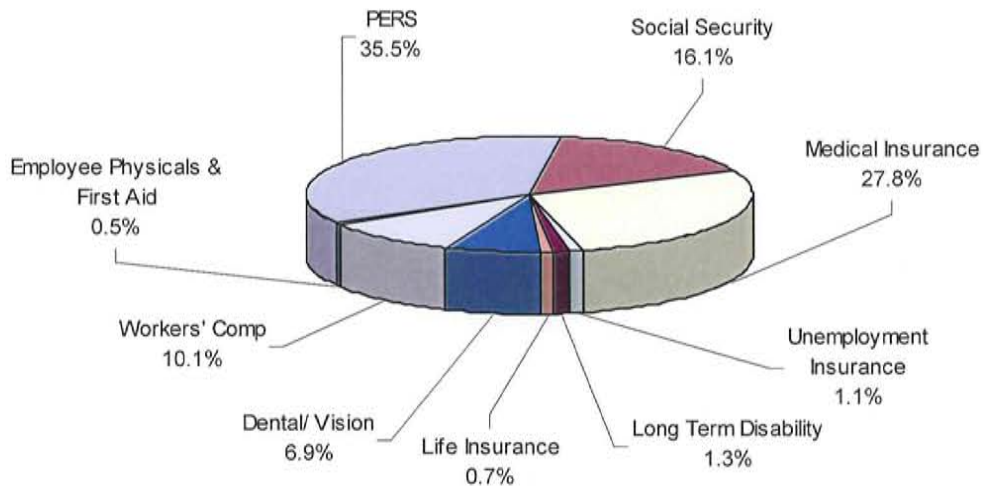
### Administration Department Employee Benefits

Total = \$166,600



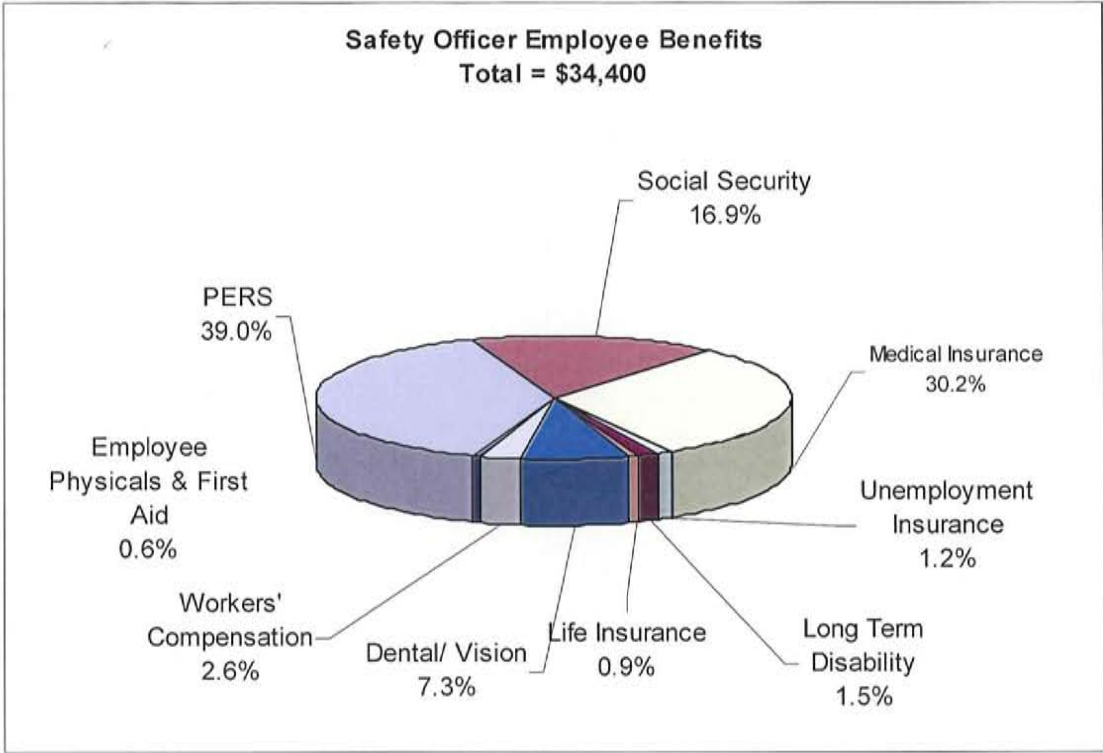
### Plant/Collection Department Employee Benefits

Total = \$397,300





**Safety Officer Employee Benefits**  
Total = \$34,400





Carpinteria Sanitary District  
 Standby Pay Detail for Fiscal Year 2011/12  
**1.5 hrs / Day @ Average Salary for Standby Personnel**

	1	2	3	4	5	6	7	<u>Average Hrly</u> Rate	<u>Daily Rate</u>
Eligible On-Call Employees	Mark R	Frank	Paul	Branson	Eddie	Refugio	Richard	\$ 34.14	\$ 51.21

Standby Pay is based on a 1.5 hours of pay per day using the average hourly pay rate for the group of participating employees, with compensation determined each year on June 15th for the following fiscal year.

	Week Starting	Week Ending	Hours	Operators	Collection / Maintenance
1	7/1/2011	7/1/2011	1.5	51.21	51.21
2	7/2/2011	7/8/2011	10.5	358.47	358.47
3	7/9/2011	7/15/2011	10.5	358.47	358.47
4	7/16/2011	7/22/2011	10.5	358.47	358.47
5	7/23/2011	7/29/2011	10.5	358.47	358.47
6	7/30/2011	8/5/2011	10.5	358.47	358.47
7	8/6/2011	8/12/2011	10.5	358.47	358.47
8	8/13/2011	8/19/2011	10.5	358.47	358.47
9	8/20/2011	8/26/2011	10.5	358.47	358.47
10	8/27/2011	9/2/2011	10.5	358.47	358.47
11	9/3/2011	9/9/2011	10.5	358.47	358.47
12	9/10/2011	9/16/2011	10.5	358.47	358.47
13	9/17/2011	9/23/2011	10.5	358.47	358.47
14	9/24/2011	9/30/2011	10.5	358.47	358.47
15	10/1/2011	10/7/2011	10.5	358.47	358.47
16	10/8/2011	10/14/2011	10.5	358.47	358.47
17	10/15/2011	10/21/2011	10.5	358.47	358.47
18	10/22/2011	10/28/2011	10.5	358.47	358.47
19	10/29/2011	11/4/2011	10.5	358.47	358.47
20	11/5/2011	11/11/2011	10.5	358.47	358.47
21	11/12/2011	11/18/2011	10.5	358.47	358.47
22	11/19/2011	11/25/2011	10.5	358.47	358.47
23	11/26/2011	12/2/2011	10.5	358.47	358.47
24	12/3/2011	12/9/2011	10.5	358.47	358.47
25	12/10/2011	12/16/2011	10.5	358.47	358.47
26	12/17/2011	12/23/2011	10.5	358.47	358.47
27	12/24/2011	12/30/2011	10.5	358.47	358.47
28	12/31/2011	1/6/2012	10.5	358.47	358.47
29	1/7/2012	1/13/2012	10.5	358.47	358.47
30	1/14/2012	1/20/2012	10.5	358.47	358.47
31	1/21/2012	1/27/2012	10.5	358.47	358.47
32	1/28/2012	2/3/2012	10.5	358.47	358.47
33	2/4/2012	2/10/2012	10.5	358.47	358.47
34	2/11/2012	2/17/2012	10.5	358.47	358.47
35	2/18/2012	2/24/2012	10.5	358.47	358.47
36	2/25/2012	3/2/2012	10.5	358.47	358.47
37	3/3/2012	3/9/2012	10.5	358.47	358.47
38	3/10/2012	3/16/2012	10.5	358.47	358.47
39	3/17/2012	3/23/2012	10.5	358.47	358.47
40	3/24/2012	3/30/2012	10.5	358.47	358.47
41	3/31/2012	4/6/2012	10.5	358.47	358.47
42	4/7/2012	4/13/2012	10.5	358.47	358.47
43	4/14/2012	4/20/2012	10.5	358.47	358.47
44	4/21/2012	4/27/2012	10.5	358.47	358.47
45	4/28/2012	5/4/2012	10.5	358.47	358.47
46	5/5/2012	5/11/2012	10.5	358.47	358.47
47	5/12/2012	5/18/2012	10.5	358.47	358.47
48	5/19/2012	5/25/2012	10.5	358.47	358.47
49	5/26/2012	6/1/2012	10.5	358.47	358.47
50	6/2/2012	6/8/2012	10.5	358.47	358.47
51	6/9/2012	6/15/2012	10.5	358.47	358.47
52	6/16/2012	6/22/2012	10.5	358.47	358.47
53	6/23/2012	6/30/2012	12	409.68	409.68
			549	18,742.86	18,742.86

**Total Cost based on 1.5 hrs / Day @ Average Wages of Participants as of 6/15/2011**

**\$ 37,485.72**

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER</b>	5010	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Regular Salaries	Funds the regular salary and wages for three various departments, including; Administration, Plant/Collection, and Safety & Training.
<b>ACCOUNT NUMBER</b>	5030	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Overtime	Funds for scheduled and unscheduled overtime expense for the department.
<b>ACCOUNT NUMBER</b>	5040	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Special Duty Pay	Funds for two employees' standby pay. This is based on 1.5 hours of pay per day using the average hourly pay rate for the group of participants with compensation determined on June 15th of each year for the following year.
<b>ACCOUNT NUMBER</b>	5050	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Fees	Funds for five elected officials to attend board and committee meetings.
<b>ACCOUNT NUMBER</b>	5111	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	PERS (Public Employees' Retirement System)	Funds PERS contributions for sixteen full-time employees. CSD provides a 7.0% employee contribution. The current PERS retirement plan is 2% @ 55.
<b>ACCOUNT NUMBER</b>	5112	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Social Security & Medicare (FICA)	Funds for employer portion of Social Security and Medicare expense.
<b>ACCOUNT NUMBER</b>	5120	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Medical Insurance	Provides funding for medical insurance premiums for employees and their dependents.
<b>ACCOUNT NUMBER</b>	5121	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Retiree Health Benefit/GASB 45	Provides funding for post retirement medical insurance premiums for retired employees up to a maximum of 36 months.
<b>ACCOUNT NUMBER</b>	5122	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Unemployment Insurance	Funds unemployment insurance premiums. Unemployment insurance is based on the first \$7,000 of each employee's wages.
<b>ACCOUNT NUMBER</b>	5124	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Long Term Disability	Funds long term disability insurance for sixteen full-time Plant employees.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER</b>	5126	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Life Insurance	Funds for employees' life insurance. The District provides \$40,000 term life insurance for all full-time employees.
<b>ACCOUNT NUMBER</b>	5127	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Dental/Vision Plan	Funds for Direct Dental/Vision care self funded plan. The District self funds the program at \$2,500/benefit year for the employee and dependents.
<b>ACCOUNT NUMBER</b>	5128	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Workers' Compensation	Funds for pooled CSRMA workers' compensation insurance premiums.
<b>ACCOUNT NUMBER</b>	5132	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Physicals & First Aid	Funds for employees physicals. The physicals are required for Class B drivers license. Includes DATCO drug/alcohol testing, pre-employment screening and First Aid supplies and use.
<b>ACCOUNT NUMBER</b>	5210	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Departmental Expense	Funds for the purchase of routine various expenses such as coffee, drinking water, subscriptions, mailing, and other miscellaneous items.
<b>ACCOUNT NUMBER</b>	5215	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Office Supplies	Funds for office supplies and minor office equipment for the Plant department.
<b>ACCOUNT NUMBER</b>	5222	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Conference Exp.	Funds for elected officials' conferences, trainings, lodging, travel expenses, and Board workshop.
<b>ACCOUNT NUMBER</b>	5226	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Election Expense	Funds for all required activities related to the Board of Directors election expenses.
<b>ACCOUNT NUMBER</b>	5228	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Dental & Vision Plan	Funds for the elected officials' dental/vision self funded plan similar to the employees. Currently, up to \$2,500 for each elected officials and their eligible dependent family.
<b>ACCOUNT NUMBER</b>	5231	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	District Liability Insurance	Funds the premiums for CSRMA pooled insurance programs which include liability, property, dishonesty bond, auto physical damage, and mobile equipment.



Carpinteria Sanitary District  
Accounts Details

<b>ACCOUNT NUMBER</b>	5241	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Uniform Expenses	Funds to provide uniform service for the Plant/Collection Department employees.
<b>ACCOUNT NUMBER</b>	5242	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Professional Licenses and Certifications	Funds for State/CWEA licenses, exams and TCP certification renewals, professional membership dues, and class B license renewals.
<b>ACCOUNT NUMBER</b>	5244	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Conferences & Training	Funds to provide training expenses, conferences, CWEA, and TCP, safety, maintenance and supervisory training.
<b>ACCOUNT NUMBER</b>	5246	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Education Reimbursement	Funds for education reimbursement for job-related courses completed successfully that have advance approval from the General Manager.
<b>ACCOUNT NUMBER</b>	5260	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Vehicle Fuel Expenses	Funds for fuel for the District vehicles and equipment.
<b>ACCOUNT NUMBER</b>	5265	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Mileage Reimbursement	Funds for mileage reimbursement for employees who travel with their own vehicle on District business. The reimbursement rate is at the IRS mileage rate.
<b>ACCOUNT NUMBER</b>	5270	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Equipment Rental and Leases	Funds for the cost of renting pumps, equipment and other needed equipment not currently owned by the District.
<b>ACCOUNT NUMBER</b>	5290	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Licenses & Permits	Funds for the various licenses and permits required of the District by various State, County and local agencies.
<b>ACCOUNT NUMBER</b>	5310	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Laboratory Expense	Funds for minor lab equipment purchases and reagent chemicals necessary to perform the inhouse lab analysis required to monitor the plant's effluent discharge and to perform process control monitoring.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER</b>	5320	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Laboratory-Outside Services	Funds for expenses related to the testing efforts performed by outside lab. These include ocean and beach, sludge and raw wastewater samples.
<b>ACCOUNT NUMBER</b>	5330	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Prop 65 Clean Up Expense	Funds for the cleanup of minor sewage spills that are below the District's insurance deductible.
<b>ACCOUNT NUMBER</b>	5410	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Natural Gas	Funds for natural gas usage.
<b>ACCOUNT NUMBER</b>	5420	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Electricity	Funds for projected electricity usage at the Plant, seven lift stations, and the Administration office.
<b>ACCOUNT NUMBER</b>	5430	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Telephone	Funds for long distance, local, cellular and lift station telemetry services.
<b>ACCOUNT NUMBER</b>	5440	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Water	Funds for water usage at the treatment plant, lift stations, temp meter, and Administration building.
<b>ACCOUNT NUMBER</b>	5450	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Trash Services	Funds for the disposal of trash, grit and screening from the Plant by Harrison.
<b>ACCOUNT NUMBER</b>	5470	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Biosolids Disposal	Funds for biosolids transportation and composting fees.
<b>ACCOUNT NUMBER</b>	5480	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Underground Service Alert	Fund for the USA dig alert.
<b>ACCOUNT NUMBER</b>	5490	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Building Alarm System	Funds for the Administration building security alarm system.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER</b>	5510	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	General Supplies	Funds for general supplies related to the Plant & Collection Department.
<b>ACCOUNT NUMBER</b>	5521	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Odor Control Chemicals	Replacement and disposal of odor control media for the facility's air scrubbers.
<b>ACCOUNT NUMBER</b>	5522	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Disinfection Chemicals, Chlorine/Bisulfite	Funds for sodium hypochlorite used for disinfection of the final effluent and sodium bisulfite used to dechlorinate prior to final discharge.
<b>ACCOUNT NUMBER</b>	5524	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Polymer	Funds for a liquid polymer used to dewater the biosolids prior to being sent to the commercial composting facility.
<b>ACCOUNT NUMBER</b>	5525	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Tools	Funds for the purchase and replacement of miscellaneous hand tools.
<b>ACCOUNT NUMBER</b>	5526	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Fuel, Diesel & Lubricants	Funds for fuel and oil expenses associated with stationary equipment and portable generators, pumps, etc.
<b>ACCOUNT NUMBER</b>	5527	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Safety Equipment	Funds for the purchase of personal protection and safety equipment.
<b>ACCOUNT NUMBER</b>	5610	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Equipment Maintenance	Funds for scheduled maintenance and calibration of District's equipment testing using outside professional services.
<b>ACCOUNT NUMBER</b>	5620	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Building Maintenance	Funds for the general repair of the treatment plant and lift station buildings and structures.



**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER</b>	5630	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Grounds Maintenance	Funds for the maintenance of fences, irrigation, paved roads, gutters, landscaping and other general grounds work.
<b>ACCOUNT NUMBER</b>	5640	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Vehicle Maintenance	Funds for the in-house supplies and outside services needed to maintain the District vehicles. Includes lubricants, filters, batteries, tune-up parts, lights, smog certifications.
<b>ACCOUNT NUMBER</b>	5650	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Treatment Plant Equipment Maintenance	Funds for scheduled/unscheduled repair of both the mechanical and electrical components of stationary equipment.
<b>ACCOUNT NUMBER</b>	5680	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Lift Station Maintenance	Funds for the scheduled/unscheduled maintenance of the mechanical and electrical portions of the District's seven lift stations.
<b>ACCOUNT NUMBER</b>	5690	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Collection System Maintenance	Funds for sewer system supplies required for ongoing maintenance efforts. Items include manhole rings, manhole covers, manhole grade rings, and lateral repairs, main line repair, root chemicals, and contracted MH raising.
<b>ACCOUNT NUMBER</b>	5821	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Audit Fee	Funds for yearly audit services required for public entity.
<b>ACCOUNT NUMBER</b>	5831	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Legal Counsel	Funds for legal services provided by the District legal counsel.
<b>ACCOUNT NUMBER</b>	5843	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Computer Related Expenses	Expenses for computer related services, software, hardware, remote and on-site support, maintenance agreements, upgrades.
<b>ACCOUNT NUMBER</b>	5844	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	SCADA Related Expenses	Expenses related to maintenance of SCADA computer system. SCADA system provides continuous monitoring of plant equipment and remote pump stations. It also maintains historical data and has an integrated alarm and notification system.
<b>ACCOUNT NUMBER</b>	5847	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Public Relation	Funds for expenses related to the District's public relations efforts such as newspaper print media, webpage update and support.

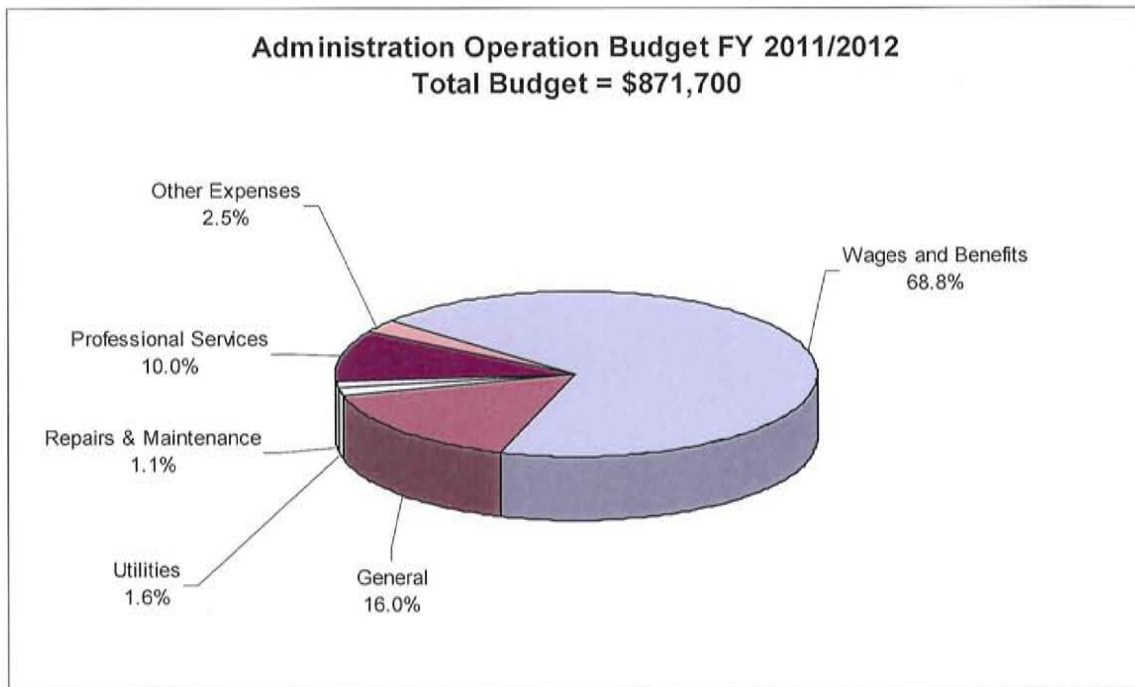
**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER</b>	5849	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Other Professional Services	Funds for other professional services such as engineering, GIS support, and other services needed which are not included in other line items.
<b>ACCOUNT NUMBER</b>	5851	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Payroll Services	Funds for payroll services through Paychex, Inc.
<b>ACCOUNT NUMBER</b>	5855	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Monitoring Source Control Program	Funds for outside laboratory services required for monitoring the District's industrial/commercial discharges as per the issued discharge permits.
<b>ACCOUNT NUMBER</b>	6020	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Santa Barbara County Administration Fees	SB County fees for collection of property taxes. Fees are based on amount collected.
<b>ACCOUNT NUMBER</b>	6030	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Debt Services Admin Fees	Funds for the trustee administration fees charged by BNY for the 2003 Revenue Refunding Bonds.
<b>ACCOUNT NUMBER</b>	6031	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	LAFCO Pro-Rata Costs	Funds for the Santa Barbara County pro-rata LAFCO Budget.
<b>ACCOUNT NUMBER</b>	6032	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Regional Grant/Planning Costs	Funds for the Integrated Regional Water Management Plan project fees.



## 4.0 ADMINISTRATION DEPARTMENT EXPENSES

The Administration department consists of the General Manager, the Finance Director, the Office Manager, and the Engineering Technician. The department is responsible for the day-to-day administrative functions of the District including overall management, accounting functions, sewer service charge development and billing, financial planning, human resources, risk management, District planning and development, customer relations, and the onsite inspection of all sewer related improvements. The operating budget for fiscal year 2011/12 is projected to be \$871,700 which represents a decrease of 0.7%, or \$6,100, over the prior fiscal year. A description of changes to each account category is provided below. Expenses attributable to the District's Board of Directors are also included in the Administration Department budget. These expenses include Directors fees, limited benefits and training/conference expenses.



### ***Administration Budget Account Highlights***

**Total Personnel Expenses** - The personnel section represents the largest portion of the administration department budget. This account funds all wages, salaries, and benefits for the department's four employees as well as the five elected officials. The total projected expense is estimated to be \$599,600 or 68.8% of the administration budget. This is a net increase of 1.6% or \$9,200 from the previous budget year. A small increase in direct wages for department staff is anticipated to result from merit increases for eligible employees. Employee benefit costs have also increased due to a higher PERS retirement system contribution rate and a minor increase in workers compensation and social security premiums. There is no projected increase in health benefit for this fiscal year as the District elected to provide a lower level of benefit to employees to avoid an 18% increase in premiums for continuing the same plan

coverage. Employees can pay the cost to upgrade medical insurance coverage to benefit levels that are equivalent to what was offered in the prior year.

**General Expenses** - The projected budget for general administrative expenses is \$139,600 or 16% of the total administration budget. This represents a decrease of 11.1% or \$17,500 over the previous fiscal year. The reductions are due to anticipated savings in departmental expenses, office supplies, insurance coverage, and other expense line items. No election expenses are anticipated in the coming fiscal year and associated savings will be realized. There is an increase of \$2,900 in the equipment rental and leases category as the District entered into a lease agreement for a printer/copier this year. However, this fixed annual cost is offset by reduced ongoing maintenance costs.

**Utilities** - Utility costs include natural gas, electricity, water, telephone, and the security system for the administration building. The budgeted amount for the 2011/12 fiscal year is \$13,800, or 1.6% of the overall administration budget. This is \$1,400 or 11.3% higher than last year due to rising energy, telephone, and slight increase in administration building security service costs.

**Repairs and Maintenance** - The budget for this account covers repairs and maintenance of the administration building, grounds and related equipment. The projected budget expense is \$9,300, or 1.1% of the administration budget. This is a decrease of \$600 from the prior fiscal year, primarily due to lower anticipated costs for grounds maintenance.

**Professional Services** - The projected budget for professional services is \$87,400 or 10% of the overall administration budget. This represents an increase of 4.4%, or \$3,700, over the prior year. The projected increase is due to replacement of computer workstations, office software upgrades, and budgeted costs for the CAFR (Comprehensive Annual Financial Report) award program. The District participated in this program in the previous fiscal year received an award from the Government Finance Officers' Association for excellence and transparency in financial reporting.

**Other Services** - The budget for other services is \$22,000 or 2.5% of the administration budget. This is a net decrease of 9.5% or \$2,300 over the prior fiscal year. The projected administration fee from the Santa Barbara County Assessor's Office has increased by \$3,000, while the projected costs for LAFCO contributions and regional grant contributions will decrease by \$300 and \$5,000 respectively.

The remainder of this section presents detailed budget spreadsheets for the Administration Department.



Carpinteria Sanitary District  
**Adminstration Department Budget**  
 Fiscal Year 2011/2012

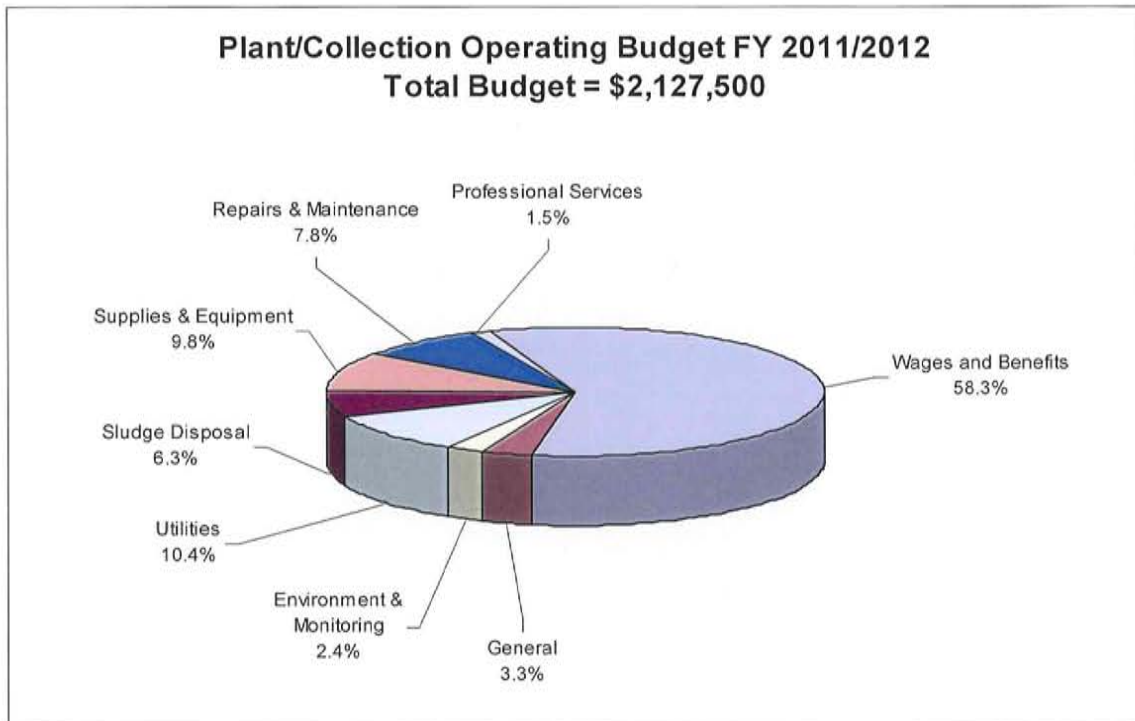
Account Number	Description	2010/11 Budget	2010/11 11 Months Actual	% Expended	2011/12 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010-0	Regular Salaries	411,000	357,287	87%	413,000	2,000	0.5%
5030-0	Overtime	500	0	0%	500	0	0.0%
5050-0	Directors Fees	17,500	9,950	57%	17,500	0	0.0%
	<b>Total Wages</b>	<b>429,000</b>	<b>367,237</b>	<b>86%</b>	<b>431,000</b>	<b>2,000</b>	<b>0.5%</b>
<b><u>Employee Benefits</u></b>							
5111-0	PERS	69,500	59,984	86%	74,000	4,500	6.5%
5112-0	Social Security	29,700	25,141	85%	30,000	300	1.0%
5120-0	Medical Insurance	44,000	42,956	98%	44,000	0	0.0%
5121-0	Retiree Health Benefit/GASB 45	0	0	0%	2,000	2,000	NA
5122-0	Unemployment Insurance	1,400	1,411	101%	1,500	100	7.1%
5124-0	Long Term Disability	2,800	2,659	95%	2,800	0	0.0%
5126-0	Life Insurance	1,100	1,018	93%	1,100	0	0.0%
5127-0	Dental/ Vision Self Funding Plan	10,000	8,265	83%	10,000	0	0.0%
5128-0	Workers' Compensation	2,700	1,400	52%	3,000	300	11.1%
5132-0	Employee Physicals & First Aid	200	0	0%	200	0	0.0%
	<b>Total Employee Benefits</b>	<b>161,400</b>	<b>142,833</b>	<b>88%</b>	<b>168,600</b>	<b>7,200</b>	<b>4.5%</b>
	<b>TOTAL PERSONNEL</b>	<b>590,400</b>	<b>510,069</b>	<b>86%</b>	<b>599,600</b>	<b>9,200</b>	<b>1.6%</b>
<b><u>General Expenses</u></b>							
5210-0	Departmental Expense	8,200	3,831	47%	7,000	(1,200)	-14.6%
5215-0	Office Supplies	6,500	2,695	41%	6,000	(500)	-7.7%
5222-0	Directors Conf, Training & Misc.	15,000	6,285	42%	15,000	0	0.0%
5226-0	Directors Election Expense	15,000	2,837	0%	0	(15,000)	-100.0%
5228-0	Directors Dental / Vision	12,500	11,131	89%	12,500	0	0.0%
5231-0	District Liability Insurance	70,000	59,336	85%	68,000	(2,000)	-2.9%
5242-0	Memberships and Dues	17,200	15,338	89%	17,000	(200)	-1.2%
5244-0	Conference & Training	8,500	1,881	22%	7,500	(1,000)	-11.8%
5246-0	Employee Education Reimb.	2,000	568	28%	2,000	0	0.0%
5265-0	Employee Mileage Reimb.	1,400	387	28%	900	(500)	-35.7%
5270-0	Equipment Rental and Leases	800	587	73%	3,700	2,900	362.5%
	<b>Total General</b>	<b>157,100</b>	<b>104,876</b>	<b>67%</b>	<b>139,600</b>	<b>(17,500)</b>	<b>-11.1%</b>
<b><u>Utilities</u></b>							
5410-0	Natural Gas	1,000	652	65%	1,000	0	0.0%
5420-0	Electricity	4,200	3,457	82%	5,000	800	19.0%
5430-0	Telephone	4,500	3,822	85%	5,000	500	11.1%
5440-0	Water	2,100	1,503	72%	2,100	0	0.0%
5490-0	Security System Service	600	570	95%	700	100	16.7%
	<b>Total Utilities</b>	<b>12,400</b>	<b>10,003</b>	<b>81%</b>	<b>13,800</b>	<b>1,400</b>	<b>11.3%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5610-0	Equipment (minor) & Maint.	2,400	2,376	99%	3,300	900	37.5%
5620-0	Building Maintenance	5,000	4,872	97%	5,000	0	0.0%
5630-0	Grounds Maintenance	2,500	2,508	100%	1,000	(1,500)	-60.0%
	<b>Total Repairs &amp; Maint.</b>	<b>9,900</b>	<b>9,756</b>	<b>99%</b>	<b>9,300</b>	<b>(600)</b>	<b>-6.1%</b>

Carpinteria Sanitary District  
**Adminstration Department Budget**  
 Fiscal Year 2011/2012

Account Number	Description	2010/11 Budget	2010/11 11 Months Actual	% Expended	2011/12 Budget	\$ Increase (Decrs.)	% Change
<b>Professional Services</b>							
5821-0	Accounting (Annual Audit)	7,500	7,500	100%	7,500	0	0.0%
5831-0	Legal Counsel	24,000	14,068	59%	24,000	0	0.0%
5843-0	Computer Related Expenses	10,000	7,500	75%	12,300	2,300	23.0%
5847-0	Public Relations	13,700	12,186	89%	15,000	1,300	9.5%
5849-0	Professional Services	24,000	3,391	14%	24,000	0	0.0%
5851-0	Payroll Service-Paychex	4,500	3,266	73%	4,600	100	2.2%
Total Professional Services		83,700	47,911	57%	87,400	3,700	4.4%
<b>Other Expenses</b>							
6020-0	Admin Charges-SB County	7,000	8,003	114%	10,000	3,000	42.9%
6030-0	Debt Services Administration Fees	3,200	2,618	82%	3,200	0	0.0%
6031-0	LAFCO Pro-Rata Costs	4,100	3,745	91%	3,800	(300)	-7.3%
6032-0	Regional Grant/Planning Costs	10,000	0	0%	5,000	(5,000)	-50.0%
Total Other Expenses		24,300	14,366	59%	22,000	(2,300)	-9.5%
<b>GRAND TOTALS</b>		877,800	696,981	79%	871,700	(6,100)	-0.7%

## 5.0 PLANT/COLLECTION DEPARTMENT EXPENSES

The Plant/Collection Department is responsible for carrying out the day-to-day operation and maintenance of the District's wastewater treatment plant and collection system. The projected FY 2011/12 budget for this department is \$2,127,500, which represents an increase of 3.3% or \$68,100 from the previous fiscal year.



### ***Plant/Collection Budget Account Highlights***

**Total Personnel Expenses** - Personnel costs make up 58.3% of the Plant/Collection Department's operating budget. This budget account funds all of the department wages, benefits, overtime, and standby costs. Expenditures in this account are projected to increase by \$22,800, or 1.9%, over the previous year. The increase is due to promotional salary increases, higher PERS retirement contributions, higher social security contributions, and workers' compensation costs. There is no increase in medical and health benefits anticipated.

**General Expenses** - The total budget in this category is \$70,400, or 3.3% of the Plant/Collection Departmental budget. This reflects an increase of \$2,000 or 2.9% over the previous fiscal year, due to higher costs for uniform services, vehicle fuel and license/ permit fees. The cost of employee training is projected to be \$2,500 lower than in the prior fiscal year.

**Environmental Monitoring** - The projected budget for environmental and monitoring services is \$51,500, or 2.4% of the department budget. A minor increase of \$1,000 from the prior fiscal year is due to higher costs for monitoring equipment and outside laboratory analyses.



**Utilities** - The cost for utilities, which include water, electricity, natural gas, trash service, and USA underground location service is projected to be \$221,100, or 10.4% of the departmental budget. This represents a net increase of 8.5% over the previous year and is tied to increases in electricity costs. Despite reduced demand resulting from energy efficiency projects, Southern California Edison energy rates continue to rise and impact our bottom line. A \$2,700 reduction in the projected costs for telephone service will result from recent replacement of the Verizon dial-up telephone lines with cellular communications at all lift stations during the previous fiscal year. Monthly costs are significantly lower.

**Biosolids Disposal** - The District contracts with Engel & Gray, Inc. for biosolids hauling and composting. The cost for biosolids transport and off-site composting is currently \$55.26 per ton plus a fuel surcharge as set forth in the agreement. The budget for this account is projected to be \$135,000, approximately 6.3% of the overall operating budget. An increase of \$35,000, or 35%, is projected for this account due to the higher cost of diesel fuel and the associated fuel surcharge imposed by the contractor.

**Supplies and Equipment** - This budget category includes the supply of chemicals, fuel, safety equipment and tools needed to operate the treatment plant and collection system. The major components include polymer and disinfection chemicals. The proposed budget for this account is \$209,300, or 9.8% of the departmental budget. This represents a net increase 1% over the prior year, attributable to higher chemical and fuel costs.

**Repairs and Maintenance** - The total projected budget for repairs and maintenance is \$167,000, or 7.8% of the department budget. This is a decrease of \$24,100 or 12.6% over the previous fiscal year. The decrease is due to lower projected costs in various sub-accounts. The bulk of the reduction is in the area pump station maintenance. The prior year budget included equipment replacement that is not necessary in the coming year.

**Professional Services** - The budget for this account is \$32,300, or 1.5% of the Operating budget. This reflects an increase of \$12,000 over the previous year budget and is attributed to the projected cost of SCADA (System Control And Data Acquisition) system maintenance and support. The SCADA system monitors plant processes and alarms and is crucial for recording and storing operational data.

The remainder of this section presents detailed budget spreadsheets for the Plant/Collection Department.

**Carpinteria Sanitary District**  
**Plant/Collection Department Budget**  
**Fiscal Year 2011/2012**

Account Number	Description	2010/11 Budget	2010/11 11 Months Actual	% Expended	2011/12 Budget	\$ Increase (Decrs.)	% Change
<b>Personnel Expenses</b>							
5010-1	Regular Salaries	785,000	629,820	80%	794,000	9,000	1.1%
5030-1	Overtime	12,000	8,074	67%	12,000	0	0.0%
5040-1	Special Duty Pay	36,800	31,492	86%	37,600	800	2.2%
<b>Total Wages</b>		<b>833,800</b>	<b>669,386</b>	<b>80%</b>	<b>843,600</b>	<b>9,800</b>	<b>1.2%</b>
<b>Employee Benefits</b>							
5111-1	PERS	131,800	106,325	81%	141,200	9,400	7.1%
5112-1	Social Security	63,100	49,789	79%	64,000	900	1.4%
5120-1	Medical Insurance	110,400	106,234	96%	110,400	0	0.0%
5121-1	Retiree Health Benefit/GASB 45	0	0	0%	0	0	0.0%
5122-1	Unemployment Insurance	4,000	3,562	89%	4,200	200	5.0%
5124-1	Long Term Disability	5,200	5,194	100%	5,200	0	0.0%
5126-1	Employee Life Insurance	2,800	2,798	100%	2,800	0	0.0%
5127-1	Dental/ Vision Self Funding Plan	27,500	16,885	61%	27,500	0	0.0%
5128-1	Workers' Compensation	37,500	30,004	80%	40,000	2,500	6.7%
5132-1	Employee Physicals & First Aid	2,000	967	48%	2,000	0	0.0%
<b>Total Employee Benefits</b>		<b>384,300</b>	<b>321,759</b>	<b>84%</b>	<b>397,300</b>	<b>13,000</b>	<b>3.4%</b>
<b>TOTAL PERSONNEL</b>		<b>1,218,100</b>	<b>991,145</b>	<b>81%</b>	<b>1,240,900</b>	<b>22,800</b>	<b>1.9%</b>
<b>General Expenses</b>							
5210-1	Departmental Expense	3,000	1,378	46%	3,000	0	0.0%
5215-1	Office Supplies	2,500	1,112	44%	2,500	0	0.0%
5241-1	Uniform Expenses	10,000	9,762	98%	10,500	500	5.0%
5242-1	Memberships and Dues	4,800	3,305	69%	4,800	0	0.0%
5244-1	Conferences & Training	12,000	1,702	14%	9,500	(2,500)	-20.8%
5246-1	Employee Education Reimb.	500	0	0%	500	0	0.0%
5260-1	Vehicle Fuel Expenses	14,000	11,745	84%	15,000	1,000	7.1%
5265-1	Employee Mileage Reimb.	800	28	4%	800	0	0.0%
5270-1	Equipment Rental and Leases	800	53	7%	800	0	0.0%
5290-1	Licenses and Permits	20,000	11,707	59%	23,000	3,000	15.0%
<b>Total General</b>		<b>68,400</b>	<b>40,791</b>	<b>60%</b>	<b>70,400</b>	<b>2,000</b>	<b>2.9%</b>
<b>Environment &amp; Monitoring</b>							
5310-1	Monitoring-Equipment Expense	25,500	16,902	66%	26,000	500	2.0%
5320-1	Monitoring-Lab Work	15,000	8,189	55%	15,500	500	3.3%
5330-1	Prop. 65 Clean Up Expense	10,000	0	0%	10,000	0	0.0%
<b>Total Environment &amp; Monit.</b>		<b>50,500</b>	<b>25,091</b>	<b>50%</b>	<b>51,500</b>	<b>1,000</b>	<b>2.0%</b>
<b>Utilities</b>							
5410-1	Natural Gas	700	586	84%	800	100	14.3%
5420-1	Electricity	180,000	157,345	87%	200,000	20,000	11.1%
5430-1	Telephone	7,500	4,352	58%	4,800	(2,700)	-36.0%
5440-1	Water	10,000	6,573	66%	10,000	0	0.0%
5450-1	Rubbish	4,700	3,376	72%	4,700	0	0.0%
5480-1	Underground Service Alert	800	359	45%	800	0	0.0%
<b>Total Utilities</b>		<b>203,700</b>	<b>172,591</b>	<b>85%</b>	<b>221,100</b>	<b>17,400</b>	<b>8.5%</b>



**Carpinteria Sanitary District**  
**Plant/Collection Department Budget**  
**Fiscal Year 2011/2012**

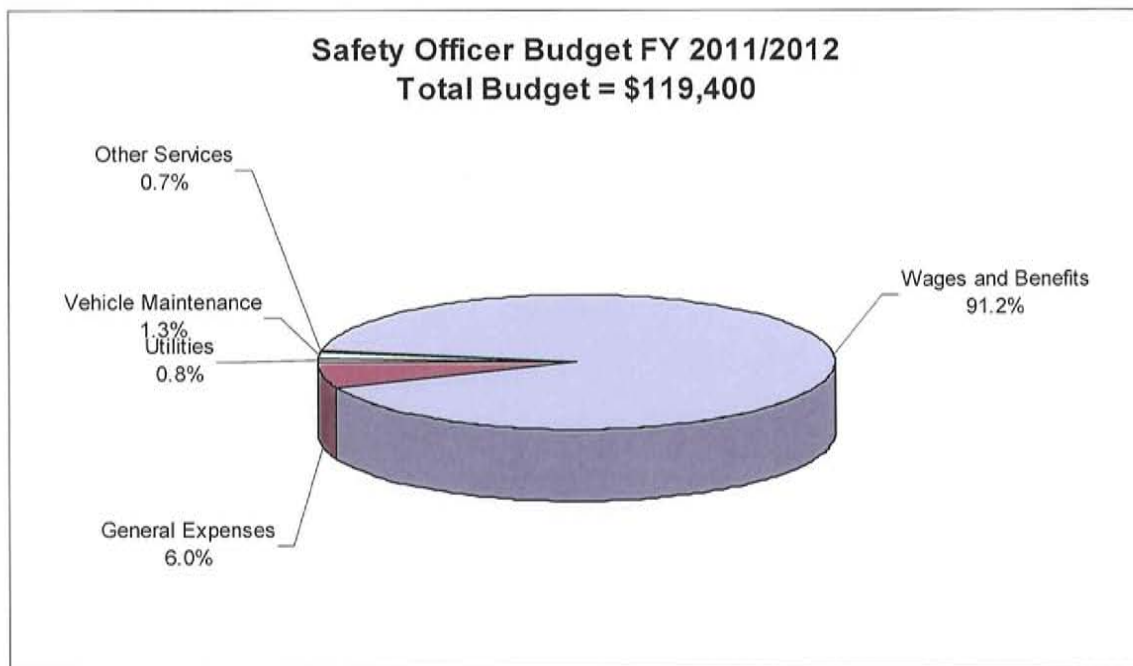
Account Number	Description	2010/11 Budget	2010/11 11 Months Actual	% Expended	2011/12 Budget	\$ Increase (Decrs.)	% Change
<b><u>Sludge Disposal</u></b>							
5470-1	Biosolids Disposal	100,000	90,786	91%	135,000	35,000	35.0%
<b>Total Sludge Disposal</b>		<b>100,000</b>	<b>90,786</b>	<b>91%</b>	<b>135,000</b>	<b>35,000</b>	<b>35.0%</b>
<b><u>Supplies &amp; Equipment</u></b>							
5510-1	General Supplies	16,500	9,576	58%	13,800	(2,700)	-16.4%
5521-1	Odor Control Chemicals	35,000	4,021	0%	35,000	0	0.0%
5522-1	Disinfection Chemicals	115,000	108,028	94%	120,000	5,000	4.3%
5524-1	Polymers	25,000	21,183	85%	26,000	1,000	4.0%
5525-1	Tools/Small Parts	4,300	3,505	82%	3,000	(1,300)	-30.2%
5526-1	Fuel, Diesel, Lubricants	5,500	3,052	55%	6,500	1,000	18.2%
5527-1	Safety Equipment	6,000	1,626	27%	5,000	(1,000)	-16.7%
<b>Total Supplies &amp; Equipment</b>		<b>207,300</b>	<b>150,991</b>	<b>73%</b>	<b>209,300</b>	<b>2,000</b>	<b>1.0%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5610-1	Equipment Maintenance	13,500	12,502	93%	12,500	(1,000)	-7.4%
5620-1	Building Maintenance	5,000	566	11%	5,000	0	0.0%
5630-1	Grounds Maintenance	7,600	3,365	44%	5,000	(2,600)	-34.2%
5640-1	Vehicle Maintenance	10,000	5,940	59%	8,500	(1,500)	-15.0%
5650-1	Treatment Plant Maint.	44,000	33,295	76%	45,000	1,000	2.3%
5680-1	Lift Station Maintenance	20,000	23,303	117%	9,000	(11,000)	-55.0%
5690-1	Collection System Maintenance	91,000	17,738	19%	82,000	(9,000)	-9.9%
<b>Total Repairs &amp; Maint.</b>		<b>191,100</b>	<b>96,709</b>	<b>51%</b>	<b>167,000</b>	<b>(24,100)</b>	<b>-12.6%</b>
<b><u>Professional Services</u></b>							
5843-1	Computer Related Expenses	10,000	7,204	72%	11,800	1,800	18.0%
5844-1	SCADA Related Expenses	9,800	167	0%	20,000	10,200	104.1%
5855-1	IDP/ Monitoring Source Control	500	0	0%	500	0	0.0%
<b>Total Professional Services</b>		<b>20,300</b>	<b>7,370</b>	<b>36%</b>	<b>32,300</b>	<b>12,000</b>	<b>59.1%</b>
<b>GRAND TOTALS</b>		<b>2,059,400</b>	<b>1,575,474</b>	<b>77%</b>	<b>2,127,500</b>	<b>68,100</b>	<b>3.3%</b>

## 6.0 SAFETY AND TRAINING DEPARTMENT EXPENSES

In 2007 the District entered into a cooperative agreement with four other local wastewater agencies for the purpose of hiring a joint Safety and Training Officer. The group pursued this goal and hired an individual to provide safety program development and safety training for all of the agencies. The objective is to have a dedicated and qualified safety professional serving the group at a reasonable cost.

The Safety and Training Officer is an employee of the Carpinteria Sanitary District, but costs are distributed to participating agencies based on a joint participation agreement. Approximately 71% of the estimated program costs for 2011/12 fiscal year will be paid up-front by the other participating agencies and reported as "Other Districts' Contribution" in the revenue section of the District's budget.

The Safety and Training Department consists of one employee and the total budget is projected to be \$119,400 for the coming year. This total is \$6,100, or 5.4%, higher than previous fiscal year. The projected costs for this position including payroll and benefits, and other related expenses is included here and described below.



### ***Safety Officer Budget Account Highlights***

**Total Personnel Expenses** - Personnel costs are \$108,900 or 91.2% of the Safety Officer Department's total budget. The increase is due to a regular step increase, higher costs of PERS retirement, social security, and workers' compensation. There is no increase to the health and medical insurance costs.

**General Expenses** – The total budget in this category is \$7,200, or 6% of the departmental budget. This reflects a reduction of \$1,000 from the previous fiscal year.

**Repairs & Maintenance** – The District has dedicated a 2007 Ford Focus sedan to the Safety and Training officer to be used for travelling to other sanitary districts that share

the cost of this department. The vehicle is three years old and the cost of service and maintenance is projected to be \$1,600. This is a new line item added this year, as no vehicle expenses were incurred in the previous fiscal year.

**Professional/Other Services** – The projected expense for computer related expenses is \$800, or 0.7% of the departmental budget. This is \$300 higher than the previous fiscal year.

**Carpinteria Sanitary District  
Safety & Training Department Budget  
Fiscal Year 2011/2012**

Account Number	Description	2010/11 Budget	2010/11 11 Months Actual	% Expended	2011/12 Budget	\$ Increase (Decreases)	% Change	
<b><u>Personnel Expenses</u></b>								
5010-3	Regular Salaries	71,000	60,351	85%	74,500	3,500	4.9%	
	<b>Total Wages</b>	<b>71,000</b>	<b>60,351</b>	<b>85%</b>	<b>74,500</b>	<b>3,500</b>	<b>4.7%</b>	
<b><u>Employee Benefits</u></b>								
5111-3	PERS	11,900	8,161	69%	13,400	1,500	12.6%	
5112-3	Social Security	5,500	2,508	46%	5,800	300	5.5%	
5120-3	Medical Insurance	10,400	10,104	97%	10,400	0	0.0%	
5121-3	Retiree Health Benefit/GASB 45	0	0	0%	0	0	0.0%	
5122-3	Unemployment Insurance	400	350	88%	400	0	0.0%	
5124-3	Long Term Disability	500	449	90%	500	0	0.0%	
5126-3	Life Insurance	300	254	85%	300	0	0.0%	
5127-3	Dental/ Vision Self Funding Plan	2,500	2,209	88%	2,500	0	0.0%	
5128-3	Workers' Compensation	700	277	40%	900	200	28.6%	
5132-3	Employee Physicals & First Aid	200	0	0%	200	0	0.0%	
	<b>Total Employee Benefits</b>	<b>32,400</b>	<b>24,314</b>	<b>75%</b>	<b>34,400</b>	<b>2,000</b>	<b>5.8%</b>	
	<b>TOTAL PERSONNEL</b>	<b>103,400</b>	<b>84,665</b>	<b>82%</b>	<b>108,900</b>	<b>5,500</b>	<b>5.1%</b>	91.2%
<b><u>General Expenses</u></b>								
5210-3	Departmental Expense	1,300	231	18%	500	(800)	-61.5%	
5215-3	Office Supplies	700	46	7%	1,000	300	42.9%	
5231-3	District Liability Insurance(Auto)	1,500	1,475	98%	1,500	0	0.0%	
5242-3	Memberships and Dues	200	152	76%	200	0	0.0%	
5244-3	Conference & Training	2,500	1,681	67%	2,000	(500)	-20.0%	
5260-3	Vehicle Fuel Expenses	1,800	31	2%	1,800	0	0.0%	
5265-3	Employee Mileage Reimb.	200	0	0%	200	0	0.0%	
	<b>Total General</b>	<b>8,200</b>	<b>3,616</b>	<b>44.1%</b>	<b>7,200</b>	<b>(1,000)</b>	<b>-13.9%</b>	6.0%
<b><u>Utilities</u></b>								
5430-3	Telephone	1,200	770	64%	900	(300)	-25.0%	
	<b>Total Utilities</b>	<b>1,200</b>	<b>770</b>	<b>64%</b>	<b>900</b>	<b>(300)</b>	<b>-25.0%</b>	0.8%
<b><u>Repairs &amp; Maintenance</u></b>								
5640-3	Vehicle Maintenance	0	0	0%	1,600	1,600	NA	
	<b>Total Utilities</b>	<b>0</b>	<b>0</b>	<b>0%</b>	<b>1,600</b>	<b>1,600</b>	<b>NA</b>	1.3%
<b><u>Professional Services</u></b>								
5843-3	Computer Related Expenses	500	468	94%	800	300	60.0%	
	<b>Total Professional Expenses</b>	<b>500</b>	<b>468</b>	<b>94%</b>	<b>800</b>	<b>300</b>	<b>60.0%</b>	0.7%
	<b>GRAND TOTALS</b>	<b>113,300</b>	<b>89,519</b>	<b>79%</b>	<b>119,400</b>	<b>6,100</b>	<b>5.4%</b>	100.0%



## **7.0 CAPITAL IMPROVEMENT PROJECTS**

A significant portion of the District's projected overall budget for the 2011/12 fiscal year is allocated to capital improvement program (CIP) projects. These projects have been developed through long term planning efforts and through ongoing condition assessment of key infrastructure. They are complementary to several ongoing capital upgrades within the collection system, authorized in prior fiscal years, and are critical elements of the District's overall quality improvement plan.

### ***Planning Assumptions***

The following assumptions were used in the development of the District's capital improvement projects for the coming fiscal year:

- The proposed CIP projects consist of projects from the District's ten-year Capital Improvement Program (2007-2017) and other necessary projects and equipment acquisitions.
- The District will fund the approved projects through a direct appropriation of operating revenue and dedicated reserves held in the General Fund into the Capital Improvement Fund.
- The overall funding goal of the District's long term CIP is a "pay-as-you-go" scenario which avoids the need to incur additional long-term debt.
- Certain capacity related projects will be funded or partially funded with Development Impact Fees (DIF) collected by the District for new service connections. DIF monies are strictly accounted for to comply with state law.

### ***CIP Budget Components***

The CIP section of the proposed budget for the 2011/12 fiscal year (Capitalized Expenditures) is a component of the Non-Operating Expense section as illustrated in the Budget Snapshot in Section 1.0. The CIP budget includes the projected expenses for purchase of fixed assets/equipment as well as those expenses associated with infrastructure repair and replacement projects undertaken by the District.

The combined budgets for newly proposed CIP projects for the 2011/12 fiscal year total **\$969,000**. The list of projects and their funding source is provided below for ongoing and new capital projects.

### ***Existing/Carryover CIP Projects***

The District is currently implementing a number of capital improvement projects that have been authorized and funded by the Board of Directors in prior years. Several of these projects will continue into the 2011/12 fiscal year. Significant ongoing CIP projects include:

- Lift Station No. 2 Force Main Realignment
- Bluffs Sewer Relocation Project
- Solids Digestion Facilities Upgrades
- Rotary Screw Press Dewatering Unit
- Ocean Outfall Stabilization Project
- Carpinteria Creek Suspended Line Crossing Rehabilitation

- Plum Street Sewer Replacement Project

Detailed project descriptions have been provided in previous year budget documents. Funds for these projects have been appropriated to the District's dedicated CIP fund. Three of the above projects are in the construction/implementation phase. Others are in the planning and design phase. The Lift Station No. 2 Force Main Realignment Project was started but remains on hold pending a reassessment of system hydraulics.

### **New and Modified CIP Projects**

The following table presents a summary of the new and modified CIP projects proposed for implementation in the 2011/12 fiscal year. Detailed project descriptions with justifications are provided later in this section. Project numbers will be assigned at the time individual projects are initiated.

<b>Funding Source</b>	<b>Description</b>	<b>Total Project Budget</b>	<b>FY 11/12 Allocation</b>
CIP	Plum Street Sewer Replacement Project	\$ 1,000,000	\$ 900,000
CIP	Lift Station No. 6 Control Panel Replacement	\$ 35,000	\$ 35,000
CIP	Lift Station No. 5 Flow Meter	\$ 8,000	\$ 8,000
CIP	WWTP Lighting Efficiency Upgrades	\$ 20,000	\$ 20,000
CIP	Effluent Sampler Replacement	\$ 6,000	\$ 6,000
<b>NEW/MODIFIED CIP PROJECTS TOTAL</b>		<b>\$ 1,069,000</b>	<b>\$ 969,000</b>

### ***CIP Program Funding***

#### **Current Year CIP Funding Allocation**

Allocation of capital improvement funds for FY 2011/12 will occur once the recommended CIP projects are authorized by the District's Board of Directors. Projects outlined in this section will be funded through a combination of current year operating revenue and existing cash reserves. The funding breakdown is detailed in the Pro-Forma worksheet presented in Section 1.0.

#### **Future CIP Project Funding**

An update to the District's long range Capital Improvement Program was completed in January 2011, covering the period from 2007 to 2019. From a fiscal planning perspective, the District's long range CIP should be considered a dynamic tool and as such should be reviewed and updated regularly to reflect the District's changing

infrastructure needs. For example, in the current year, the long range CIP was modified somewhat to reflect shifting priorities for certain projects.

It is expected that future CIP projects will be funded from a combination of annual SSC revenue and cash reserves from the General Fund appropriated to the CIP Fund. This "pay-as-you go" approach will provide the necessary cash to pay for the improvements while avoiding additional long term debt as long a practical. The funding of future projects can, therefore, be tailored and managed on a cash flow basis.

The series of incremental rate increases that will commence in FY 2011/12 will provide sufficient revenue to comply with bond covenant debt ratios and implement ongoing CIP projects. The District's financial model will allow for analysis of funding alternatives if and when major replacement or upgrade projects within the treatment plant become necessary.



**Carpinteria Sanitary District**  
**Capital Improvement Project (CIP)**  
**Fiscal Year 2011/2012**

CIP No.	Funding Source	Description	Project Starting Date	2010/2011 Budget	Actual Project To Date	2011/2012 Budget	Increase (Decrease)
P-100	CIP	Lift Station No. 2 Force Main Realignment	2/1/2006	\$ 330,000	\$ 19,006	\$ 330,000	0
P-118	CIP/DIF	Bluffs Sewer Relocation Project	7/1/2008	\$ 1,470,200	\$ 293,085	\$ 1,470,200	0
P-129	CIP	Solids Digestion Facilities	8/1/2010	\$ 50,000	\$ 41,483	\$ 50,000	0
P-131	CIP	Rotary Screw Press Dewatering Unit	7/1/2010	\$ 240,000	\$ 40	\$ 240,000	0
	CIP	Ocean Outfall Stabilization Project		\$ 125,000	\$ -	\$ 125,000	0
	CIP	Carpinteria Creek Suspended Line Crossing Restoration		\$ 200,000	\$ -	\$ 200,000	0
	CIP	Plum Street Sewer Replacement Project-		\$ 100,000	\$ -	\$ 1,000,000	900,000
<b>Total Carry Over Projects</b>				<b>\$ 2,515,200</b>	<b>\$ 353,613</b>	<b>\$ 3,415,200</b>	<b>\$ 900,000</b>
	CIP	Lift Station No. 6 Control Panel Replacement				\$ 35,000	35,000
	CIP	Lift Station No. 5 Flow Meter				\$ 8,000	8,000
	CIP	WWTP Lighting Efficiency Upgrade				\$ 20,000	20,000
	CIP	Effluent Sampler Replacement				\$ 6,000	6,000
<b>Total New Projects</b>						<b>\$ 69,000</b>	<b>\$ 69,000</b>
<b>Total CIP Budget</b>						<b>\$ 3,484,200</b>	<b>\$ 969,000</b>



**PROJECT TITLE: Plum Street Sewer Replacement Project – Construction**

**DESCRIPTION:** This project involves replacement of approximately 2,200 linear feet of 8-inch and 10-inch diameter sewer in Plum Street, Pear Street, and in an easement adjacent to the UPRR tracks upstream of Lift Station No. 2. The design and planning phase of this project was authorized for FY 2010/11 and has not yet been completed. Although delayed, it is still anticipated that the construction phase can commence in FY 2011/2012.

**BUDGET COST:** \$900,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's 2004 Wastewater Master Plan identified pipelines within the project area as hydraulically deficient during wet weather periods. Improvements to Lift Station No. 4 have increased downstream flow rates and hydraulic limitations are evident from field observations. Additionally, pipes in this area were built in the early 1930's and have documented structural defects and are characterized by significant groundwater infiltration. The replacement project will be challenging due to access limitations, traffic control requirements and high groundwater conditions. This is a critical buried infrastructure renewal project that will greatly enhance system performance and reliability.





**PROJECT TITLE: Lift Station No. 6 Control Panel Replacement**

**DESCRIPTION:** This project involves direct procurement and installation of a new control panel for Lift Station No.6. The District standard panel design, including redundant pump controllers, radio based telemetry, and an exterior generator connection will be utilized. Work will also include installation of bypass piping and other system reliability features that are in place at all other remote lift stations

**BUDGET COST:** \$35,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** Lift Station No. 6 serves the residential community of Sand Point Road. In the coming year, 21 new residential connections will be tied into this station. The lift station has not received significant improvements since its installation in the late 1980's. The current controls and telemetry have reached the end of their reasonable service life. Somewhat higher flows at this location make reliability a greater concern. The station's proximity to the Carpinteria Salt Marsh and the Pacific Ocean also drive the need for increased system reliability.







**PROJECT TITLE:** Lift Station No. 5 Flow Meter

**DESCRIPTION:** This project involves installation of a magnetic flow meter on the discharge piping at Lift Station No. 5. The meter will require a small concrete vault and electrical conduit to connect to the existing control panel.

**BUDGET COST:** \$8,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** Lift Station No. 5 has no actual flow measurement device at this time. Flows are estimated from pump run times and do not provide real time data to assess flow rates and pump performance. During severe rainfall events the District has experienced excessive flows upstream of Lift Station No. 5 and a continuous flow meter will help with efforts to mitigate system inflow.





**PROJECT TITLE: WWTP Lighting Efficiency Upgrade**

**DESCRIPTION:** This project involves replacement of existing lighting within the wastewater treatment facility. The District intends to contract with a specialty lighting efficiency contractor for design, funding support and equipment installation. Incentives from SCE and other energy efficiency funding opportunities will be explored to the greatest extent possible.

**BUDGET COST:** \$20,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** Existing light fixtures within the District's wastewater treatment facility are original from the upgrade project in the early 1990's. In addition to the fixtures being inefficient, many are on around the clock and have significant energy demand. They use a combination of fluorescent and incandescent bulbs. Replacement with LED bulbs and/or more efficient fixtures can provide a substantial energy cost savings for the agency. The project scope will depend on available incentives and the determined payback period for individual fixture units. A budget cost has been determined based on preliminary analysis and is believed to be conservative.





**PROJECT TITLE: Effluent Sampler Replacement**

**DESCRIPTION:** This project involves proactive replacement of the District's refrigerated effluent composite sampler. This piece of equipment collects composite samples over every 24-hour period for treatment plant performance and compliance monitoring.

**BUDGET COST:** \$6,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's existing effluent sampler is over 15 years old and has reached the end of its useful service life. Repairs in recent years have become increasingly frequent and costly. Due to the critical nature of this equipment, replacement of the unit is recommended.





# Carpinteria Sanitary District

## FISCAL YEAR 2012/13 BUDGET



### BOARD OF DIRECTORS

- Lin Graf — President
- Jeff Moorhouse — President Pro-Tem
- Patricia Horwitz — Treasurer
- Mike Modugno — Secretary
- Michael Damron — Secretary Pro-Tem

### DISTRICT STAFF

- Craig Murray, P.E.— General Manager
- Hamid Hosseini — Finance Director





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## DISTRICT BOARD OF DIRECTORS AND STAFF

### BOARD OF DIRECTORS

Lin Graf	President
Jeff Moorhouse	President Pro Tem
Patricia Horwitz	Treasurer
Mike Modugno	Secretary
Michael Damron	Secretary Pro Tem

The District Board of Directors meets on the first and third Tuesday of each month at 5:30 p.m. in the District's Administrative Offices.

### STANDING COMMITTEES

#### **Finance Committee**

Patricia Horwitz	Chairperson
Lin Graf	Member

#### **Personnel Committee**

Jeff Moorhouse	Chairperson
Michael Damron	Member

#### **Public Relations Committee**

Jeff Moorhouse	Chairperson
Mike Modugno	Member

The Finance Committee generally meets on the third Monday of each month at 8:30 am at the Administration office located at 5300 Sixth Street. The Personnel and Public Relations Committees do not have a set meeting schedule, but rather meet on an as-needed basis. All committee meetings are noticed as special or regular meetings in accordance with the Ralph M. Brown Act.

### DISTRICT SUPPORT STAFF

Craig Murray, P.E.	General Manager
Hamid Hosseini	Finance Director
Mark Bennett	Operations Manager
Kim Garcia	Office Manager
Anthony Trembley	Legal Counsel – Musick, Peeler & Garrett, LLP

# 1.0 BUDGET FORWARD

This section provides the reader a comprehensive overview of the District's proposed annual budget for the 2012/13 fiscal year. The budget has been developed to uphold the main tenet of providing the users of the wastewater system the most environmentally sound and cost-effective method of collecting and treating wastewater, regardless of the demands placed upon the system.

## District Mission

The mission of the Carpinteria Sanitary District is **to provide its customers with reliable and cost-effective wastewater treatment.**

## Budget Goals

The primary goals of the District, which are the basis for establishing the annual operating and capital budgets, include:

- Ensure that the collection and treatment systems remain reliable regardless of the climatic, political and economic conditions.
- Ensure that the system collects, treats and disposes of wastewater effectively without endangering the public health, the environment and within the limits of all discharge permits.
- Ensure that the system has ample hydraulic capacity to handle the demands placed upon it.
- Maintain a highly qualified, professional staff that can be relied upon to operate and upkeep critical facilities to the highest standards of our industry.

## Budget Objectives

The District's budgeting objectives remain focused in three major areas: reliability, effectiveness and capacity. During the current recessionary times, the District is striving to attain these goals in the most efficient manner possible. Cost control measures are in place to keep expenditures as low as practicable. Objectives for the 2012/13 fiscal year are summarized below.

### RELIABILITY

- Continue the asset based management program and scheduled servicing and replacement of process equipment, sewer mains, lift stations and emergency standby systems.
- Continue a systematic program for the replacement of high maintenance and obsolete equipment determined through the District's asset management program.
- Continue employee training programs for the maintenance and operations staff to ensure cost-effective equipment protection. The utilization of in-house staff enhances staff morale while reducing system downtime.
- Implement the District's Sewer System Management Plan (SSMP) and use data from comprehensive collection system cleaning and CCTV inspection program to optimize maintenance activities and plan rehabilitation and replacement projects.



- Continue to refine the Board adopted multi-year capital improvement plan to ensure system upgrades and expansions are consistent with customer demand and State and Federal regulations.
- Implement solids handling facilities improvement project to establish redundancy in the solids digestion and handling processes.
- Continue upgrades to the SCADA system for continuous monitoring of processes and equipment both in the treatment facility and at remote lift stations.

## **EFFECTIVENESS**

- Continue the enforcement of the Industrial Source Control Program and Grease Control Program which serve as the primary methods to reduce the introduction of toxic or harmful substances into the wastewater system which may cause harm to the system, its personnel, or the treatment process.
- Continue the training program for the operations personnel to ensure uniform process control and NPDES permit compliance.
- Continue the long range cost-effective biosolids recycling program compliant with all applicable State and Federal regulations.
- Provide the customer with courteous and professional service, with accurate information and facts, and with a public education awareness program on proper sewer usage and hazardous waste disposal alternatives.
- Perform outreach to customers and the general public to communicate details regarding ongoing projects and programs.

## **CAPACITY**

- Continue to refine the treatment process through the investigation of alternative processes, operator training and upgraded state of the art equipment.
- Strengthen the provisions of the sewer use ordinance, where needed, limiting the introduction of uncontaminated water from sources such as building gutters and cooling systems as well as the gradual elimination of use of septic systems within the District boundaries.
- Continue the sewer main, interceptor and manhole cleaning program to remove built up deposits of debris, grease and roots.
- Complete planned trunk sewer replacement project south of Carpinteria Avenue to provide additional hydraulic capacity upstream of Lift Station No. 2.

## **GEOGRAPHIC INFORMATION SYSTEM (GIS)**

- Effectively utilize outside consultant and in-house resources to enhance the functionality of the District's GIS based data management system.
- Integrate newly collected CCTV digital video and inspection data to allow user access to this information from the GIS consoles.
- Develop in-house training for District users to enhance internal ability to update and modify the GIS platform and to use the GIS as a tool to optimize daily functions throughout the agency.

## **Bond Refinancing**

The District has initiated a process to refinance the outstanding 2003 Wastewater Refunding Bonds. Current market conditions for municipal bond financing are favorable and it is conservatively estimated that \$100,000 savings per year can be realized without extending the term.

However, because the refinancing is not certain at this point and is dependent on market conditions, debt service projections have not been adjusted downward. The schedule of payments shown on page 1-7 reflects the current obligations.

## **Budget Summary**

The remainder of this section contains figures and financial data in spreadsheet format that summarize the proposed FY 2012/13 budget, as follows:

- **Budget Snapshot** – brief overview of the proposed FY 2012/13 budget
- **Expense Summary Chart** – graphical presentation of projected expenses
- **Pro-Forma Statement** – historical comparison of proposed 2012/13 budget
- **Debt Service Schedule** – bond repayment schedule through 2025 maturation
- **Organization Chart** – proposed District staffing and structure for 2012/13

Carpinteria Sanitary District

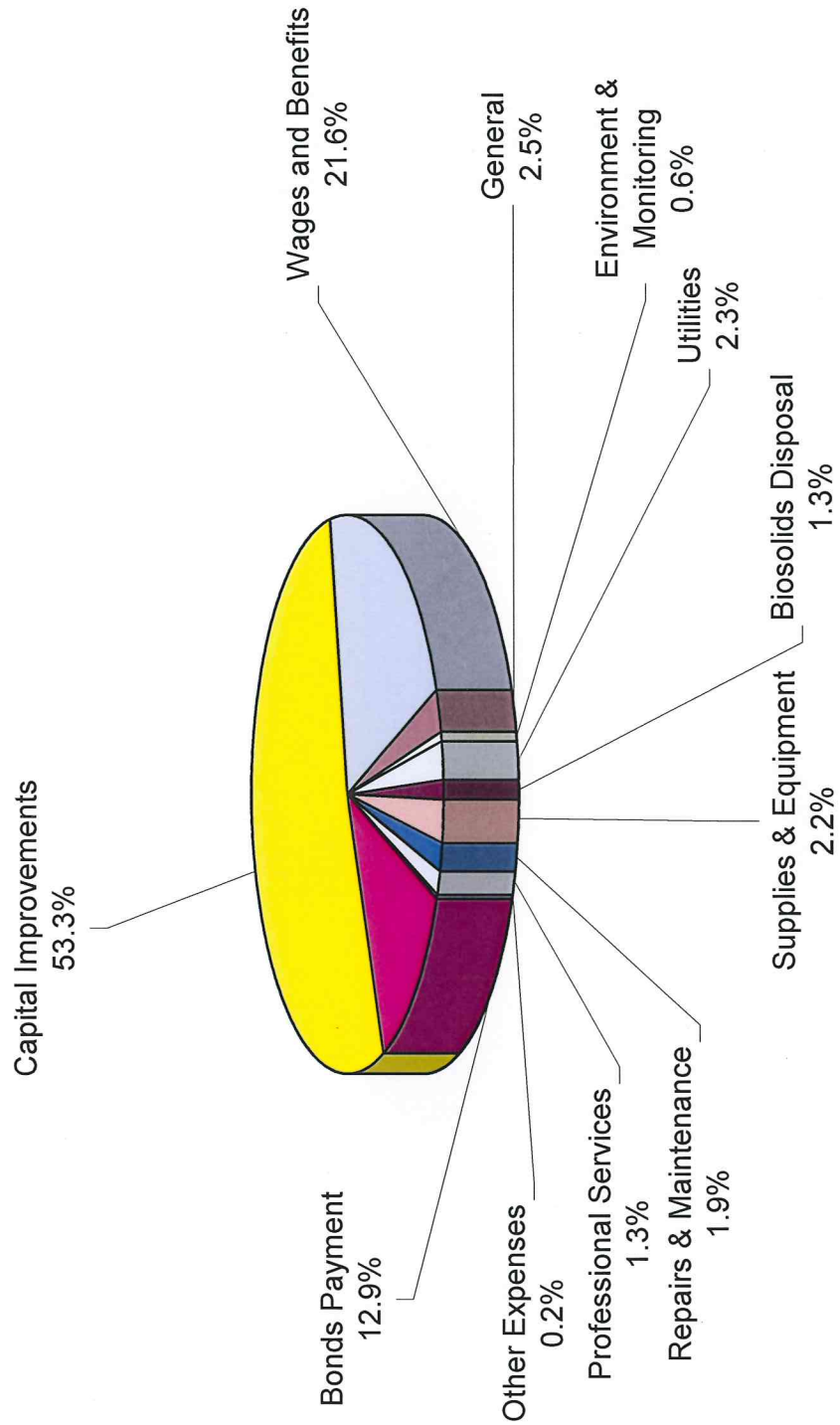
**Budget Snapshot**

**Fiscal Year 2012/2013**

Description	2011/2012 Budget	2011/12 10 Months Actual	% Expended/ YTD	2012/2013 Budget	\$ Increase (Decrs.)	% Change
<b><u>REVENUES</u></b>						
Sewer Service Charges (SSC)	4,215,000	4,121,548	98%	4,316,000	101,000	2.4%
Property Taxes	450,400	434,381	96%	454,600	4,200	0.9%
Interest Income	32,000	36,107	113%	26,000	(6,000)	-18.8%
Other Fees & Income	15,000	33,829	226%	15,000	0	0.0%
Development Impact Fees (DIF)	0	237,805	NA	0	0	0.0%
Other Sources of Cash/Grant	600,000	0	NA	600,000	0	0.0%
Other Districts' Contributions/Safety Officer	87,200	26,927	NA	93,500	6,300	7.2%
Total Gross Revenues	5,399,600	4,890,596	91%	5,505,100	105,500	2.0%
<b><u>EXPENSES</u></b>						
<b>1) Operating Expenses:</b>						
Wages and Benefits	1,949,400	1,444,483	74%	2,049,200	99,800	5.1%
General	217,200	158,974	73%	234,500	17,300	8.0%
Environment & Monitoring	51,500	23,385	45%	53,000	1,500	2.9%
Utilities	235,800	164,218	70%	215,100	(20,700)	-8.8%
Biosolids Disposal	135,000	71,780	53%	125,000	(10,000)	-7.4%
Supplies & Equipment	209,300	121,028	58%	212,500	3,200	1.5%
Repairs & Maintenance	177,900	78,055	44%	178,400	500	0.3%
Professional Services	120,500	61,502	51%	122,400	1,900	1.6%
Other Expenses	22,000	11,896	54%	18,000	(4,000)	-18.2%
Total Operating Expenses:	3,118,600	2,135,322	68%	3,208,100	89,500	2.9%
<b>2) Non-Operating Expenses:</b>						
Debt Service	1,225,800	1,225,778	100%	1,224,300	(1,500)	-0.1%
Capital Improvement Projects	4,700,000	2,764,619	59%	5,063,000	363,000	7.7%
Total Non-Operating Expenses:	5,925,800	3,990,397	33%	6,287,300	361,500	6.10%
Total Uses of Cash:	9,044,400	6,125,719	68%	9,495,400		
Surplus (Deficit) for the Year	-3,644,800	-1,235,123	34%	-3,990,300		
Ratio	1.37			1.39		

# Carpinteria Sanitary District Expense Summary FY 2012/2013

Total Projected Expenditures = \$9,495,400





**Carpinteria Sanitary District**  
Pro-Forma Statement

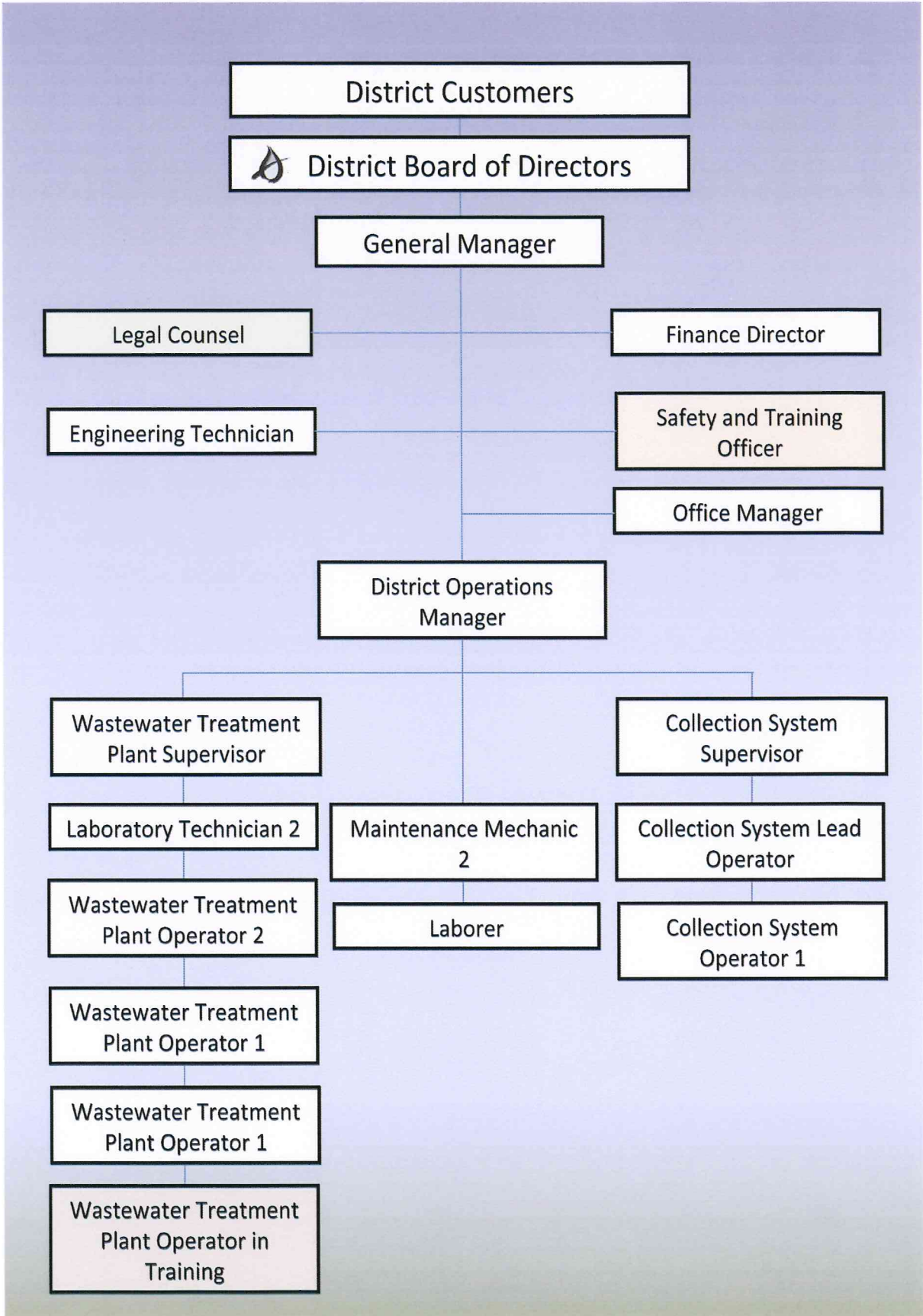
Description	Actual	Projected		Budget	2014/15	Projected	2016/17	2017/18
	2010/11	Actual	2011/12		2013/14	2015/16	2015/16	
1 Sewer Service Charge Revenues	3,973,417	4,215,000		4,316,000	4,650,248	4,826,958	5,010,382	5,010,382
Other Revenue								
2 Property Taxes	451,286	450,400		454,600	462,300	464,612	466,935	469,269
3 Development Impact Fees	2,400	237,805		0	0	0	0	0
4 Other Fees and Income	28,862	15,000		15,000	15,000	15,000	15,000	15,000
5 Interest Income	79,890	32,000		26,000	25,000	25,000	25,000	25,000
6 Other Districts Contribution/Safety Officer	79,845	85,562		93,500	101,500	105,500	109,500	113,500
7 Other Source of Cash/Grant	3,537	600,000		600,000	0	0	0	0
8 Total Revenue	4,619,237	5,635,767		5,505,100	5,254,048	5,437,069	5,626,817	5,633,151
<b>Expenses:</b>								
9 Wages & Benefits	1,819,914	1,911,900		2,049,200	2,168,720	2,228,359	2,289,639	2,352,604
10 General Operating Expenses	157,954	233,700		234,500	255,370	263,031	270,922	276,340
11 Environmental Monitoring	26,861	50,500		53,000	55,183	56,838	58,543	59,714
12 Utilities	218,500	217,300		215,100	251,552	264,130	277,336	282,883
13 Sludge Disposal	111,243	100,000		125,000	109,273	112,551	115,927	118,246
14 Supplies and Equipment	161,003	207,300		212,500	226,522	233,318	240,318	245,124
15 Repairs and Maintenance	125,308	201,000		178,400	219,638	226,227	233,014	237,674
16 Professional Services	74,368	104,500		122,400	114,190	117,616	121,144	123,567
17 Other Expenses	14,366	24,300		18,000	26,553	27,350	28,170	28,733
18 Total Operating Expenses	2,709,517	3,050,500		3,208,100	3,427,001	3,529,420	3,635,013	3,724,886
19 Operating Exp. Increase (Decrease)	-1.5%	12.6%		5.2%	3.0%	3.0%	3.0%	2.5%
20 Net Available	1,909,720	2,585,267		2,297,000	1,827,048	1,907,649	1,991,803	1,908,266
21 Scheduled Installment Payment	1,225,778	1,225,800		1,224,300	1,223,800	1,222,800	1,224,900	1,224,573
22 CIP	420,730	2,895,200		5,063,000	1,029,251	1,286,844	1,155,820	1,178,936
23 Net cash for the year	263,212	-1,535,733		-3,990,300	-426,003	-601,995	-388,917	-495,244
24 Debt Services Ratio (>1.25%)	1.56	2.11		1.39	1.49	1.56	1.63	1.56

**Carpinteria Sanitary District  
2003 Refunding Bonds-Debt Service Schedule**

<b>Date</b>	<b>Principal</b>	<b>Interest</b>	<b>Semiannual Total</b>	<b>Fiscal Total</b>
7/01/2003	\$275,000	\$283,475.21	\$558,475.21	\$558,475.21
1/01/2004		\$342,437.50	\$342,437.50	
7/01/2004	\$540,000	\$342,437.50	\$882,437.50	\$1,224,875.00
1/01/2005		\$333,257.50	\$333,257.50	
7/01/2005	\$555,000	\$333,257.50	\$888,257.50	\$1,221,515.00
1/01/2006		\$327,013.75	\$327,013.75	
7/01/2006	\$570,000	\$327,013.75	\$897,013.75	\$1,224,027.50
1/01/2007		\$320,601.25	\$320,601.25	
7/01/2007	\$580,000	\$320,601.25	\$900,601.25	\$1,221,202.50
1/01/2008		\$314,076.25	\$314,076.25	
7/01/2008	\$595,000	\$314,076.25	\$909,076.25	\$1,223,152.50
1/01/2009		\$306,638.75	\$306,638.75	
7/01/2009	\$615,000	\$306,638.75	\$921,638.75	\$1,228,277.50
1/01/2010		\$296,183.75	\$296,183.75	
7/01/2010	\$635,000	\$296,183.75	\$931,183.75	\$1,227,367.50
1/01/2011		\$285,388.75	\$285,388.75	
7/01/2011	\$655,000	\$285,388.75	\$940,388.75	\$1,225,777.50
1/01/2012		\$274,253.75	\$274,253.75	
7/01/2012	\$675,000	\$274,253.75	\$949,253.75	\$1,223,507.50
<b>1/01/2013</b>		<b>\$262,103.75</b>	<b>\$262,103.75</b>	
<b>7/01/2013</b>	<b>\$700,000</b>	<b>\$262,103.75</b>	<b>\$962,103.75</b>	<b>\$1,224,207.50</b>
1/01/2014		\$248,978.75	\$248,978.75	
7/01/2014	\$730,000	\$248,978.75	\$978,978.75	\$1,227,957.50
1/01/2015		\$234,378.75	\$234,378.75	
7/01/2015	\$755,000	\$234,378.75	\$989,378.75	\$1,223,757.50
1/01/2016		\$218,901.25	\$218,901.25	
7/01/2016	\$785,000	\$218,901.25	\$1,003,901.25	\$1,222,802.50
1/01/2017		\$202,416.25	\$202,416.25	
7/01/2017	\$820,000	\$202,416.25	\$1,022,416.25	\$1,224,832.50
1/01/2018		\$184,786.25	\$184,786.25	
7/01/2018	\$855,000	\$184,786.25	\$1,039,786.25	\$1,224,572.50
1/01/2019		\$165,976.25	\$165,976.25	
7/01/2019	\$890,000	\$165,976.25	\$1,055,976.25	\$1,221,952.50
1/01/2020		\$145,951.25	\$145,951.25	
7/01/2020	\$930,000	\$145,951.25	\$1,075,951.25	\$1,221,902.50
1/01/2021		\$124,561.25	\$124,561.25	
7/01/2021	\$975,000	\$124,561.25	\$1,099,561.25	\$1,224,122.50
1/01/2022		\$102,136.25	\$102,136.25	
7/01/2022	\$1,020,000	\$102,136.25	\$1,122,136.25	\$1,224,272.50
1/01/2023		\$78,676.25	\$78,676.25	
7/01/2023	\$1,070,000	\$78,676.25	\$1,148,676.25	\$1,227,352.50
1/01/2024		\$53,932.50	\$53,932.50	
7/01/2024	\$1,120,000	\$53,932.50	\$1,173,932.50	\$1,227,865.00
1/01/2025		\$27,612.50	\$27,612.50	
7/01/2025	\$1,175,000	\$27,612.50	\$1,202,612.50	\$1,230,225.00

<b>Totals</b>	<b>\$17,520,000</b>	<b>\$9,984,000.21</b>	<b>\$27,504,000.21</b>	<b>\$26,945,525.00</b>
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Source: Official Statement-Carpinteria Sanitary District 2003 Wastewater Revenue Refunding Bonds, 1/23/2003





## 2.0 REVENUE PROJECTION

### Revenue Policy

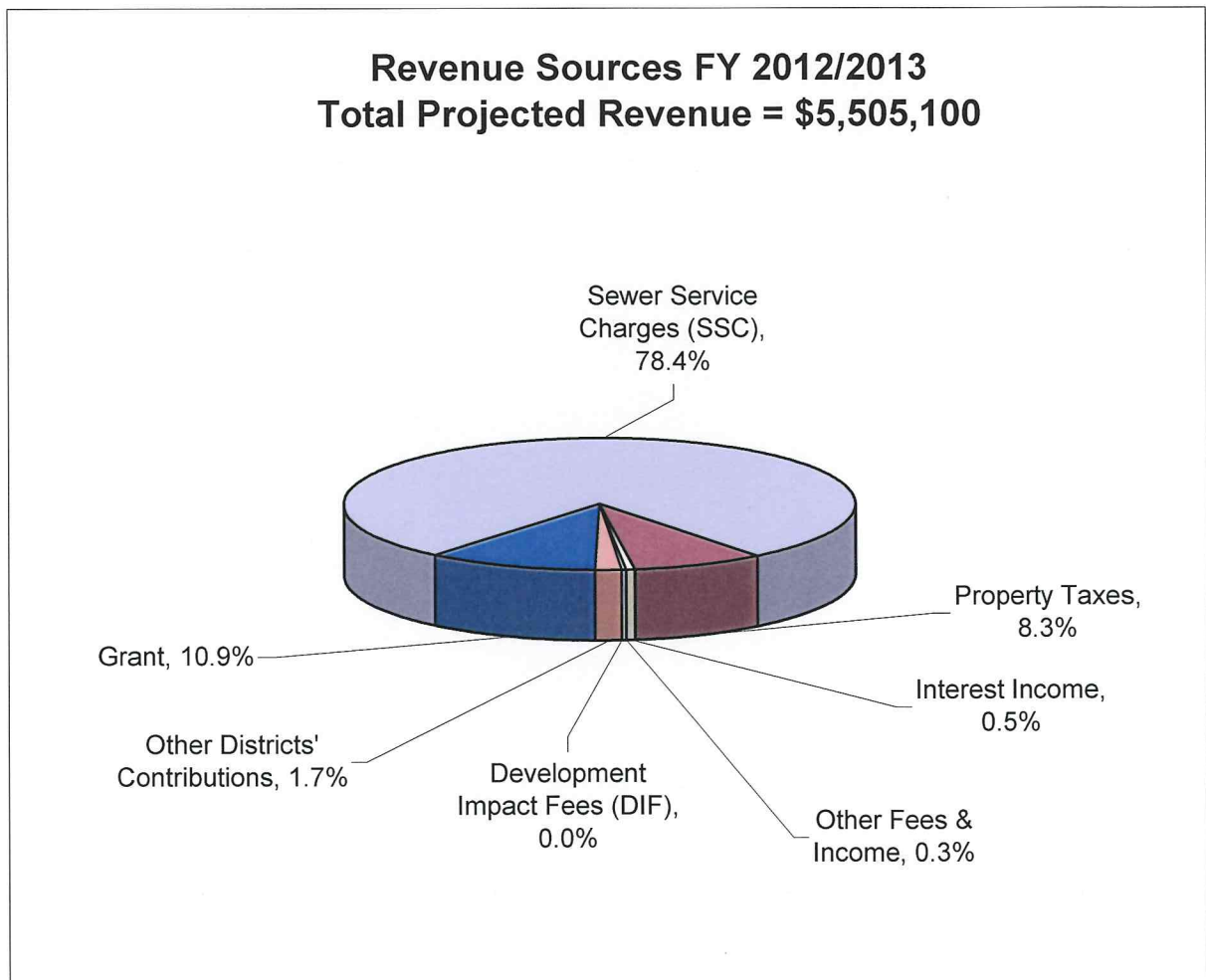
The Carpinteria Sanitary District must collect sufficient funds to maintain a prudent and balanced budget based on projected operational and capital expenses, while maintaining, at a minimum, a required debt service ratio of 1.25.

### Sources of Revenue

The Carpinteria Sanitary District's main sources of revenue are:

- Sewer Service Charges (SSC)
- Property Taxes
- Interest Income
- Other Fees and Income

Sewer service charges make up over 78% of the District's total revenue. The following figure shows a percentage breakdown of projected revenue for the 2012/13 fiscal year by source.



## **SEWER SERVICE CHARGES**

The District collects Sewer Service Charges (SSCs) from its residential and non-residential customer base that are intended to cover the bulk of the agency's operating costs. Annual SSCs for each customer are determined based on District Ordinance No. 12, which was developed and adopted based on a comprehensive wastewater rate and fee study completed in 2011.

The rate study involved a comprehensive review of the District's financial plan, user classifications, and rate structure for the wastewater enterprise. The District's revenue requirements were assessed to determine the appropriate level of revenue adjustments to maintain financial sufficiency and rate stability. Ultimately, Ordinance No. 12, adopted on June 7, 2011, established a series of 4.5% annual rate increases that will be implemented over a five year period.

The incremental rate adjustments are necessary to fund operating and capital expenses, to maintain targeted reserve fund levels, and to meet debt service obligations. A powerful computer model was developed as part of the rate and fee update process which allowed the District to analyze a myriad of funding scenarios. The series of modest increases was determined to be the most appropriate means of meeting revenue requirements with the lowest impact to the customer base.

### **Residential Sewer Service Charges**

Residential sewer service charges continue to be based on a flat rate per dwelling unit. In FY 2012/13, the annual charge per unit will be \$538.18 per year. This rate is based on an average water use of 180 gallons per day. The total residential Sewer Service Charge revenue is projected to be about \$3,275,000, or about 76% of the total SSC revenue. This represents an increase of approximately \$169,000 or 5.5% from the prior year. The increase results from the general rate escalation and addition of 50 new residential units to the District's customer base. The new users are primarily in the Sandyland Cove and Sandpoint Road communities. Currently, the total number of residential dwelling units being served by the District is 6,086.

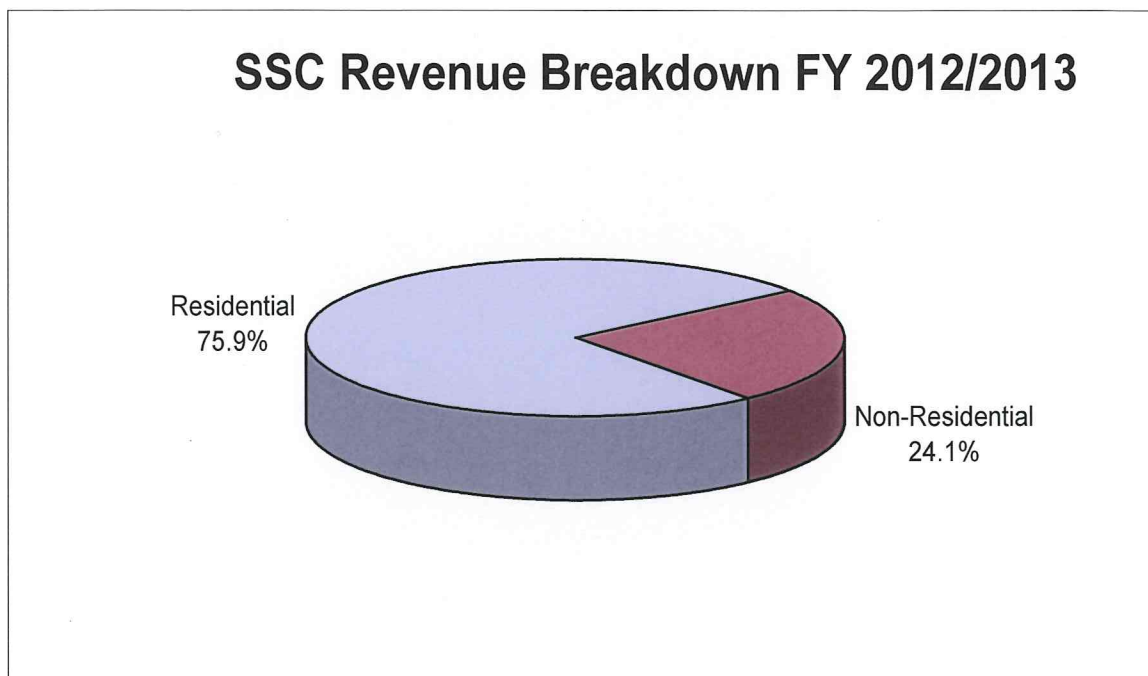
### **Non-Residential Sewer Service Charges**

According to District Ordinance No. 12, the non-residential customers are classified into six classifications based on wastewater strength, ranging from low to very high strength. For each classification, charges are determined based on a unit cost per 1,000 gallons of water used (based on a 3-year annual average). The unit rates uniformly assume that 90% of water used is returned to the sanitary sewer system. Additionally, the non-residential rate structure includes a minimum charge per parcel (or account) that is equivalent to one residential unit charge, or \$538.18 in the current year.

While the District increased rates by 4.5% for all customers, total non-residential revenue decreased by 6% due to declining water use in this sector and change of user classes.

The District annually updates non-residential user information by performing a survey of commercial and industrial connections within its service area in February of each year. The survey also records changes in occupancy during the year, particularly those that have an impact on wastewater strength or projected flow rates. The District maintains and updates assessors' parcel number (APN) information each year to reflect any changes, including lot splits or property owners name and mailing addresses.

The total non-residential revenue for FY 2012/13 is projected to be \$1,041,000, or 24% of the District's total SSC revenue. This is approximately \$68,000 less revenue than projected in the prior year. The total number of non-residential customers is approximately 530.



#### **Sewer Service Charge Billings and Collections**

Residential and non-residential sewer service charges are collected by the Santa Barbara County Assessor's office on behalf of the District on the annual property tax rolls. The SSC revenue is guaranteed by the County under the "Teeter Plan". Under this plan the County will pay the District 100 percent of the SSC funds requested by the District for collection. The County will then retain the penalties for all past due accounts. The SSC for each parcel is shown on the property tax billing as a separate line item. The County's fee for printing of the additional line is one dollar per parcel. This fee is added to the SSC by the County and paid by the property owners. The District attempts to collect sewer service charges for all new connections during the same fiscal year.

#### **PROPERTY TAXES**

Property tax revenue is the District's second largest revenue source. Property tax revenue collected by the County Assessor consists of secured, unsecured, supplementary, unitary, and special assessment property taxes. The secured property tax is based on the assessed value of the property and may be increased a maximum of two percent per year by law. Secured property tax revenue has generally increased each year due to the rising in property values and changes in assessed value following property transfers.

The District typically receives one percent (1%) of the total property tax collected for parcels and other assets within its service area. The Santa Barbara County property tax revenue projection is \$454,600, which is \$4,200 more than the previous fiscal year. The growth rate projection by the County for the District property tax revenue is 0.1% for 2012/13 fiscal year.



### **Appropriation Limit**

The District receives data from the State of California Department of Finance each year on Price and Population information for the purpose of calculating an annual Appropriation Limit. This process, required by State law, is intended to ensure that the District is not collecting excess property tax. The determination, which shows the District to be well within limitations for the coming fiscal year, is presented in the following table:

	<b>Description</b>	<b>FY 2011/12</b>	<b>FY 2012/13</b>
A	Prior Year Appropriation Limit	\$2,925,525	\$3,021,482
B	Change in Calif. Per Capita Income	1.0251	1.0377
C	Change in District's Population	1.0044	1.0036
C1	Change in County Population	1.0075	1.0045
D	Multiplying Factor (Larger of C or C1 times B)	1.0328	1.0424
E	New Appropriation Limit	3,021,482	3,149,593
F	Property Tax Collected/ Estimate	\$450,400	\$454,600
G	Under Limit	\$2,571,082	\$2,694,993

### **INTEREST INCOME**

This source of income comes from interest earned on District funds deposited at Santa Barbara Bank & Trust, the State of California Local Agency Investment Fund (LAIF), and the Santa Barbara County Treasurer's pool. The interest rate for Fiscal Year 2012/13 is computed based on an expected average balance and a 0.5% interest rate for both restricted and non-restricted funds. This amount is projected to be approximately \$26,000, or about 19% less than the previous fiscal year interest income.

### **OTHER FEES & INCOME**

This source of revenue includes miscellaneous fees charged by the District for issuing and processing permits for sewer system connections and plumbing alterations. The projected revenue for FY 2012/13 from these sources is \$15,000. Other miscellaneous revenue may be accounted for in this category.

### **Development Impact Fees**

Development Impact Fees (DIFs) are fees collected for new sewer connections and developments within the District's service area. This revenue is restricted for use on capital improvement projects that are capacity related.

As part of the rate and fee study conducted in 2011, the District's DIFs were reviewed and updated. The fee per Equivalent Dwelling Unit (EDU) was increased from \$2,400 to \$2,936 through adoption of District Ordinance No. 13 in June 2011 and effective as of July 1, 2011. Non-Residential impact fees are computed based on estimates of water usage and wastewater strength for the given square footage of developed area.

Although the District generally collects a limited number of DIFs each year from new connections and small developments, existing limitations on growth within the District's service area make this a variable and mostly insignificant source of revenue. Furthermore, because of the restricted nature of these funds, it is assumed for budgetary purposes that no DIFs will be collected in this fiscal year. Any fees that are collected will be dedicated and accounted for in accordance with State law.

### **Joint Safety Officer Revenue**

In FY 2007/08 the District implemented a cooperative agreement with four other local sanitary districts to employ a joint Safety and Training Officer. This individual is an employee of the Carpinteria Sanitary District, with salary and benefits paid directly by the agency. However, costs for this entire program, including personnel costs, are apportioned amongst the participating agencies based on a simple formula. There are currently four agencies that are party to the cooperative arrangement. Each agency pays a pro-rata share at the outset of the fiscal year and the District's true cost burden is approximately 30% of the overall program cost. The anticipated contribution from other agencies for the joint Safety and Training Officer will be approximately \$93,500 in FY 2012/13.

### **Other Sources of Cash**

The District has received a \$1.25M Proposition 50 Integrated Regional Water Management Plan Grant from the State Water Resources Control Board for the Bluffs Sewer Relocation Project. This grant is intended to fund approximately 50% of the project implementation cost. Construction is essentially complete and it was anticipated that \$600,000 in reimbursement grant funds would be received in FY 2011/12. Although not yet received, we expect payment in June 2012. For budgetary purposes, another \$600,000 in grant funds are expected to be received in FY 2012/13.

## Revenue Summary

The total projected revenue for the 2012/13 fiscal year is shown in the following table:

Revenue Sources	2011/12 Budget Projection	2012/13 Proposed Budget	Dollar Variance	Percent Change
Sewer Service Charges (SSC)	\$4,215,000	\$4,316,000	\$101,000	2%
Property Taxes	\$450,400	\$454,600	\$4,200	<1%>
Interest Income	\$32,000	\$26,000	<\$6,000>	<19%>
Other Fees & Income	\$15,000	\$15,000	\$0	0%
Development Impact Fees (DIF)	\$0	\$0	\$0	0%
Joint Safety Officer Revenue	\$87,200	\$93,500	\$6,300	7%
Grant Income	\$600,000	\$600,000	0	0%
<b>Total Gross Revenues</b>	<b>\$5,399,600</b>	<b>\$5,505,100</b>	<b>\$105,500</b>	<b>2%</b>

The revenue projection for the coming fiscal year will be sufficient to support the District's operating costs and also to fund a portion of planned capital expenses. The following pages provide detailed revenue projections by account. A history of the District's residential sewer service charges is also provided, with a comparison against charges for other local wastewater agencies.



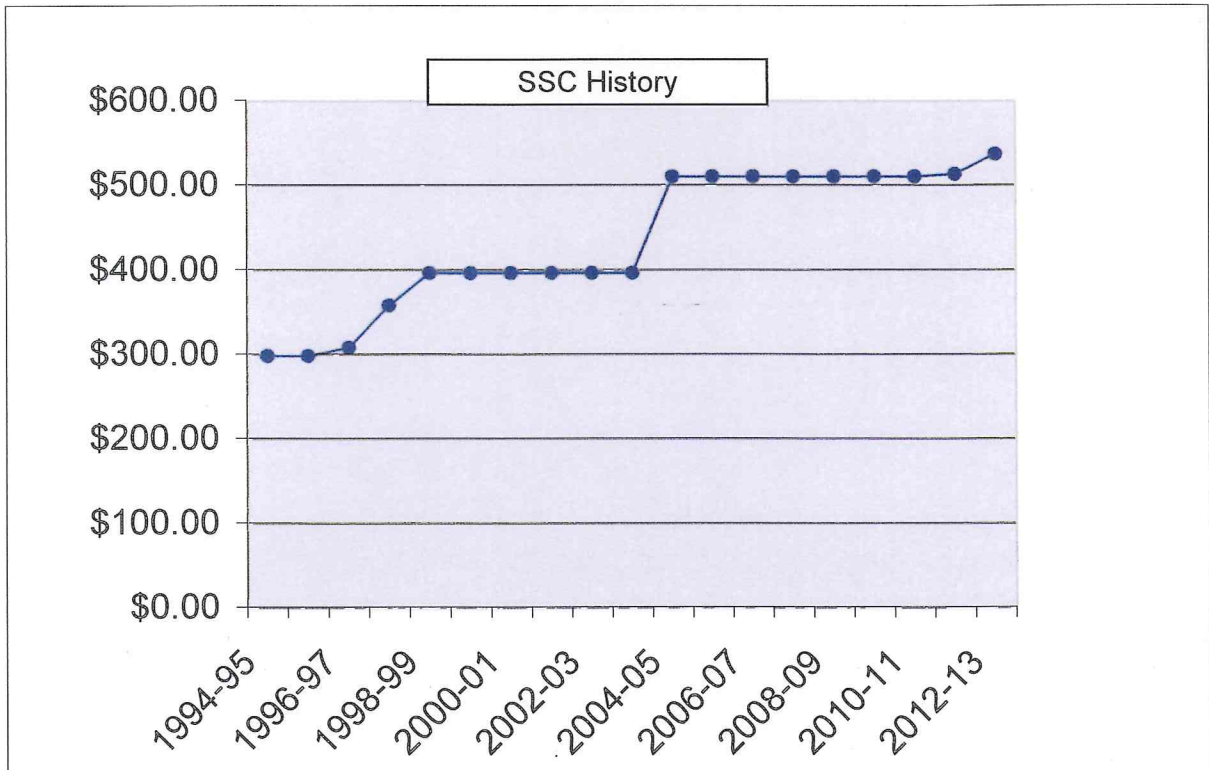
## Carpinteria Sanitary District Revenue Accounts Details

<b>ACCOUNT NUMBER:</b>	3100	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Sewer Service Charges (SSC)	This account represents the total aggregate SSC that the District projects will be collected during the year. Per Ordinance No. 12, the residential SSC is \$538.18/year per equivalent dwelling unit. Non-residential SSC are based on water use and wastewater strength.
<b>ACCOUNT NUMBER:</b>	3300	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Property Taxes	This revenue section represents the District's share of 1% of secured, unsecured, unitary, supplemental, and homeowner property tax relief collected by the County.
<b>ACCOUNT NUMBER:</b>	3400	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Interest Income (General Fund)	This account includes interest income earned on the District's cash balances at local banks, the State of California Local Agency Investment Fund (LAIF), Santa Barbara County Treasury, and the Santa Barbara Bank & Trust
<b>ACCOUNT NUMBER:</b>	3130	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Development Impact Fees (DIF)	The budget does not include revenue related to collection of Development Impact Fees. All DIF revenue are used for the current and future capacity related capital improvement projects.
<b>ACCOUNT NUMBER:</b>	Various	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Other Fees and Income	These accounts represent miscellaneous fees charged by the District for service provided. These include annexation fees, sewer service permit fees, plan check fees, and inspection fees. Other miscellaneous revenue is covered under these accounts.
<b>ACCOUNT NUMBER:</b>	3380	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Other Districts' Contribution/Safety & Training Officer	This is the account for reimbursement of a shared employee/Safety Officer, from the other sanitary districts.

## Carpinteria Sanitary District History of Residential Sewer Service Charges

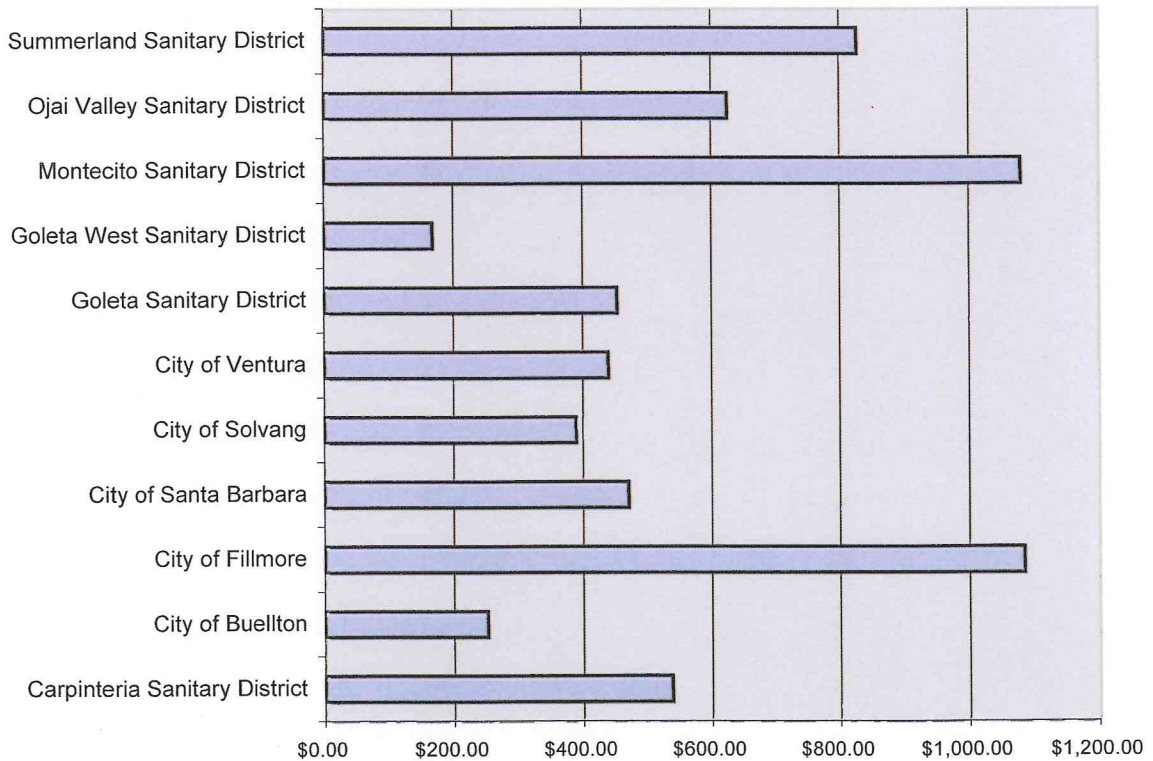
Residential Annual SSC	Mobile Homes Annual SSC	Ordinance Number
\$35	\$25	1979-1
\$70	\$50	1981-1
\$70	\$70	1987-2
\$161	\$161	1989-5
\$172	\$165	Ord#3
\$190	\$183	Ord#4
\$233	\$226	Ord#5 (1992)
\$398	\$386	Ord#6 (1993)
\$512	\$512	Ord#10 (2004)
\$515	\$515	Ord#12 (2011)
\$538	\$538	Ord#12 (2012)

Fiscal Year	Actual SSC Charged	SSC Ordinance	Cost per Month
1994-95	\$300.00	\$398.00	\$25.00
1995-96	\$300.00	\$398.00	\$25.00
1996-97	\$310.00	\$398.00	\$25.83
1997-98	\$359.95	\$398.00	\$30.00
1998-99	\$398.00	\$398.00	\$33.17
1999-00	\$398.00	\$398.00	\$33.17
2000-01	\$398.00	\$398.00	\$33.17
2001-02	\$398.00	\$398.00	\$33.17
2002-03	\$398.00	\$398.00	\$33.17
2003-04	\$398.00	\$398.00	\$33.17
2004-05	\$512.00	\$512.00	\$42.67
2005-06	\$512.00	\$512.00	\$42.67
2006-07	\$512.00	\$512.00	\$42.67
2007-08	\$512.00	\$512.00	\$42.67
2008-09	\$512.00	\$512.00	\$42.67
2009-10	\$512.00	\$512.00	\$42.67
2010-11	\$512.00	\$512.00	\$42.67
2011-12	\$515.00	\$515.00	\$42.92
2012-13	\$538.18	\$538.18	\$44.85



## Carpinteria Sanitary District Peer Agencies' Sewer Service Charges

	Current Annual SSC 2011/12	Proposed SSC 2012/13
<b>Carpinteria Sanitary District</b>	<b>\$515.00</b>	<b>\$538.18</b>
City of Buellton	\$228.00	\$252.00
City of Fillmore	\$1,013.52	\$1,084.56
City of Santa Barbara	\$427.32	\$470.52
City of Solvang	\$389.76	\$389.76
City of Ventura	\$284.00	\$439.62
Goleta Sanitary District	\$442.32	\$453.63
Goleta West Sanitary District	\$168.00	\$168.00
Montecito Sanitary District	\$1,080.00	\$1,080.00
Ojai Valley Sanitary District	\$624.84	\$624.84
Summerland Sanitary District	\$814.81	\$827.10

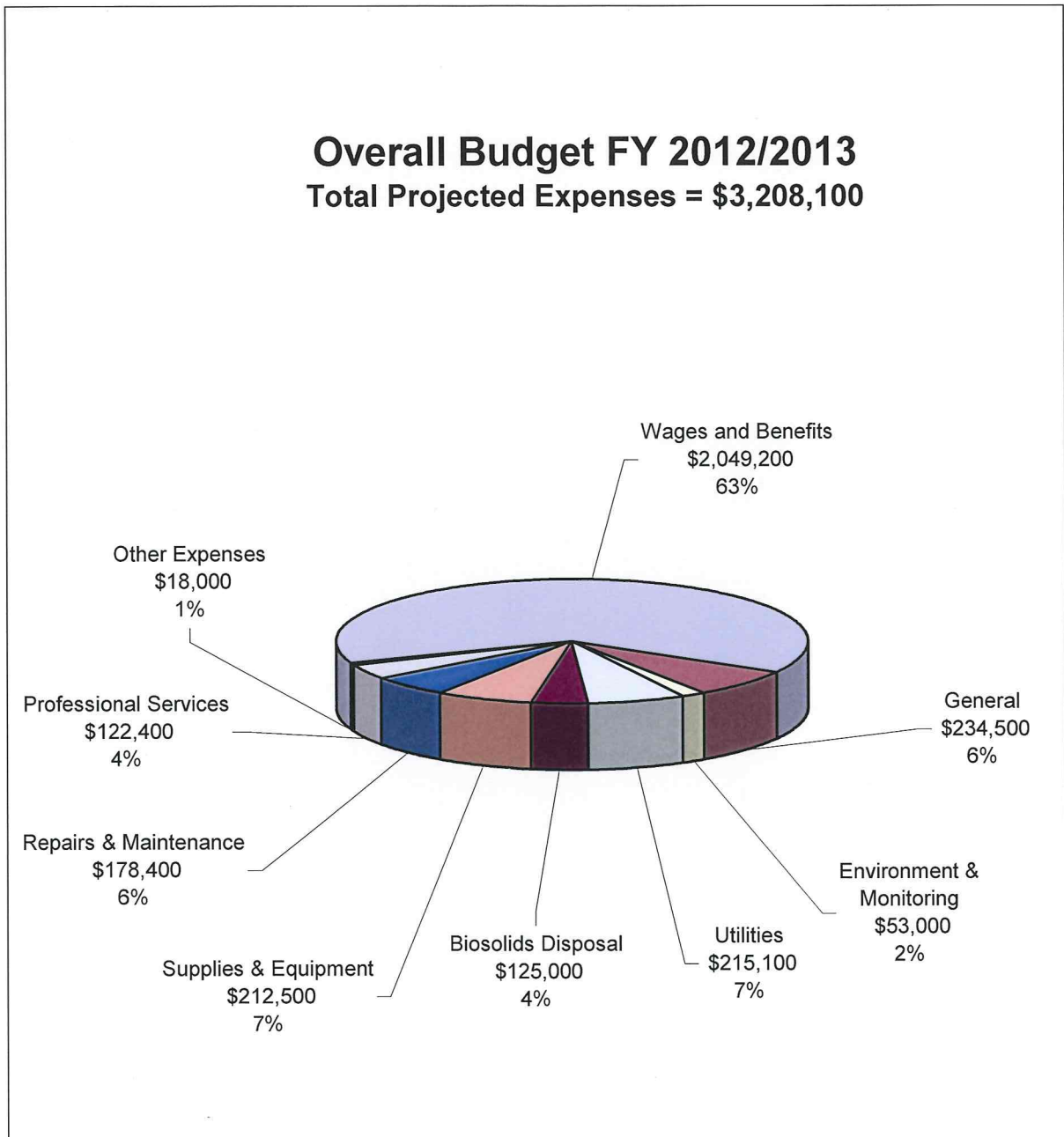




### 3.0 EXPENSE OVERVIEW

The Carpinteria Sanitary District's operating expense budget is separated into three departments: the Administration Department, the Plant/Collection Department, and the Safety and Training Department. The operating expense section of the overall budget includes expenses associated with the day-to-day operation of the agency, exclusive of projected expenses for capital purchases, capital improvements and debt service payments.

The following figure provides a graphical overview of the District's operating budget for FY 2012/13.



The Administration section includes the projected expenses associated with the administration of the District including employee salaries and benefits, auditing, legal, engineering, professional services, permitting fees, Board of Directors' expenses, District insurance and miscellaneous repairs for the upkeep of the Administration Building and Board Room. The projected Administration department operating budget for FY 2012/13 is \$885,800, or 27.6% of the overall budget.

The Plant/Collection section includes the projected expenses associated with the operation and maintenance of the wastewater treatment plant, the collection system, and associated lift stations. Expenses include employee salaries and benefits, utilities, chemicals, equipment maintenance, professional services, biosolids disposal and general operating expenses. The projected Plant/Collection department operating budget for FY 2012/13 is \$2,191,100, or 68.3% of the overall budget.

The Safety and Training section includes the projected expenses associated with utilization of outside consultants and employment of a joint Safety and Training Officer. Other direct expenses associated with occupational safety and regulatory compliance are also included in the budget. The projected 2012/13 fiscal year budget for this department is \$131,200, or 4.1% of the overall budget.

The District's operating budget has taken into consideration the projected needs and projected costs for achieving key goals and objectives in the upcoming fiscal year. The operating expenses presented herein represent a summary of the more detailed expenses shown in the individual Administration and Plant/Collection budget sections.

## **Summary Data**

The remainder of this section contains figures and financial data in tabular and graphic format that summarize the projected expenditures District wide for the coming fiscal year, as follows:

- **All Department Operating Expenses**
- **CPI Cost Escalation Factor Summary**
- **FY 2012/13 Salary Matrix**
- **Personnel Cost Summary**
- **Employee Benefit Summary**
- **Standby Pay Detail**

**Carpinteria Sanitary District**

**All Departments Budget**

**Fiscal Year 2012/2013**

Account Number	Description	2011/12	2011/12	%	2012/13	\$	%
		Budget	10 Months Actual	Expended	Budget	Increase (Decrs.)	Change
<b>Personnel Expenses</b>							
5010	Regular Salaries	1,281,500	943,930	74%	1,342,700	61,200	4.8%
5030	Overtime	12,500	7,202	58%	12,500	0	0.0%
5040	Special Duty Pay	37,600	29,497	78%	36,800	(800)	-2.1%
5050	Directors Fees	17,500	9,750	56%	17,500	0	
	<b>Total Wages</b>	<b>1,349,100</b>	<b>990,379</b>	<b>73%</b>	<b>1,409,500</b>	<b>60,400</b>	<b>4.5%</b>
<b>Employee Benefits</b>							
5111	PERS	228,600	160,508	70%	241,700	13,100	5.7%
5112	Social Security	99,800	70,591	71%	105,700	5,900	5.9%
5120	Medical Insurance	164,800	140,874	85%	180,200	15,400	9.3%
5121	Retiree Health Benefit/GASB 45	2,000	0	0%	0	(2,000)	NA
5122	Unemployment Insurance	6,100	5,138	84%	7,400	1,300	21.3%
5124	Long Term Disability	8,500	6,768	80%	9,100	600	7.1%
5126	Life Insurance	4,200	3,774	90%	4,500	300	7.1%
5127	Dental/ Vision Self Funding Plan	40,000	23,683	59%	42,500	2,500	6.3%
5128	Workers' Compensation	43,900	41,182	94%	46,200	2,300	5.2%
5132	Employee Physicals & First Aid	2,400	1,588	66%	2,400	0	0.0%
	<b>Total Employee Benefits</b>	<b>600,300</b>	<b>454,105</b>	<b>76%</b>	<b>639,700</b>	<b>39,400</b>	<b>6.6%</b>
	<b>TOTAL PERSONNEL</b>	<b>1,949,400</b>	<b>1,444,483</b>	<b>74%</b>	<b>2,049,200</b>	<b>99,800</b>	<b>5.1%</b>
<b>General Expenses</b>							
5210	Departmental Expense	10,500	5,822	55%	12,500	2,000	19.0%
5215	Office Supplies	9,500	3,357	35%	8,000	(1,500)	-15.8%
5222	Directors Confs. & Training	15,000	12,336	82%	15,000	0	0.0%
5226	Directors Election Expense	0	0	0%	10,000	10,000	NA
5228	Directors Dental / Vision	12,500	9,460	76%	12,500	0	0.0%
5231	District Liability Insurance	69,500	55,004	79%	69,500	0	0.0%
5241	Uniform Expenses	10,500	8,767	83%	12,000	1,500	14.3%
5242	Memberships and Dues	22,000	20,460	93%	23,200	1,200	5.5%
5244	Conference & Training	19,000	12,591	66%	21,000	2,000	10.5%
5246	Employee Education Reimb.	2,500	0	0%	2,500	0	0.0%
5260	Vehicle Fuel Expenses	16,800	11,187	67%	16,600	(200)	-1.2%
5265	Employee Mileage Reimb.	1,900	311	16%	2,000	100	5.3%
5270	Equipment Rental and Leases	4,500	3,105	69%	4,700	200	4.4%
5290	Licenses and Permits	23,000	16,575	72%	25,000	2,000	8.7%
	<b>Total General</b>	<b>217,200</b>	<b>158,974</b>	<b>73%</b>	<b>234,500</b>	<b>17,300</b>	<b>8.0%</b>
<b>Environment &amp; Monitoring</b>							
5310	Monitoring-Equipment Expense	26,000	12,220	47%	27,500	1,500	5.8%
5320	Monitoring-Lab Work	15,500	11,165	72%	15,500	0	0.0%
5330	Prop. 65 Clean Up Expense	10,000	0	0%	10,000	0	0.0%
	<b>Total Environment &amp; Monit.</b>	<b>51,500</b>	<b>23,385</b>	<b>45%</b>	<b>53,000</b>	<b>1,500</b>	<b>2.9%</b>
<b>Utilities</b>							
5410	Natural Gas	1,800	1,162	65%	1,800	0	0.0%
5420	Electricity	205,000	144,999	71%	184,000	(21,000)	-10.2%
5430	Telephone	10,700	6,269	59%	10,700	0	0.0%
5440	Water	12,100	7,040	58%	12,100	0	0.0%
5450	Rubbish	4,700	3,744	80%	5,000	300	6.4%
5480	Underground Service Alert	800	410	51%	800	0	0.0%
5490	Building Alarm System	700	595	85%	700	0	0.0%
	<b>Total Utilities</b>	<b>235,800</b>	<b>164,218</b>	<b>70%</b>	<b>215,100</b>	<b>(20,700)</b>	<b>-8.8%</b>

**Carpinteria Sanitary District**

**All Departments Budget**

**Fiscal Year 2012/2013**

Account Number	Description	2011/12 Budget	2011/12 10 Months Actual	% Expended	2012/13 Budget	\$ Increase (Decrs.)	% Change
<b><u>Sludge Disposal</u></b>							
5470	Biosolids Disposal	135,000	71,780	53%	125,000	(10,000)	-7.4%
	<b>Total Sludge Disposal</b>	<b>135,000</b>	<b>71,780</b>	<b>53%</b>	<b>125,000</b>	<b>(10,000)</b>	<b>-7.4%</b>
<b><u>Supplies &amp; Equipment</u></b>							
5510	General Supplies	13,800	5,871	43%	15,000	1,200	8.7%
5521	Odor Control Chemicals	35,000	0	0%	35,000	0	0.0%
5522	Chlorine-SO2	120,000	87,257	73%	120,000	0	0.0%
5524	Polymers	26,000	18,248	70%	26,000	0	0.0%
5525	Tools/Small Parts	3,000	614	20%	4,300	1,300	43.3%
5526	Fuel, Diesel, Lubricants	6,500	6,246	96%	6,500	0	0.0%
5527	Safety Equipment	5,000	2,791	56%	5,700	700	14.0%
	<b>Total Supplies &amp; Equipment</b>	<b>209,300</b>	<b>121,028</b>	<b>58%</b>	<b>212,500</b>	<b>3,200</b>	<b>1.5%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5610	Equipment (minor)	15,800	11,959	76%	19,300	3,500	22.2%
5620	Building Maintenance	10,000	2,596	26%	8,000	(2,000)	-20.0%
5630	Grounds Maintenance	6,000	927	15%	3,500	(2,500)	-41.7%
5640	Vehicle Maintenance	10,100	7,278	72%	11,600	1,500	14.9%
5650	Treatment Plant Maintenance	45,000	36,284	81%	45,000	0	0.0%
5680	Lift Station Maintenance	9,000	5,187	58%	9,000	0	0.0%
5690	Trunk Line Maintenance	82,000	13,824	17%	82,000	0	0.0%
	<b>Total Repairs &amp; Maint.</b>	<b>177,900</b>	<b>78,055</b>	<b>44%</b>	<b>178,400</b>	<b>500</b>	<b>0.3%</b>
<b><u>Professional Services</u></b>							
5821	Accounting (Annual Audit)	7,500	7,500	100%	8,800	1,300	17.3%
5831	Legal Counsel	24,000	20,620	86%	24,000	0	0.0%
5843	Computer Related Expenses	24,900	20,679	83%	25,500	600	2.4%
5844	SCADA Related Expenses	20,000	3,061	15%	20,000	0	0.0%
5847	Public Relations	15,000	2,611	17%	15,000	0	0.0%
5849	Other Professional Services	24,000	3,645	15%	24,000	0	0.0%
5851	Payroll Service-Paychex	4,600	3,386	74%	4,600	0	0.0%
5855	IDP/Monitoring Source Control	500	0	0%	500	0	0.0%
	<b>Total Professional Services</b>	<b>120,500</b>	<b>61,502</b>	<b>51%</b>	<b>122,400</b>	<b>1,900</b>	<b>1.6%</b>
<b><u>Other Expenses</u></b>							
6020	Admin Charges-SB County	10,000	6,058	61%	10,000	0	0.0%
6030	Debt Services Administration Fees	3,200	2,618	82%	3,200	0	0.0%
6031	LAFCO Pro-Rata Costs	3,800	3,220	85%	3,800	0	0.0%
6032	Regional Grant/Planning Costs	5,000	0	0%	1,000	(4,000)	-80.0%
	<b>Total Other Expenses</b>	<b>22,000</b>	<b>11,896</b>	<b>54%</b>	<b>18,000</b>	<b>(4,000)</b>	<b>-18.2%</b>
<b>GRAND TOTALS</b>		<b>3,118,600</b>	<b>2,135,322</b>	<b>68%</b>	<b>3,208,100</b>	<b>89,500</b>	<b>2.9%</b>



## Databases, Tables & Calculators by Subject

FONT SIZE: 

Change Output Options: From:  To:  

include graphs

[More Formatting Options](#) 

Data extracted on: January 26, 2012 (11:59:14 AM)

### Consumer Price Index - Urban Wage Earners and Clerical Workers

#### 12-Month Percent Change

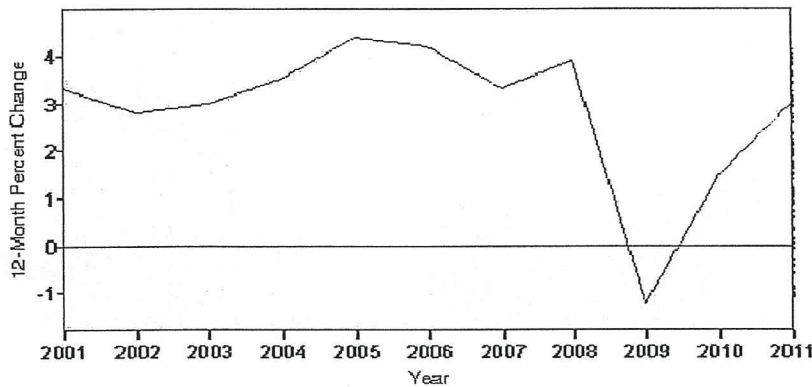
Series Id: CWURA421SA0

Not Seasonally Adjusted

Area: Los Angeles-Riverside-Orange County, CA

Item: All items

Base Period: 1982-84=100



Download:  .xls

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
2001	3.7	3.6	3.2	3.4	3.7	4.6	3.8	3.5	3.1	2.5	2.5	1.8	3.3	3.7	2.9
2002	2.5	2.7	2.8	3.1	2.9	1.6	2.2	2.6	2.8	3.2	3.7	4.1	2.8	2.5	3.1
2003	3.7	3.9	4.5	3.5	2.6	2.8	2.6	2.8	3.2	2.7	2.0	2.0	3.0	3.5	2.6
2004	2.2	2.1	1.8	2.4	3.8	4.3	4.0	3.3	3.2	4.7	5.4	4.6	3.5	2.8	4.2
2005	3.7	3.8	3.9	4.9	4.2	3.4	4.2	5.3	6.0	5.4	4.3	4.2	4.4	3.9	4.9
2006	5.2	5.0	4.5	4.5	5.3	5.4	5.1	4.4	3.2	1.8	2.5	3.3	4.2	5.0	3.3
2007	3.1	3.4	4.0	3.6	3.0	2.7	2.4	2.1	2.2	3.8	4.7	4.6	3.3	3.3	3.3
2008	4.6	3.7	3.6	3.7	4.1	6.1	6.6	5.7	5.0	3.5	0.6	-0.6	3.9	4.3	3.5
2009	-0.6	-0.5	-1.6	-2.1	-2.4	-2.8	-3.2	-2.1	-1.4	-0.6	1.2	2.5	-1.2	-1.7	-0.6
2010	2.3	1.8	2.4	2.4	2.0	1.0	1.0	1.0	0.5	0.9	1.0	1.6	1.5	2.0	1.0
2011	2.0	2.6	3.5	3.9	3.7	3.3	2.7	2.7	3.5	3.1	3.2	2.2	3.0	3.2	2.9

**TOOLS**  
Areas at a Glance

**CALCULATORS**  
Inflation

**HELP**  
Help & Tutorials

**INFO**  
What's New

**RESOURCES**  
Inspector General (OIG)

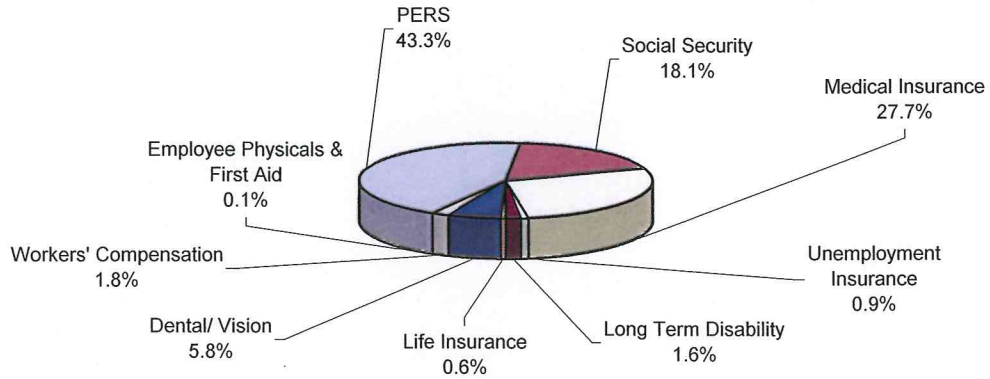
**Carpinteria Sanitary District**  
**Salary Matrix - Monthly**  
**Fiscal Year 2012/13**

Positions	A	B	C	D	E
Finance Director	8,008	8,410	8,831	9,272	9,736
Engineering Technician	5,033	5,283	5,549	5,826	6,117
Office Manager	5,704	5,989	6,289	6,602	6,933
Operations Manager	8,512	8,937	9,383	9,853	10,345
Treatment Supervisor	6,613	6,943	7,290	7,655	8,037
Operator in Training	3,849	4,043	4,245	4,456	4,679
Operator 1	4,348	4,565	4,794	5,034	5,284
Operator 2	4,757	4,996	5,245	5,507	5,783
Maintenance Tech 2	4,725	4,959	5,208	5,468	5,742
Laborer	3,225	3,388	3,556	3,735	3,921
Lab Tech 2	5,435	5,706	5,992	6,291	6,605
Collection System Supervisor	6,755	7,094	7,448	7,820	8,210
Collection System Lead Operator	5,435	5,706	5,992	6,291	6,605
Collection System Operator 1	3,849	4,043	4,245	4,457	4,679
Safety Training Officer	5,949	6,247	6,560	6,888	7,233

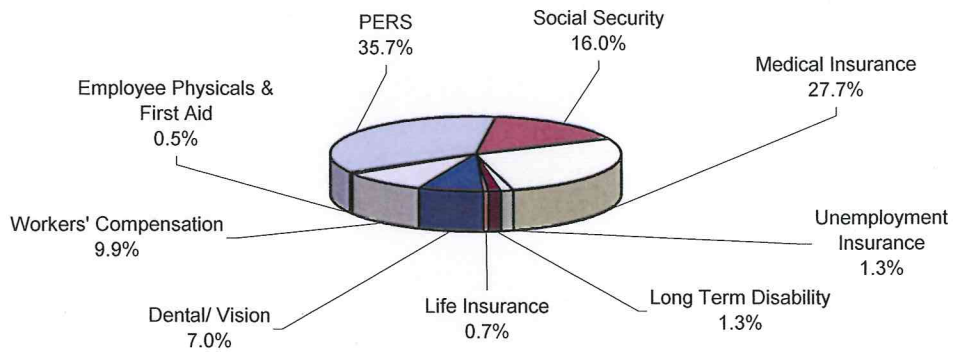
The above matrix includes a 3% annual escalation factor (Los Angeles, Orange, Riverside) starting the first pay period after 6/30/2012



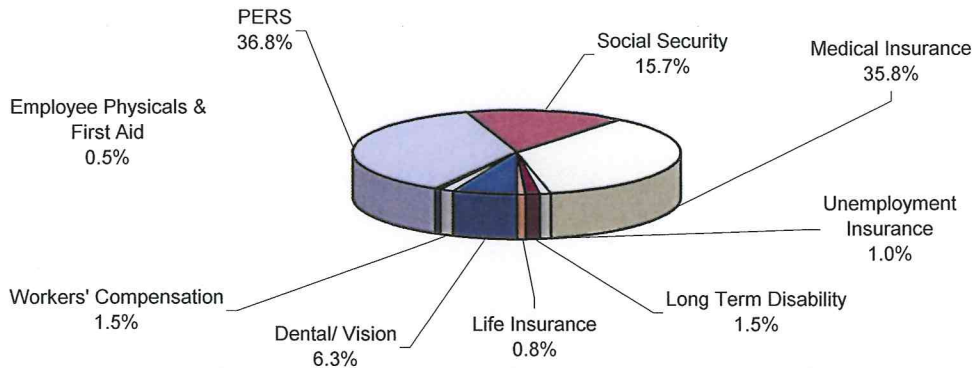
**Administration Department Employee Benefits  
Total = \$171,400**



**Plant/Collection Department Employee Benefits  
Total = \$428,900**



**Safety Officer Employee Benefits  
Total = \$39,400**



**Carpinteria Sanitary District  
Standby Pay Detail for Fiscal Year 2012/13  
1.5 hrs / Day @ Average Salary for Standby Personnel**

								<u>Average Hrly</u>			
								<u>Rate</u>	<u>Daily Rate</u>		
1	2	3	4	5	6	7	8				
Eligible On-Call											
Employees	Rogers	Gonzales	Swenginson	Taylor	Saenz	Bacchilega	Mendoza	Gemeinhardt	\$	33.21	\$ 49.82

Standby Pay is based on a 1.5 hours of pay per day using the average hourly pay rate for the group of participating employees, with compensation determined each year on June 15th for the following fiscal year.

	<u>Week</u>	<u>Week</u>		
	<u>Starting</u>	<u>Ending</u>	<u>Hours</u>	<u>Staff On Call</u>
1	7/1/2012	7/6/2012	10.5	697.41
2	7/7/2012	7/20/2012	21	1,394.82
3	7/21/2012	8/3/2012	21	1,394.82
4	8/4/2012	8/17/2012	21	1,394.82
5	8/18/2012	8/31/2012	21	1,394.82
6	9/1/2012	9/14/2012	21	1,394.82
7	9/15/2012	9/28/2012	21	1,394.82
8	9/29/2012	10/12/2012	21	1,394.82
9	10/13/2012	10/26/2012	21	1,394.82
10	10/27/2012	11/9/2012	21	1,394.82
11	11/10/2012	11/23/2012	21	1,394.82
12	11/24/2012	12/7/2012	21	1,394.82
13	12/8/2012	12/21/2012	21	1,394.82
14	12/22/2012	1/4/2013	21	1,394.82
15	1/5/2013	1/18/2013	21	1,394.82
16	1/19/2013	2/1/2013	21	1,394.82
17	2/2/2013	2/15/2013	21	1,394.82
18	2/16/2013	3/1/2013	21	1,394.82
19	3/2/2013	3/15/2013	21	1,394.82
20	3/16/2013	3/29/2013	21	1,394.82
21	3/30/2013	4/12/2013	21	1,394.82
22	4/13/2013	4/26/2013	21	1,394.82
23	4/27/2013	5/10/2013	21	1,394.82
24	5/11/2013	5/24/2013	21	1,394.82
25	5/25/2013	6/7/2013	21	1,394.82
26	6/8/2013	6/21/2013	21	1,394.82
27	6/22/2013	6/30/2013	16	1,062.72
			551.5	\$ 36,630.63

**Total Cost based on 1.5 hrs / Day @ Average Wages of Participants as of 6/15/20' \$ 36,630.63**

## Carpinteria Sanitary District Accounts Details

ACCOUNT NUMBER:	5010	<b>Description:</b>
ACCOUNT TITLE:	Regular Salaries	Funds the regular salary and wages for three various departments, including; Administration, Plant/Collection, and Safety & Training.
ACCOUNT NUMBER:	5030	<b>Description:</b>
ACCOUNT TITLE:	Overtime	Funds for scheduled and unscheduled overtime expense for the department.
ACCOUNT NUMBER:	5040	<b>Description:</b>
ACCOUNT TITLE:	Special Duty Pay	Funds for two employees' standby pay. This is based on 1.5 hours of pay per day using the average hourly pay rate for the group of participants with compensation determined on June 15th of each year for the following year.
ACCOUNT NUMBER:	5050	<b>Description:</b>
ACCOUNT TITLE:	Directors Fees	Funds for five elected officials to attend board and committee meetings.
ACCOUNT NUMBER:	5111	<b>Description:</b>
ACCOUNT TITLE:	PERS (Public Employees' Retirement System)	Funds PERS contributions for sixteen full-time employees. CSD provides a 7.0% employee contribution. The current PERS retirement plan is 2% @ 55.
ACCOUNT NUMBER:	5112	<b>Description:</b>
ACCOUNT TITLE:	Social Security & Medicare (FICA)	Funds for employer portion of Social Security and Medicare expense.
ACCOUNT NUMBER:	5120	<b>Description:</b>
ACCOUNT TITLE:	Medical Insurance	Provides funding for medical insurance premiums for employees and their dependents.
ACCOUNT NUMBER:	5121	<b>Description:</b>
ACCOUNT TITLE:	Retiree Health Benefit/GASB 45	Provides funding for post retirement medical insurance premiums for retired employees up to a maximum of 36 months.
ACCOUNT NUMBER:	5122	<b>Description:</b>
ACCOUNT TITLE:	Unemployment Insurance	Funds unemployment insurance premiums. Unemployment insurance is based on the first \$7,000 of each employee's wages.



## Carpinteria Sanitary District Accounts Details

ACCOUNT NUMBER:	5124	<b>Description:</b>
ACCOUNT TITLE:	Long Term Disability	Funds long term disability insurance for sixteen full-time Plant employees.
ACCOUNT NUMBER:	5126	<b>Description:</b>
ACCOUNT TITLE:	Employee Life Insurance	Funds for employees' life insurance. The District provides \$40,000 term life insurance for all full-time employees.
ACCOUNT NUMBER:	5127	<b>Description:</b>
ACCOUNT TITLE:	Dental/Vision Plan	Funds for Direct Dental/Vision care self funded plan. The District self funds the program at \$2,500/benefit year for the employee and dependents.
ACCOUNT NUMBER:	5128	<b>Description:</b>
ACCOUNT TITLE:	Workers' Compensation	Funds for pooled CSRMA workers' compensation insurance premiums.
ACCOUNT NUMBER:	5132	<b>Description:</b>
ACCOUNT TITLE:	Employee Physicals & First Aid	Funds for employees physicals. Physicals are required for Class B drivers license. Includes DATCO drug/alcohol testing, pre-employment screening, first aid supplies and use.
ACCOUNT NUMBER:	5210	<b>Description:</b>
ACCOUNT TITLE:	Departmental Expense	Funds for the purchase of routine various expenses such as coffee, drinking water, subscriptions, mailing, and other misc. items.
ACCOUNT NUMBER:	5215	<b>Description:</b>
ACCOUNT TITLE:	Office Supplies	Funds for office supplies and minor office equipment.
ACCOUNT NUMBER:	5222	<b>Description:</b>
ACCOUNT TITLE:	Directors Conference Exp.	Funds for elected officials' conferences, trainings, lodging, travel expenses, and Board workshop.
ACCOUNT NUMBER:	5226	<b>Description:</b>
ACCOUNT TITLE:	Directors Election Expense	Funds for all required activities related to the Board of Directors election expenses.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5228	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Dental & Vision Plan	Funds for the elected officials' dental/vision self funded plan up to \$2,500 for each elected officials and their eligible dependent family similar to the employees.
<b>ACCOUNT NUMBER:</b>	5231	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	District Liability Insurance	Funds the premiums for CSRMA pooled insurance programs which include liability, property, dishonesty bond, auto physical damage, and mobile equipment.
<b>ACCOUNT NUMBER:</b>	5241	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Uniform Expenses	Funds to provide uniform service for the Plant/Collection Department employees.
<b>ACCOUNT NUMBER:</b>	5242	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Professional Licenses and Certifications	Funds for State/CWEA licenses, exams and TCP certification and class B license renewals and professional membership dues.
<b>ACCOUNT NUMBER:</b>	5244	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Conferences & Training	Funds to provide training expenses, conferences, CWEA, and TCP, safety, maintenance and supervisory training.
<b>ACCOUNT NUMBER:</b>	5246	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Education Reimbursement	Funds for education reimbursement for job-related courses completed successfully that have advance approval from the General Manager.
<b>ACCOUNT NUMBER:</b>	5260	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Vehicle Fuel Expenses	Funds for fuel for the District vehicles and equipment.
<b>ACCOUNT NUMBER:</b>	5265	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Mileage Reimbursement	Funds for mileage reimbursement for employees who travel with their own vehicle on District business. The reimbursement rate is at the IRS mileage rate.

## Carpinteria Sanitary District Accounts Details

ACCOUNT NUMBER:	5270	<b>Description:</b>
ACCOUNT TITLE:	Equipment Rental and Leases	Funds for the cost of renting pumps, equipment and other needed equipment not currently owned by the District.
ACCOUNT NUMBER:	5290	<b>Description:</b>
ACCOUNT TITLE:	Licenses & Permits	Funds for the various licenses and permits required of the District by various State, County and local agencies.
ACCOUNT NUMBER:	5310	<b>Description:</b>
ACCOUNT TITLE:	Laboratory Expense	Funds for minor lab equipment purchases and reagent chemicals necessary to perform the inhouse lab analysis required to monitor the plant's effluent discharge and to perform process control monitoring.
ACCOUNT NUMBER:	5320	<b>Description:</b>
ACCOUNT TITLE:	Laboratory-Outside Services	Funds for expenses related to the testing efforts performed by outside lab. These include ocean, beach, sludge and raw wastewater samples.
ACCOUNT NUMBER:	5330	<b>Description:</b>
ACCOUNT TITLE:	Prop 65 Clean Up Expense	Funds for the cleanup of minor sewage spills that are below the District's insurance deductible.
ACCOUNT NUMBER:	5410	<b>Description:</b>
ACCOUNT TITLE:	Natural Gas	Funds for natural gas usage.
ACCOUNT NUMBER:	5420	<b>Description:</b>
ACCOUNT TITLE:	Electricity	Funds for projected electricity usage at the Plant, seven lift stations, and the Administration office.
ACCOUNT NUMBER:	5430	<b>Description:</b>
ACCOUNT TITLE:	Telephone	Funds for long distance, local, cellular and lift station telemetry service.
ACCOUNT NUMBER:	5440	<b>Description:</b>
ACCOUNT TITLE:	Water	Funds for water usage at the treatment plant, lift stations, temp meter, and Administration building.
ACCOUNT NUMBER:	5450	<b>Description:</b>
ACCOUNT TITLE:	Trash Services	Funds for the disposal of trash, grit and screening from the Plant.



## Carpinteria Sanitary District Accounts Details

ACCOUNT NUMBER:	5470	<b>Description:</b>
ACCOUNT TITLE:	Biosolids Disposal	Funds for biosolids transportation and composting fees.
ACCOUNT NUMBER:	5480	<b>Description:</b>
ACCOUNT TITLE:	Underground Service Alert	Fund for the USA dig alert.
ACCOUNT NUMBER:	5490	<b>Description:</b>
ACCOUNT TITLE:	Building Alarm System	Funds for the Administration building security alarm system.
ACCOUNT NUMBER:	5510	<b>Description:</b>
ACCOUNT TITLE:	General Supplies	Funds for general supplies related to the Plant & Collection Department.
ACCOUNT NUMBER:	5521	<b>Description:</b>
ACCOUNT TITLE:	Odor Control Chemicals	Replacement and disposal of odor control media for the facility's air scrubbers.
ACCOUNT NUMBER:	5522	<b>Description:</b>
ACCOUNT TITLE:	Disinfection Chemicals, Chlorine/Bisulfite	Funds for sodium hypochlorite used for disinfection of the final effluent and sodium bisulfite used to dechlorinate prior to final discharge.
ACCOUNT NUMBER:	5524	<b>Description:</b>
ACCOUNT TITLE:	Polymer	Funds for a liquid polymer used to dewater the biosolids prior to being sent to the commercial composting facility.
ACCOUNT NUMBER:	5525	<b>Description:</b>
ACCOUNT TITLE:	Tools	Funds for the purchase and replacement of miscellaneous hand tools.
ACCOUNT NUMBER:	5526	<b>Description:</b>
ACCOUNT TITLE:	Fuel, Diesel & Lubricants	Funds for fuel and oil expenses associated with stationary equipment and portable generators, pumps, etc.
ACCOUNT NUMBER:	5527	<b>Description:</b>
ACCOUNT TITLE:	Safety Equipment	Funds for the purchase of personal protection and safety equipment.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5610	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Equipment Maintenance	Funds for scheduled maintenance and calibration of District's equipment testing using outside professional services.
<b>ACCOUNT NUMBER:</b>	5620	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Building Maintenance	Funds for the general repair and upkeep of the buildings.
<b>ACCOUNT NUMBER:</b>	5630	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Grounds Maintenance	Funds for the maintenance of fences, irrigation, paved roads, gutters, landscaping and other general grounds work.
<b>ACCOUNT NUMBER:</b>	5640	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Vehicle Maintenance	Funds for the in-house supplies and outside services needed to maintain the District vehicles. Includes lubricants, filters, batteries, tune-up parts, smog certifications, etc.
<b>ACCOUNT NUMBER:</b>	5650	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Treatment Plant Equipment Maintenance	Funds for scheduled/unscheduled repair of both the mechanical and electrical components of stationary equipment.
<b>ACCOUNT NUMBER:</b>	5680	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Lift Station Maintenance	Funds for the scheduled/unscheduled maintenance of the mechanical and electrical portions of the District's seven lift stations.
<b>ACCOUNT NUMBER:</b>	5690	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Collection System Maintenance	Funds for sewer system supplies required for ongoing maintenance efforts. Items include manhole rings, manhole covers, manhole grade rings, and lateral repairs, main line repair, root chemicals, and contracted MH raising.
<b>ACCOUNT NUMBER:</b>	5821	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Audit Fee	Funds for yearly audit services required for public entity.
<b>ACCOUNT NUMBER:</b>	5831	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Legal Counsel	Funds for legal services provided by the District legal counsel.



## Carpinteria Sanitary District Accounts Details

<b>ACCOUNT NUMBER:</b>	5843	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Computer Related Expenses	Expenses for computer related services, software, hardware, remote and on-site support, maintenance agreements, upgrades.
<b>ACCOUNT NUMBER:</b>	5844	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	SCADA Related Expenses	Expenses related to maintenance of SCADA computer system. SCADA system provides continuous monitoring of plant equipment and remote pump stations. It also maintains historical data and has an integrated alarm and notification system.
<b>ACCOUNT NUMBER:</b>	5847	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Public Relation	Funds for expenses related to the District's public relations efforts such as newspaper print media, webpage update and support.
<b>ACCOUNT NUMBER:</b>	5849	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Other Professional Services	Funds for other professional services such as engineering, GIS support, and other services needed which are not included in other line items.
<b>ACCOUNT NUMBER:</b>	5851	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Payroll Services	Funds for payroll services through Paychex, Inc.
<b>ACCOUNT NUMBER:</b>	5855	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Monitoring Source Control Program	Funds for outside laboratory service required for monitoring the District's industrial/commercial discharges as per the issued discharge permits.
<b>ACCOUNT NUMBER:</b>	6020	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Santa Barbara County Admin Fees	SB County fees for collection of property taxes. Fees are based on amount collected.
<b>ACCOUNT NUMBER:</b>	6030	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Debt Services Admin Fees	Funds for trustee administration fees charged for the 2003 Revenue Refunding Bonds.
<b>ACCOUNT NUMBER:</b>	6031	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	LAFCO Pro-Rata Cost	Funds for the Santa Barbara County pro-rata LAFCO Budget.
<b>ACCOUNT NUMBER:</b>	6032	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Regional Grant/Planning Costs	Funds for the Integrated Regional Water Management Plan project fees.

## **4.0 ADMINISTRATION DEPARTMENT EXPENSES**

The Administration department consists of the General Manager, the Finance Director, the Office Manager, and the Engineering Technician. The department is responsible for the day-to-day administrative functions of the District including overall management, accounting functions, sewer service charge development and billing, financial planning, human resources, risk management, District planning and development, customer relations, and the onsite inspection of all sewer related improvements. The operating budget for fiscal year 2012/13 is projected to be \$885,800 which represents an increase of 1.6%, or \$14,100, over the prior fiscal year. A description of changes to each account category is provided below. Expenses attributable to the District's Board of Directors are also included in the Administration Department budget. These expenses include Directors fees, limited benefits and training/conference expenses.

### **Administration Budget Account Highlights**

#### **Total Personnel Expenses**

The personnel section represents the largest portion of the administration department budget. This account funds all wages, salaries, and benefits for the department's four employees as well as the five elected officials. The total projected expense is estimated to be \$602,800 or 68.1% of the administration budget. This is a net increase of 0.5% or \$3,200 from the previous budget year. A small increase in direct wages for department staff is anticipated. Employee benefit costs have also increased due to a small increase on PERS retirement and social security contribution. Health insurance costs are expected increase by 8%. No increases in workers compensation premiums for the administration department are expected in the coming year.

#### **General Expenses**

The projected budget for general administrative expenses is \$154,000 or 17.4% of the total administration budget. This represents an increase of 10.3% or \$14,400 over the previous fiscal year. The increase results primarily from inclusion of Director election expenses projected for the November 2012 election. Budget changes in other subaccounts in this category are minor.

#### **Utilities**

Utility costs include natural gas, electricity, water, telephone, and the security system for the administration building. The budgeted amount for the 2012/13 Fiscal Year is \$12,800, or 1.4% of the overall administration budget. This reflects a 7.2% savings over the prior and is directly attributed to energy savings associated with a recently completed lighting replacement / energy efficiency project.

#### **Repairs and Maintenance**

The budget for this account covers repairs and maintenance of the administration building, grounds and related equipment. The projected budget expense is \$8,800, or 1% of the administration budget. A modest decrease in this budget category is projected in the coming year.



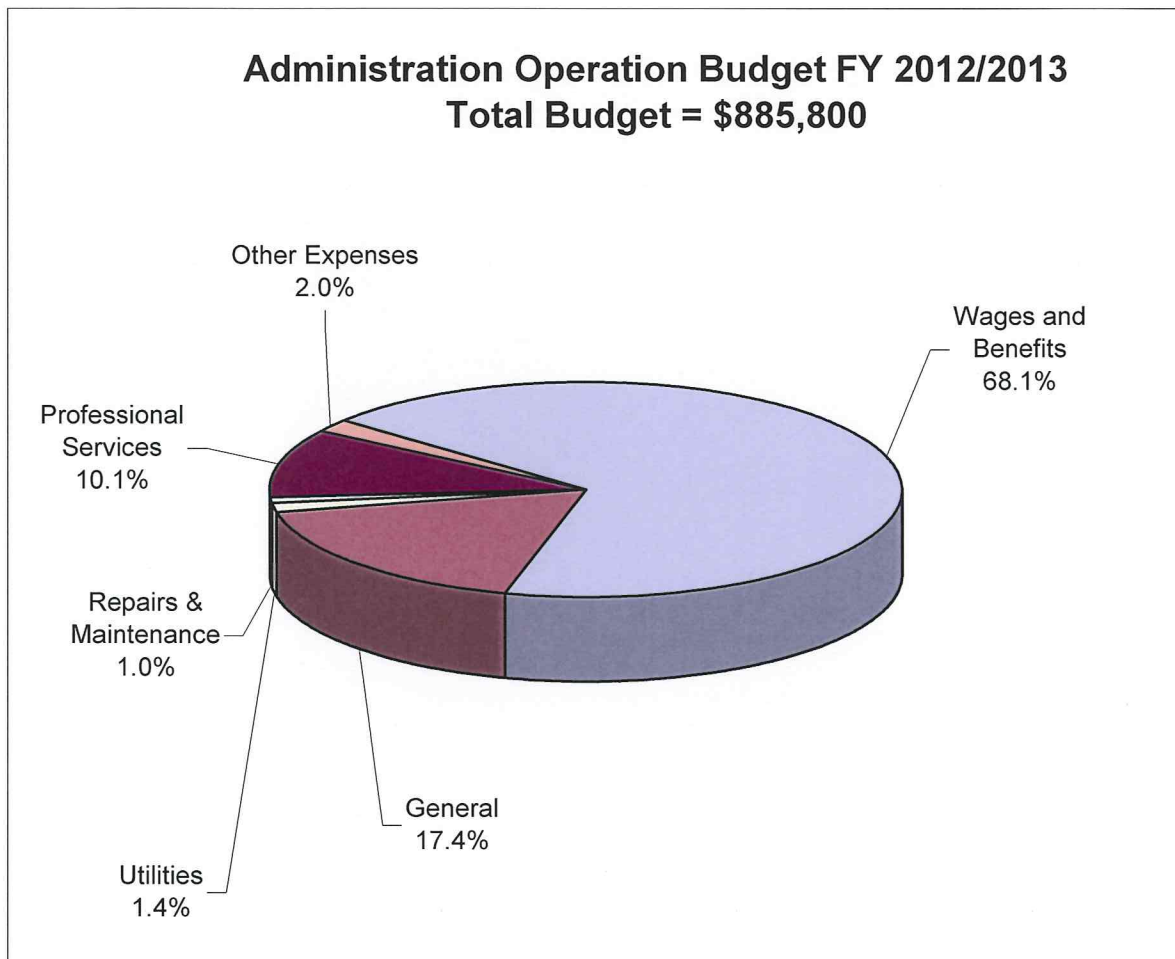
**Professional Services**

The projected budget for professional services is \$89,400 or 10.1% of the overall administration budget. This represents an increase of 2.3%, or \$2,000, over the prior year. The projected increase is due to higher annual financial audit fee and higher computer system expenses. The District entered into a new three year auditing service contract Teaman, Ramirez and Smith (TRS). Anticipated costs for independent auditing services in FY 2012/13 total \$8,800, which represents an increase of \$1,300 over the prior fiscal year. Computer related expenses, which include costs for hardware replacement, software licensing, technical support and software updates/support for the District's accounting software and SSC database application, are expected to increase by \$700.

**Other Services**

The budget for other services is \$18,000, or 2% of the administration budget. This is a net decrease of 18.2%, or \$4,000 over the prior fiscal year. The reduction is due to decrease in projected costs to participate in a regional grant program.

The remainder of this section presents detailed budget spreadsheets for the Administration Department.



Carpinteria Sanitary District  
**Adminstration Department Budget**  
 Fiscal Year 2012/2013

Account Number	Description	2011/12 Budget	2011/12 10 Months Actual	% Expended	2012/13 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010-0	Regular Salaries	413,000	324,529	79%	413,400	400	0.1%
5030-0	Overtime	500	72	14%	500	0	0.0%
5050-0	Directors Fees	17,500	9,750	56%	17,500	0	0.0%
	<b>Total Wages</b>	<b>431,000</b>	<b>334,351</b>	<b>78%</b>	<b>431,400</b>	<b>400</b>	<b>0.1%</b>
<b><u>Employee Benefits</u></b>							
5111-0	PERS	74,000	51,024	69%	74,200	200	0.3%
5112-0	Social Security	30,000	22,409	75%	31,000	1,000	3.3%
5120-0	Medical Insurance	44,000	40,789	93%	47,500	3,500	8.0%
5121-0	Retiree Health Benefit/GASB 45	2,000	0	0%	0	(2,000)	NA
5122-0	Unemployment Insurance	1,500	1,499	100%	1,600	100	6.7%
5124-0	Long Term Disability	2,800	2,174	78%	2,800	0	0.0%
5126-0	Life Insurance	1,100	954	87%	1,100	0	0.0%
5127-0	Dental/ Vision Self Funding Plan	10,000	7,087	71%	10,000	0	0.0%
5128-0	Workers' Compensation	3,000	2,160	72%	3,000	0	0.0%
5132-0	Employee Physicals & First Aid	200	0	0%	200	0	0.0%
	<b>Total Employee Benefits</b>	<b>168,600</b>	<b>128,096</b>	<b>76%</b>	<b>171,400</b>	<b>2,800</b>	<b>1.7%</b>
	<b>TOTAL PERSONNEL</b>	<b>599,600</b>	<b>462,447</b>	<b>77%</b>	<b>602,800</b>	<b>3,200</b>	<b>0.5%</b>
<b><u>General Expenses</u></b>							
5210-0	Departmental Expense	7,000	4,749	68%	9,000	2,000	28.6%
5215-0	Office Supplies	6,000	2,883	48%	5,500	(500)	-8.3%
5222-0	Directors Conf, Training & Misc.	15,000	12,336	82%	15,000	0	0.0%
5226-0	Directors Election Expense	0	0	0%	10,000	10,000	100.0%
5228-0	Directors Dental / Vision	12,500	9,460	76%	12,500	0	0.0%
5231-0	District Liability Insurance	68,000	55,004	81%	68,000	0	0.0%
5242-0	Memberships and Dues	17,000	17,251	101%	18,000	1,000	5.9%
5244-0	Conference & Training	7,500	5,393	72%	9,500	2,000	26.7%
5246-0	Employee Education Reimb.	2,000	0	0%	2,000	0	0.0%
5265-0	Employee Mileage Reimb.	900	249	28%	1,000	100	11.1%
5270-0	Equipment Rental and Leases	3,700	2,631	71%	3,500	(200)	-5.4%
	<b>Total General</b>	<b>139,600</b>	<b>109,956</b>	<b>79%</b>	<b>154,000</b>	<b>14,400</b>	<b>10.3%</b>
<b><u>Utilities</u></b>							
5410-0	Natural Gas	1,000	586	59%	1,000	0	0.0%
5420-0	Electricity	5,000	3,038	61%	4,000	(1,000)	-20.0%
5430-0	Telephone	5,000	2,811	56%	5,000	0	0.0%
5440-0	Water	2,100	1,117	53%	2,100	0	0.0%
5490-0	Security System Service	700	595	85%	700	0	0.0%
	<b>Total Utilities</b>	<b>13,800</b>	<b>8,147</b>	<b>59%</b>	<b>12,800</b>	<b>(1,000)</b>	<b>-7.2%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5610-0	Equipment (minor) & Maint.	3,300	915	28%	2,800	(500)	-15.2%
5620-0	Building Maintenance	5,000	2,056	41%	5,000	0	0.0%
5630-0	Grounds Maintenance	1,000	26	3%	1,000	0	0.0%
	<b>Total Repairs &amp; Maint.</b>	<b>9,300</b>	<b>2,998</b>	<b>32%</b>	<b>8,800</b>	<b>(500)</b>	<b>-5.4%</b>



Carpinteria Sanitary District  
**Adminstration Department Budget**  
 Fiscal Year 2012/2013

Account		2011/12	2011/12	%	2012/13	\$	%
Number	Description	Budget	10 Months Actual	Expended	Budget	Increase (Decrs.)	Change
<b><u>Professional Services</u></b>							
5821-0	Accounting (Annual Audit)	7,500	7,500	100%	8,800	1,300	17.3%
5831-0	Legal Counsel	24,000	20,620	86%	24,000	0	0.0%
5843-0	Computer Related Expenses	12,300	13,239	108%	13,000	700	5.7%
5847-0	Public Relations	15,000	2,611	17%	15,000	0	0.0%
5849-0	Professional Services	24,000	3,645	15%	24,000	0	0.0%
5851-0	Payroll Service-Paychex	4,600	3,386	74%	4,600	0	0.0%
Total Professional Services		87,400	51,001	58%	89,400	2,000	2.3%
<b><u>Other Expenses</u></b>							
6020-0	Admin Charges-SB County	10,000	6,058	61%	10,000	0	0.0%
6030-0	Debt Services Administration Fees	3,200	2,618	82%	3,200	0	0.0%
6031-0	LAFCO Pro-Rata Costs	3,800	3,220	85%	3,800	0	0.0%
6032-0	Regional Grant/Planning Costs	5,000	0	0%	1,000	(4,000)	-80.0%
Total Other Expenses		22,000	11,896	54%	18,000	(4,000)	-18.2%
<b>GRAND TOTALS</b>		871,700	646,444	74%	885,800	14,100	1.6%

## **5.0 PLANT/COLLECTION DEPARTMENT EXPENSES**

The Plant/Collection Department is responsible for carrying out the day-to-day operation and maintenance of the District's wastewater treatment plant and collection system. The projected FY 2012/13 budget for this department is \$2,191,100, which represents an increase of 3% or \$63,600 from the previous fiscal year.

### **Plant/Collection Budget Account Highlights**

#### **Total Personnel Expenses**

Personnel costs make up 60.5% of the Plant/Collection Department's operating budget. This budget account funds all of the department wages, benefits, overtime, and standby costs. Expenditures in this account are projected to increase by \$85,800 or 6.9%, over the previous year. The budgeted increase is, in part, the result of the inclusion of an additional operations staff member. However, the budget does not reflect the anticipated retirement of another staff member in August 2012 and the actual expenditures in this category are expected to be substantially lower than the forecast amount. The increases in budget category also consider higher costs for, promotional salary increases, a cost of living adjustment, PERS retirement contributions, and health insurance premiums.

#### **General Expenses**

The total budget in this category is \$74,000, or 3.4% of the Plant/Collection Departmental budget. This reflects an increase of \$3,600 over the previous fiscal year, due to higher costs for uniform services, membership renewals, and license/ permit fees. Office supplies expenses are projected to be \$500 lower than in the prior fiscal year.

#### **Environmental Monitoring**

The projected budget for environmental and monitoring services is \$53,000, or 2.4% of the department budget. An increase of \$1,500 from the prior fiscal year is due to higher costs for monitoring equipment and outside laboratory analyses.

#### **Utilities**

The cost for utilities, which include water, electricity, natural gas, trash service, and USA underground service alert is projected to be \$201,400, or 9.1% of the departmental budget. This represents a reduction of 8.9% or \$19,700 over the previous year. This substantial reduction is the direct result of the recently completed WWTP Lighting Efficiency Upgrade Project. This project, funded partly through SCE rebates, involved replacement of nearly all of the lighting fixtures at the treatment facility and addition of sophisticated controls and sensors to maximize energy savings.

#### **Biosolids Disposal**

The District contracts with Engel & Gray, Inc. for biosolids hauling and composting. The cost for biosolids transport and off-site composting is currently \$55.26 per ton plus a fuel surcharge as set forth in the agreement. The budget for this account is projected to be \$125,000, approximately 5.7% of the overall operating budget. This is \$10,000 less than prior fiscal year. Although the per ton unit cost remains high due to the high cost of diesel fuel, the overall cost for this service is expected to be lower due the recent addition of a rotary screw press as our primary dewatering unit. This equipment produces a dryer

biosolids cake and a significantly lower annual tonnage. Savings estimates here are conservative and we hope to realize a lower overall cost in FY 2012/13 as a result of this capital improvement.

### Supplies and Equipment

This budget category includes the supply of chemicals, fuel, safety equipment and tools needed to operate the treatment plant and collection system. The major costs in this category are for polymer and disinfection chemicals. The proposed budget for this account is \$212,500, or 9.7% of the departmental budget. This represents a net increase 1.5%, or \$3,200, over the prior year. The increase is attributed to higher costs of general supplies and small tools replacement.

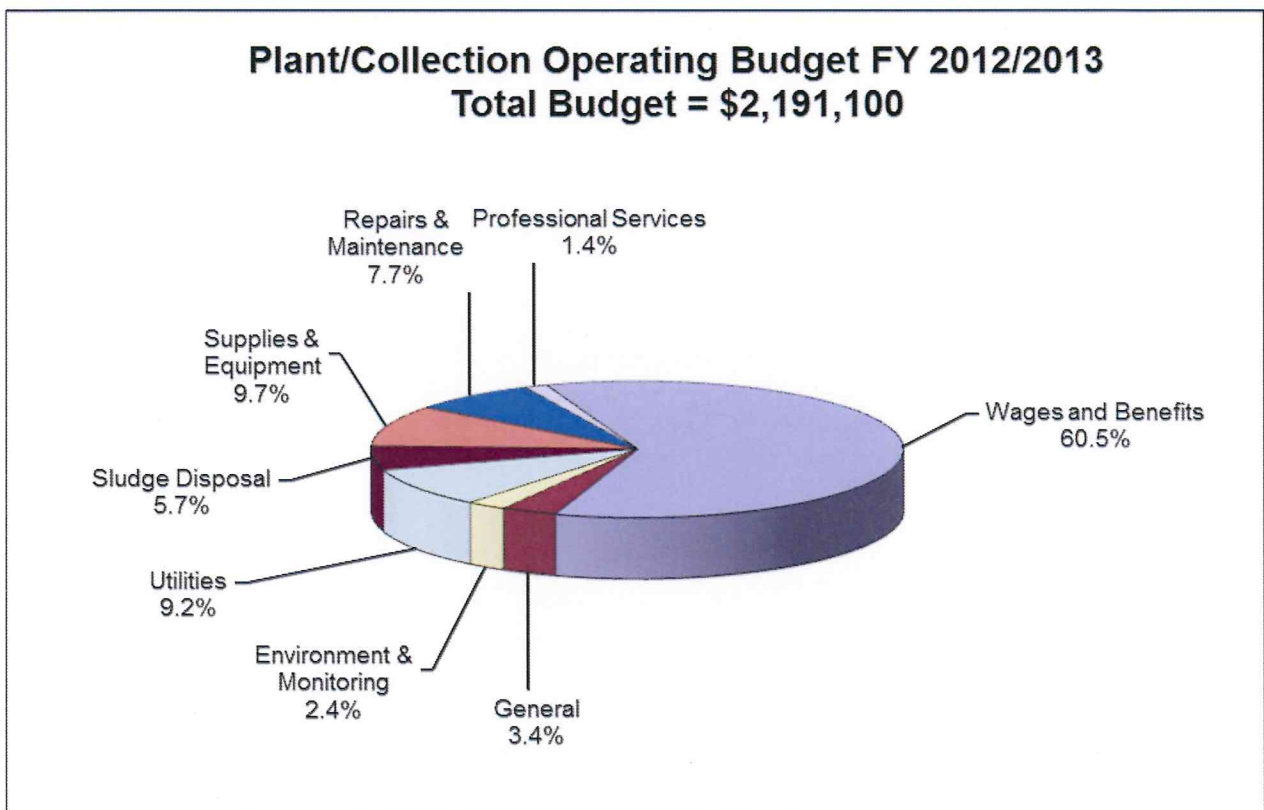
### Repairs and Maintenance

The total projected budget for repairs and maintenance is \$168,000, or 7.7% of the department budget. A very minor increase of \$1,000 over the previous fiscal year is anticipated due to a projected increase in equipment and vehicle maintenance costs.

### Professional Services

The budget for this account is \$30,500, or 1.4% of the Operations Department budget. This reflects a modest decrease of \$1,800 over the previous year budget and is attributed to lower costs for computer related expenses.

The remainder of this section presents detailed budget spreadsheets for the Plant/Collection Department.





**Carpinteria Sanitary District  
Plant/Collection Department Budget  
Fiscal Year 2012/2013**

Account Number	Description	2011/12 Budget	2011/12 10 Months Actual	% Expended	2012/13 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010-1	Regular Salaries	794,000	561,742	71%	849,000	55,000	6.9%
5030-1	Overtime	12,000	7,130	59%	12,000	0	0.0%
5040-1	Special Duty Pay	37,600	29,497	78%	36,800	(800)	-2.1%
<b>Total Wages</b>		<b>843,600</b>	<b>536,839</b>	<b>64%</b>	<b>897,800</b>	<b>54,200</b>	<b>6.4%</b>
<b><u>Employee Benefits</u></b>							
5111-1	PERS	141,200	99,242	70%	153,000	11,800	8.4%
5112-1	Social Security	64,000	43,819	68%	68,500	4,500	7.0%
5120-1	Medical Insurance	110,400	91,315	83%	118,600	8,200	7.4%
5121-1	Retiree Health Benefit/GASB 45	0	0	0%	0	0	0.0%
5122-1	Unemployment Insurance	4,200	3,331	79%	5,400	1,200	28.6%
5124-1	Long Term Disability	5,200	4,200	81%	5,700	500	9.6%
5126-1	Employee Life Insurance	2,800	2,586	92%	3,100	300	10.7%
5127-1	Dental/ Vision Self Funding Plan	27,500	14,766	54%	30,000	2,500	9.1%
5128-1	Workers' Compensation	40,000	38,715	97%	42,600	2,600	6.5%
5132-1	Employee Physicals & First Aid	2,000	1,588	79%	2,000	0	0.0%
<b>Total Employee Benefits</b>		<b>397,300</b>	<b>299,562</b>	<b>75%</b>	<b>428,900</b>	<b>31,600</b>	<b>8.0%</b>
<b>TOTAL PERSONNEL</b>		<b>1,240,900</b>	<b>897,931</b>	<b>72%</b>	<b>1,326,700</b>	<b>85,800</b>	<b>6.9%</b>
<b><u>General Expenses</u></b>							
5210-1	Departmental Expense	3,000	972	32%	3,000	0	0.0%
5215-1	Office Supplies	2,500	438	18%	2,000	(500)	-20.0%
5241-1	Uniform Expenses	10,500	8,767	83%	12,000	1,500	14.3%
5242-1	Memberships and Dues	4,800	3,077	64%	5,000	200	4.2%
5244-1	Conferences & Training	9,500	5,580	59%	9,500	0	0.0%
5246-1	Employee Education Reimb.	500	0	0%	500	0	0.0%
5260-1	Vehicle Fuel Expenses	15,000	10,704	71%	15,000	0	0.0%
5265-1	Employee Mileage Reimb.	800	62	8%	800	0	0.0%
5270-1	Equipment Rental and Leases	800	474	59%	1,200	400	50.0%
5290-1	Licenses and Permits	23,000	16,575	72%	25,000	2,000	8.7%
<b>Total General</b>		<b>70,400</b>	<b>46,649</b>	<b>66%</b>	<b>74,000</b>	<b>3,600</b>	<b>5.1%</b>
<b><u>Environment &amp; Monitoring</u></b>							
5310-1	Monitoring-Equipment Expense	26,000	12,220	47%	27,500	1,500	5.8%
5320-1	Monitoring-Lab Work	15,500	11,165	72%	15,500	0	0.0%
5330-1	Prop. 65 Clean Up Expense	10,000	0	0%	10,000	0	0.0%
<b>Total Environment &amp; Monit.</b>		<b>51,500</b>	<b>23,385</b>	<b>45%</b>	<b>53,000</b>	<b>1,500</b>	<b>2.9%</b>
<b><u>Utilities</u></b>							
5410-1	Natural Gas	800	576	72%	800	0	0.0%
5420-1	Electricity	200,000	141,961	71%	180,000	(20,000)	-10.0%
5430-1	Telephone	4,800	2,688	56%	4,800	0	0.0%
5440-1	Water	10,000	5,923	59%	10,000	0	0.0%
5450-1	Rubbish	4,700	3,744	80%	5,000	300	6.4%
5480-1	Underground Service Alert	800	410	51%	800	0	0.0%
<b>Total Utilities</b>		<b>221,100</b>	<b>155,302</b>	<b>70%</b>	<b>201,400</b>	<b>(19,700)</b>	<b>-8.9%</b>

**Carpinteria Sanitary District  
Plant/Collection Department Budget  
Fiscal Year 2012/2013**

Account Number	Description	2011/12 Budget	2011/12 10 Months Actual	% Expended	2012/13 Budget	\$ Increase (Decrs.)	% Change
<b><u>Sludge Disposal</u></b>							
5470-1	Biosolids Disposal	135,000	71,780	53%	125,000	(10,000)	-7.4%
	<b>Total Sludge Disposal</b>	<b>135,000</b>	<b>71,780</b>	<b>53%</b>	<b>125,000</b>	<b>(10,000)</b>	<b>-7.4%</b>
<b><u>Supplies &amp; Equipment</u></b>							
5510-1	General Supplies	13,800	5,871	43%	15,000	1,200	8.7%
5521-1	Odor Control Chemicals	35,000	0	0%	35,000	0	0.0%
5522-1	Disinfection Chemicals	120,000	87,257	73%	120,000	0	0.0%
5524-1	Polymers	26,000	18,248	70%	26,000	0	0.0%
5525-1	Tools/Small Parts	3,000	614	20%	4,300	1,300	43.3%
5526-1	Fuel, Diesel, Lubricants	6,500	6,246	96%	6,500	0	0.0%
5527-1	Safety Equipment	5,000	2,791	56%	5,700	700	14.0%
	<b>Total Supplies &amp; Equipment</b>	<b>209,300</b>	<b>121,028</b>	<b>58%</b>	<b>212,500</b>	<b>3,200</b>	<b>1.5%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5610-1	Equipment Maintenance	12,500	11,043	88%	16,500	4,000	32.0%
5620-1	Building Maintenance	5,000	540	11%	3,000	(2,000)	-40.0%
5630-1	Grounds Maintenance	5,000	900	18%	2,500	(2,500)	-50.0%
5640-1	Vehicle Maintenance	8,500	7,278	86%	10,000	1,500	17.6%
5650-1	Treatment Plant Maint.	45,000	36,109	80%	45,000	0	0.0%
5680-1	Lift Station Maintenance	9,000	5,187	58%	9,000	0	0.0%
5690-1	Collection System Maintenance	82,000	13,824	17%	82,000	0	0.0%
	<b>Total Repairs &amp; Maint.</b>	<b>167,000</b>	<b>74,882</b>	<b>45%</b>	<b>168,000</b>	<b>1,000</b>	<b>0.6%</b>
<b><u>Professional Services</u></b>							
5843-1	Computer Related Expenses	11,800	7,055	60%	10,000	(1,800)	-15.3%
5844-1	SCADA Related Expenses	20,000	3,061	0%	20,000	0	0.0%
5855-1	IDP/ Monitoring Source Control	500	0	0%	500	0	0.0%
	<b>Total Professional Services</b>	<b>32,300</b>	<b>10,116</b>	<b>31%</b>	<b>30,500</b>	<b>(1,800)</b>	<b>-5.6%</b>
<b>GRAND TOTALS</b>		<b>2,127,500</b>	<b>1,401,073</b>	<b>66%</b>	<b>2,191,100</b>	<b>63,600</b>	<b>3.0%</b>

## 6.0 SAFETY AND TRAINING DEPARTMENT EXPENSES

In 2007 the District entered into a cooperative agreement with four other local wastewater agencies for the purpose of hiring a joint Safety and Training Officer. The group pursued this goal and hired an individual to provide safety program development and safety training for all of the agencies. The objective is to have a dedicated and qualified safety professional serving the group at a reasonable cost.

The Safety and Training Officer is an employee of the Carpinteria Sanitary District, but costs are distributed to participating agencies based on a joint participation agreement. Approximately 71.3% of the estimated program costs for 2012/13 fiscal year will be paid up-front by the other participating agencies and reported as "Other Districts' Contribution" in the revenue section of the District's budget.

The Safety and Training Department consists of one employee and the total budget is projected to be \$128,100 for the coming year. This total is \$8,700, or 7.3%, higher than previous fiscal year. The projected costs for this position including payroll and benefits, and other related expenses is included here and described below.

### Safety Officer Budget Account Highlights

#### Total Personnel Expenses

Personnel costs are \$119,700 or 91.2% of the Safety Officer Department's total budget. The increase is due to a regular step increase, higher costs of PERS retirement, social security, workers' compensation and health insurance costs.

#### General Expenses

The total budget in this category is \$6,500, or 5% of the departmental budget. This reflects a reduction of \$700 from the previous fiscal year.

#### Utilities

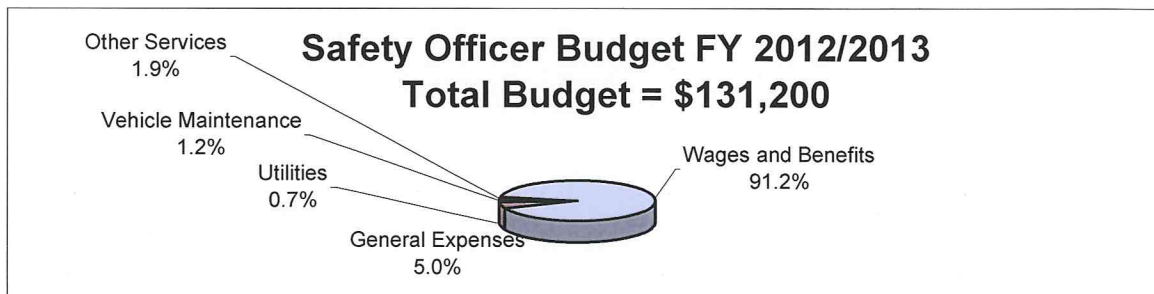
Utility costs for this department includes a cell phone. There is no change from prior year.

#### Repairs & Maintenance

The District has dedicated a 2007 Ford Focus sedan to the Safety and Training officer to be used for traveling to other sanitary districts that share the cost of this department. The vehicle is three years old and the cost of service and maintenance is projected to be \$1,600.

#### Professional/Other Services

The projected expense for computer related expenses is \$2,500, or 1.9 of the departmental budget. This is \$1,700 higher than the previous fiscal year. The computer lap top used by staff is four years old and replacement is scheduled in the coming fiscal year.





**Carpinteria Sanitary District**  
**Safety & Training Department Budget**  
**Fiscal Year 2012/2013**

Account Number	Description	2011/12 Budget	2011/12 10 Months Actual	% Expended	2012/13 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010-3	Regular Salaries	74,500	57,659	77%	80,300	5,800	7.8%
	<b>Total Wages</b>	<b>74,500</b>	<b>57,659</b>	<b>77%</b>	<b>80,300</b>	<b>5,800</b>	<b>7.2%</b>
<b><u>Employee Benefits</u></b>							
5111-3	PERS	13,400	10,242	76%	14,500	1,100	8.2%
5112-3	Social Security	5,800	4,363	75%	6,200	400	6.9%
5120-3	Medical Insurance	10,400	8,770	84%	14,100	3,700	35.6%
5121-3	Retiree Health Benefit/GASB 45	0	0	0%	0	0	0.0%
5122-3	Unemployment Insurance	400	308	77%	400	0	0.0%
5124-3	Long Term Disability	500	394	79%	600	100	20.0%
5126-3	Life Insurance	300	233	78%	300	0	0.0%
5127-3	Dental/ Vision Self Funding Plan	2,500	1,830	73%	2,500	0	0.0%
5128-3	Workers' Compensation	900	307	34%	600	(300)	-33.3%
5132-3	Employee Physicals & First Aid	200	0	0%	200	0	0.0%
	<b>Total Employee Benefits</b>	<b>34,400</b>	<b>26,447</b>	<b>77%</b>	<b>39,400</b>	<b>5,000</b>	<b>12.7%</b>
	<b>TOTAL PERSONNEL</b>	<b>108,900</b>	<b>84,106</b>	<b>77%</b>	<b>119,700</b>	<b>10,800</b>	<b>9.0%</b>
<b><u>General Expenses</u></b>							
5210-3	Departmental Expense	500	101	20%	500	0	0.0%
5215-3	Office Supplies	1,000	37	4%	500	(500)	-50.0%
5231-3	District Liability Insurance(Auto)	1,500	0	0%	1,500	0	0.0%
5242-3	Memberships and Dues	200	132	66%	200	0	0.0%
5244-3	Conference & Training	2,000	1,617	81%	2,000	0	0.0%
5260-3	Vehicle Fuel Expenses	1,800	483	27%	1,600	(200)	-11.1%
5265-3	Employee Mileage Reimb.	200	0	0%	200	0	0.0%
	<b>Total General</b>	<b>7,200</b>	<b>2,370</b>	<b>32.9%</b>	<b>6,500</b>	<b>(700)</b>	<b>-10.8%</b>
<b><u>Utilities</u></b>							
5430-3	Telephone	900	770	86%	900	0	0.0%
	<b>Total Utilities</b>	<b>900</b>	<b>770</b>	<b>86%</b>	<b>900</b>	<b>0</b>	<b>0.0%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5640-3	Vehicle Maintenance	1,600	175	0%	1,600	0	NA
	<b>Total Utilities</b>	<b>1,600</b>	<b>175</b>	<b>0%</b>	<b>1,600</b>	<b>0</b>	<b>NA</b>
<b><u>Professional Services</u></b>							
5843-3	Computer Related Expenses	800	385	48%	2,500	1,700	212.5%
	<b>Total Professional Expenses</b>	<b>800</b>	<b>385</b>	<b>48%</b>	<b>2,500</b>	<b>1,700</b>	<b>212.5%</b>
	<b>GRAND TOTALS</b>	<b>119,400</b>	<b>87,806</b>	<b>74%</b>	<b>131,200</b>	<b>11,800</b>	<b>9.9%</b>

## 7.0 CAPITAL IMPROVEMENT PROJECTS

A significant portion of the District's projected overall budget for the 2012/13 fiscal year is allocated to capital improvement program (CIP) projects. These projects have been developed through long term planning efforts and through ongoing condition assessment of key infrastructure. They are complementary to several ongoing capital upgrades within the collection system, authorized in prior fiscal years, and are critical elements of the District's overall quality improvement plan.

### Planning Assumptions

The following assumptions were used in the development of the District's capital improvement projects for the coming fiscal year:

- The proposed CIP projects consist of projects from the District's ten-year Capital Improvement Program (2007-2017) and other necessary projects and equipment acquisitions.
- The District will fund the approved projects through a direct appropriation of operating revenue and dedicated reserves held in the General Fund into the Capital Improvement Fund.
- The overall funding goal of the District's long term CIP is a "pay-as-you-go" scenario which avoids the need to incur additional long-term debt.
- Certain capacity related projects will be funded or partially funded with Development Impact Fees (DIF) collected by the District for new service connections. DIF monies are strictly accounted for to comply with state law.

### CIP Budget Components

The CIP section of the proposed budget for the 2012/13 fiscal year (Capitalized Expenditures) is a component of the Non-Operating Expense section as illustrated in the Budget Snapshot in Section 1.0. The CIP budget includes the projected expenses for purchase of fixed assets/equipment as well as those expenses associated with infrastructure repair and replacement projects undertaken by the District.

The combined budgets for newly proposed CIP projects for the 2012/13 fiscal year is **\$5,063,000**. The list of projects and their funding source is provided below for ongoing and new capital projects.

### Existing/Carryover CIP Projects

The District is currently implementing a number of capital improvement projects that have been authorized and funded by the Board of Directors in prior years. Several of these projects will continue into the 2012/13 fiscal year. Significant ongoing CIP projects include:

- Lift Station No. 2 Force Main Realignment
- Bluffs Sewer Relocation Project
- Plum Street Sewer Replacement Project
- Aerobic Digester Preliminary and Final Design
- Carpinteria Creek Suspended Line Crossing Rehabilitation

Detailed project descriptions have been provided in previous year budget documents. Funds for these projects have been appropriated to the District's dedicated CIP fund. Two of the above projects are in the final design phase. The Lift Station No. 2 Force Main Realignment Project was started but remains on hold pending a reassessment of system hydraulics. The Carpinteria Creek Suspended Line Crossing project is now being coordinated with a major CalTrans and City of Carpinteria transportation project that involves widening of US 101 and extension of Via Real in the proximity of this existing pipeline.

**New and Modified CIP Projects**

The following table presents a summary of the new and modified CIP projects proposed for implementation in the 2012/13 fiscal year. Detailed project descriptions with justifications are provided later in this section. Project numbers will be assigned at the time individual projects are initiated.

Funding Source	Description	Total Project Budget	FY 12/13 Allocation
CIP	Plant Air Compressor Replacement	\$ 35,000	\$ 35,000
CIP	Headworks Mechanical Bar Screen Overhaul	\$ 65,000	\$ 65,000
CIP	Polymer Blending System	\$ 13,000	\$ 13,000
CIP	Lift Station No. 3 Pump Replacement	\$ 20,000	\$ 20,000
CIP	Collection System Rehabilitation – Phase 1	\$ 750,000	\$ 750,000
<b>NEW/MODIFIED CIP PROJECTS TOTAL</b>		<b>\$ 883,000</b>	<b>\$ 883,000</b>

**CIP Program Funding**

**Current Year CIP Funding Allocation**

Allocation of capital improvement funds for FY 2012/13 will occur once the recommended CIP projects are authorized by the District's Board of Directors. Projects outlined in this section will be funded through a combination of current year operating revenue and existing cash reserves. The funding breakdown is detailed in the Pro-Forma worksheet presented in Section 1.0.

A reconciliation of the restricted CIP fund will be completed concurrent with the FY 2012/13 budget approval process. The purpose of this reconciliation is to incorporate Board authorized adjustments to capital project costs and reflect cost savings realized on certain completed capital projects.



### **Future CIP Project Funding**

An update to the District's long range Capital Improvement Program was completed in January 2011, covering the period from 2007 to 2019. From a fiscal planning perspective, the District's long range CIP should be considered a dynamic tool and as such should be reviewed and updated regularly to reflect the District's changing infrastructure needs. For example, in the current year, the long range CIP was modified somewhat to reflect shifting priorities for certain projects.

It is expected that future CIP projects will be funded from a combination of annual SSC revenue and cash reserves from the General Fund appropriated to the CIP Fund. This "pay-as-you go" approach will provide the necessary cash to pay for the improvements while avoiding additional long term debt as long as practical. The funding of future projects can, therefore, be tailored and managed on a cash flow basis.

The series of incremental rate increases that will commence in FY 2011/12 will provide sufficient revenue to comply with bond covenant debt ratios and implement ongoing CIP projects. The District's financial model will allow for analysis of funding alternatives if and when major replacement or upgrade projects within the treatment plant become necessary.

### **Aerobic Digester Replacement Project**

The District has recently engaged an engineering consultant to complete final engineering design to construct a new aerobic digester to replace the existing digester structures at the wastewater treatment facility. The engineering costs are included in the currently authorized CIP budget, but the anticipated \$3M cost to construct the new facilities are not included in the proposed capital budget at this time.

Due to the nature and magnitude of this project, and the fact that it will serve the community for its anticipated 50-year design life, the District is pursuing a bond financing option to generate the capital funding necessary to implement the work. Tentatively, this bond financing will be coordinated with an ongoing effort to refund the District's existing 2003 Wastewater Revenue Bonds.

As the project develops and costs are refined, the Board will independently consider moving forward with this major capital improvement project and associated financing.

**Carpinteria Sanitary District**  
**Capital Improvement Project (CIP)**  
**Fiscal Year 2012/2013**

CIP No.	Funding Source	Description	Project Starting Date	2011/2012 Budget	Actual Project To Date	2012/2013 Budget	Increase (Decrease)
P-100	CIP	Lift Station No. 2 Force Main Realignment	2/1/2006	\$ 330,000	\$ 19,006	\$ 330,000	0
P-118	CIP/DIF	Bluffs Sewer Relocation Project	7/1/2008	\$ 2,300,000	\$ 1,545,329	\$ 2,300,000	0
P-132	CIP	Plum Street Sewer Replacement Project-	7/1/2011	\$ 1,000,000	\$ 62,476	\$ 1,000,000	0
	CIP	Aerobic Digester Preliminary and Final Design		\$ 350,000		\$ 350,000	0
	CIP	Carpinteria Creek Suspended Line Crossing Restoration		\$ 200,000	\$ -	\$ 200,000	0
<b>Total Carry Over Projects</b>				<b>\$ 4,180,000</b>	<b>\$ 1,626,811</b>	<b>\$ 4,180,000</b>	<b>\$ -</b>
	CIP	Plant Air Compressor Replacement				\$ 35,000	35,000
	CIP	Headworks Mechanical Bar Screen Overhaul				\$ 65,000	65,000
	CIP	Polymer Blending System				\$ 13,000	13,000
	CIP	Lift Station # 3 Pump Replacement				\$ 20,000	20,000
	CIP	Collection System Rehabilitation Project- Phase 1				\$ 750,000	\$ 750,000
<b>Total New Projects</b>						<b>\$ 883,000</b>	<b>\$ 883,000</b>
<b>Total CIP Budget</b>						<b>\$ 5,063,000</b>	<b>\$ 883,000</b>



**PROJECT TITLE: Plant Air Compressor Replacement**

**DESCRIPTION:** This project involves replacement of the two existing reciprocating air compressors with two new rotary screw air compressors. The new compressors will be standalone skid mounted units and will utilize existing power and alarming systems with limited modifications required.

**BUDGET COST:** \$35,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's existing plant air system has experienced problems since the original installation. The reciprocating type compressors currently installed have been replaced twice, up-sized once and rebuilt numerous other times and continue to leak oil and shut down on over temperature. The problem is with the type of compressor being used for our application. The current configuration is running three times longer per day than the compressors are designed to. By replacing the reciprocating compressors with rotary screw compressors the district can run at a lower pressure and increased volume, this will save energy and maintenance costs. This will result in many other benefits to downstream equipment that is experiencing failure and leakage from excessive pressure as well. Currently one compressor is in need of major repair and not operational and the other is leaking oil and is also not reliable.







**PROJECT TITLE: Headworks Mechanical Bar Screen Overhaul**

**DESCRIPTION:** This project involves complete mechanical reconstruction of the climbing bar screen in the plant headworks. Certified Parkson Corporation technicians will perform the rebuild on-site using OEM parts with assistance from District as necessary. All moving parts will be replaced and only the stainless steel frame and shrouds will be retained.

**BUDGET COST:** \$65,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The Parkson mechanical bar Screen has been a very reliable piece of equipment. It has been in operation for seventeen years continually and has been maintained to the manufacturer's specifications. However, normal wear and tear has worn interior mechanical components to the point that they can no longer be adjusted or material loss is at its maximum allowable level. At this time a complete overhaul is warranted to replace all bearings, chains, brushed and wear plates. A new unit would cost in excess of \$100,000.





**PROJECT TITLE:** Polymer Blending System

**DESCRIPTION:** This project involves adding a second polymer blending unit to the dewatering system at the treatment facility. The redundant system will match the system currently in service.

**BUDGET COST:** \$13,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District currently has one polymer blending unit at the dewatering building. Procurement and installation of a second unit will provide redundancy necessary to ensure continuous dewatering capability. For normal operations, having two discrete polymer blending units will allow the screw press and the belt press to run concurrently. Each uses a different polymer and the changeover from one to the other can be problematic. The redundant blending unit will also provide operational flexibility and allow controlled feed to the secondary clarifiers when necessary to assist with settling.





**PROJECT TITLE:** Lift Station #3 Pump replacement

**DESCRIPTION:** This project involves replacing the three existing pumps at Lift Station No. 3 with new Flygt 3203 submersible pumps. The District has standardized on Flygt pumps and this is one of two pump stations that have not been upgraded to the standard.

**BUDGET COST:** \$20,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The existing pumps at Lift Station No. 3 are inefficient and require frequent maintenance. Failures of the existing pumps routinely result in after-hours callouts and associated overtime expenses. These pumps have been rebuilt due to seal failure from repeated clogging. The new pumps will be of the same type and model as others at the outlying lift stations, which have been largely maintenance free since installation. The new pumps will use the same spare parts as those already kept on hand and will have greater energy efficiency. Currently one of the existing pumps can no longer be rebuilt and must be replaced.





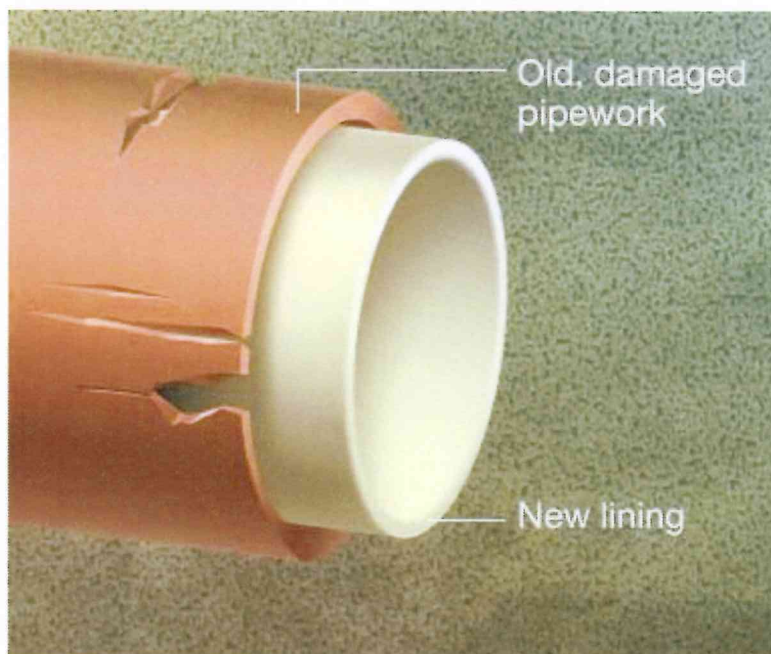
**PROJECT TITLE:** Collection System Rehabilitation Project – Phase 1

**DESCRIPTION:** This project involves rehabilitation and/or replacement of existing buried sewer pipelines that have been identified as defective through a comprehensive condition assessment program. The work may include cured in place pipe (CIPP) lining or other trenchless rehabilitation methods, in combination with open cut spot repairs and linear replacement projects. This represents the first phase of a three phase program expected to occur over the next six years.

**BUDGET COST:** \$750,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's existing network of gravity sewer pipelines, like many throughout the U.S., is reaching the end point of its design service life. The majority of the sewers in the downtown area were installed in the early 1930's and made of terracotta clay material with tar joints. While some of these remain serviceable, many pipe segments have defects (cracks, separated joints, mineral deposits, root intrusion, groundwater infiltration, etc.) that heighten the risk of SSOs or structural failure. Infiltration adds to the overall cost of pumping and treatment. The District has performed a comprehensive condition assessment of all pipelines within our system and will develop a priority list to address the most critical infrastructure in this first phase. This level of expenditure is expected to renew between two and three miles of gravity sewer, essentially to as-new condition.





# Carpinteria Sanitary District

## FISCAL YEAR 2013/14 BUDGET



### BOARD OF DIRECTORS

Jeff Moorhouse — President  
Mike Modugno — President Pro-Tem  
Michael Damron — Treasurer  
Lin Graf — Secretary  
Gerald Velasco — Secretary Pro-Tem

### DISTRICT STAFF

Craig Murray, P.E.— General Manager  
Hamid Hosseini — Finance Director



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## **DISTRICT BOARD OF DIRECTORS AND STAFF**

### **BOARD OF DIRECTORS**

Jeff Moorhouse	President
Mike Modugno	President Pro Tem
Michael Damron	Treasurer
Lin Graf	Secretary
Gerald Velasco	Secretary Pro Tem

The District Board of Directors meets on the first and third Tuesday of each month at 5:30 p.m. in the District's Administrative Offices.

### **STANDING COMMITTEES**

#### **Finance Committee**

Michael Damron	Chairperson
Lin Graf	Member

#### **Personnel Committee**

Mike Modugno	Chairperson
Gerald Velasco	Member

#### **Public Relations Committee**

Lin Graf	Chairperson
Jeff Moorhouse	Member

The Finance Committee generally meets on the third Monday of each month at 8:30 am at the Administration office located at 5300 Sixth Street. The Personnel and Public Relations Committees do not have a set meeting schedule, but rather meet on an as-needed basis. All committee meetings are noticed as special or regular meetings in accordance with the Ralph M. Brown Act.

### **DISTRICT SUPPORT STAFF**

Craig Murray, P.E.	General Manager
Hamid Hosseini	Finance Director
Mark Bennett	Operations Manager
Kim Garcia	Office Manager
Anthony Trembley	Legal Counsel – Musick, Peeler & Garrett, LLP

## **1.0 BUDGET FORWARD**

This section provides the reader a comprehensive overview of the District's proposed annual budget for the 2013/14 fiscal year. The budget has been developed to uphold the main tenet of providing the users of the wastewater system the most environmentally sound and cost-effective method of collecting and treating wastewater, regardless of the demands placed upon the system.

### **District Mission**

The mission of the Carpinteria Sanitary District is **to provide its customers with reliable and cost-effective wastewater treatment.**

### **Budget Goals**

The primary goals of the District, which are the basis for establishing the annual operating and capital budgets, include:

- Ensure that the collection and treatment systems remain reliable regardless of the climatic, political and economic conditions.
- Ensure that the system collects, treats and disposes of wastewater effectively without endangering the public health, the environment and within the limits of all discharge permits.
- Ensure that the system has ample hydraulic capacity to handle the demands placed upon it.
- Maintain a highly qualified, professional staff that can be relied upon to operate and upkeep critical facilities to the highest standards of our industry.
- Implement critical capital facility upgrades and improvements in a strategic manner to maximize overall system performance on a long term basis.

### **Budget Objectives**

The District's budgeting objectives remain focused in three major areas: reliability, effectiveness and capacity. The District continues to pursue these goals in the most efficient manner possible. We are maintaining operational cost control measures in place to keep expenditures as low as practicable. Objectives for the 2013/14 fiscal year are summarized below.

#### **RELIABILITY**

- Enhance the asset based management program through development of a new software platform for scheduled servicing and replacement of process equipment, sewer mains, lift stations and emergency standby systems.
- Continue a systematic program for the pro-active replacement of high maintenance and obsolete equipment determined through the District's asset management program.

- Continue employee training programs for the maintenance and operations staff to ensure cost-effective equipment protection. The utilization of in-house staff enhances staff morale while reducing system downtime.
- Implement the District's Sewer System Management Plan (SSMP) and use data from comprehensive collection system cleaning and CCTV inspection program to optimize maintenance activities and plan rehabilitation and replacement projects.
- Continue to refine the Board adopted multi-year capital improvement plan to ensure system upgrades and expansions are consistent with customer demand and State and Federal regulations.
- Implement the major Digester Replacement Project within the treatment facility to provide system redundancy and improved operational performance and efficiency.
- Continue upgrades to the SCADA system for continuous monitoring of processes and equipment both in the treatment facility and at remote lift stations.

## **EFFECTIVENESS**

- Continue the enforcement of the Industrial Source Control Program and Grease Control Program which serve as the primary methods to reduce the introduction of toxic or harmful substances into the wastewater system which may cause harm to the system, its personnel, or the treatment process.
- Continue the training program for the operations personnel to ensure uniform process control and NPDES permit compliance.
- Continue the current biosolids recycling program that provides for reliable beneficial reuse of biosolids within Santa Barbara County in compliance with all applicable State and Federal regulations.
- Provide the customer with courteous and professional service, with accurate information and facts, and with a public education awareness program on proper sewer usage and hazardous waste disposal alternatives.
- Refocus outreach to customers and the general public to communicate the District's mission and how we effectively spend ratepayer dollars to protect water quality, public health and the environment.
- Execute an updated staffing plan for the Collections Department that syncs resource levels with current demands and obligations necessary to meet regulatory requirements and effectively serve our customer base.

## **CAPACITY**

- Continue to refine the treatment process through the investigation of alternative processes, operator training and upgraded state of the art equipment.
- Strengthen the provisions of the sewer use ordinance, where needed, limiting the introduction of uncontaminated water from sources such as building gutters and cooling systems as well as the gradual elimination of use of septic systems within the District boundaries.
- Continue the sewer main, interceptor and manhole cleaning program to remove built up deposits of debris, grease and roots.

- Redevelop the District's computerized hydraulic model and complete analyses necessary to validate identified capacity limited segments scheduled for replacement or upsizing.
- Complete the critical Plum/Pear Sewer Replacement Project to provide adequate trunk line capacity between Lift Station No. 4 and Lift Station No. 2.

### **GEOGRAPHIC INFORMATION SYSTEM (GIS)**

- Effectively utilize outside consultant and in-house resources to enhance the functionality of the District's GIS based data management system.
- Integrate CCTV digital video and inspection data to allow user access to this information from the GIS consoles.
- Develop in-house training for District users to enhance internal ability to update and modify the GIS platform and to use the GIS as a tool to optimize daily functions throughout the agency.
- Identify and evaluate options for future mobile GIS applications to facilitate data capture during field activities.

### **Bond Refinancing**

In the prior fiscal year, the District successfully completed a process to refinance the outstanding 2003 Wastewater Refunding Bonds. Concurrently, the District issued \$4.5M in new long term bond debt to fund the upcoming Digester Replacement Project. The District received an independent bond rating from Standard & Poors (AA-) as part of the refunding process. The outcome of the refinancing was quite favorable. A net savings of approximately \$35k per year was realized, even with the new recurring debt. The schedule of debt service payments shown on page 1-7 reflects the new obligations.

### **Budget Summary**

The remainder of this section contains figures and financial data in spreadsheet format that summarize the proposed FY 2013/14 budget, as follows:

- **Budget Snapshot** – brief overview of the proposed FY 2013/14 budget
- **Expense Summary Chart** – graphical presentation of projected expenses
- **Pro-Forma Statement** – historical comparison of proposed 2013/14 budget
- **Debt Service Schedule** – bond repayment schedule through 2042 maturation
- **Organization Chart** – proposed District staffing and structure for 2013/14

**Carpinteria Sanitary District**

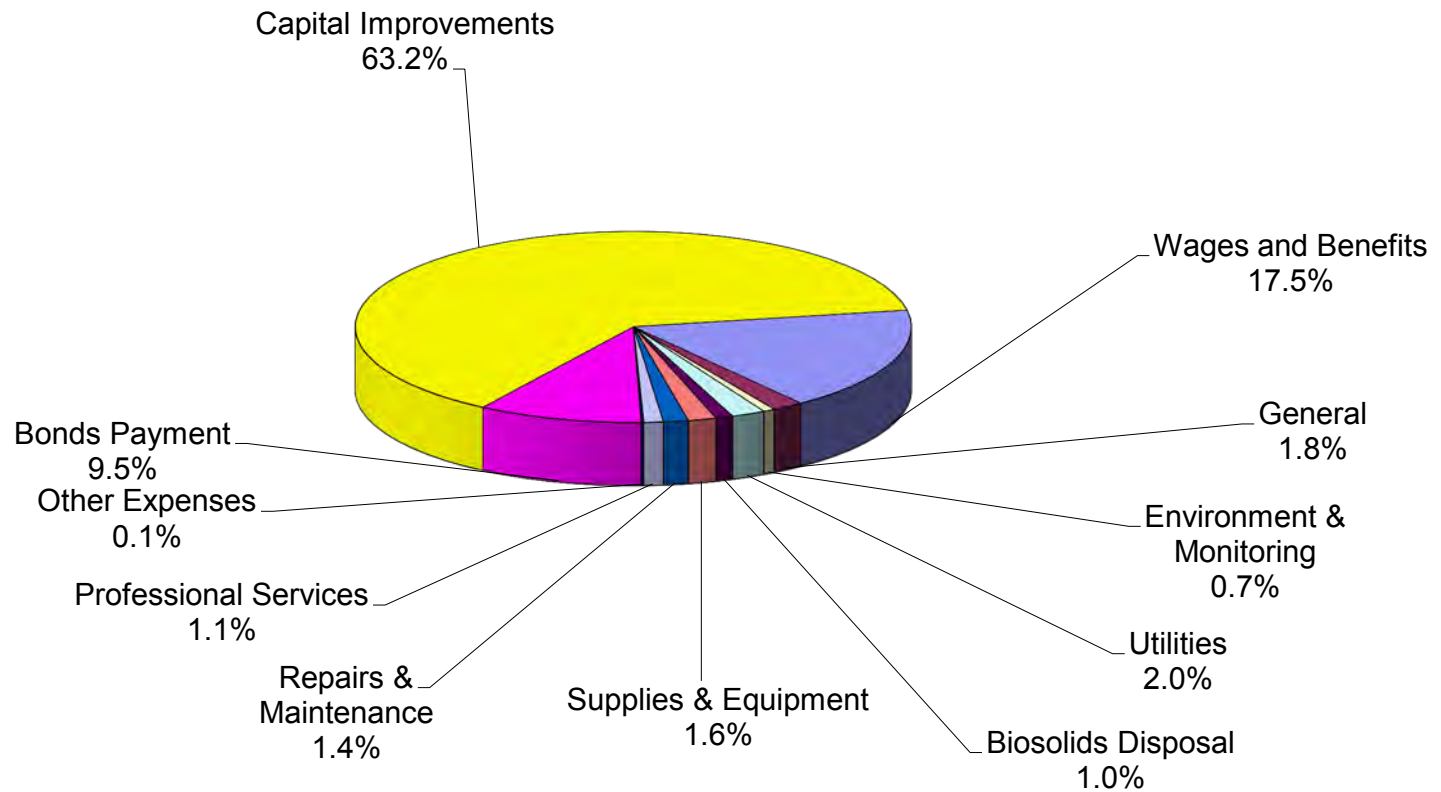
**Budget Snapshot**

**Fiscal Year 2013/2014**

Description	2012/2013 Budget	2012/13 9 Months Actual	% Expended/ YTD	2013/2014 Budget	\$ Increase (Decrs.)	% Change
<b><u>REVENUES</u></b>						
Sewer Service Charges (SSC)	4,316,000	2,453,936	57%	4,533,500	217,500	5.0%
Property Taxes	454,600	260,190	57%	454,600	0	0.0%
Interest Income	26,000	21,411	82%	30,000	4,000	15.4%
Other Fees & Income	15,000	32,819	219%	20,000	5,000	33.3%
Development Impact Fees (DIF)	0	146,400	NA	0	0	0.0%
Other Sources of Cash/Grant	600,000	417,984	NA	1,200,000	600,000	100.0%
Other Districts' Contributions/Safety Officer	93,500	101,863	NA	85,400	(8,100)	-8.7%
Total Gross Revenues	5,505,100	3,434,604	62%	6,323,500	818,400	14.9%
<b><u>EXPENSES</u></b>						
<b><u>1) Operating Expenses:</u></b>						
Wages and Benefits	2,049,200	1,367,019	67%	2,186,400	137,200	6.7%
General	234,500	169,404	72%	227,800	(6,700)	-2.9%
Environment & Monitoring	53,000	17,676	33%	84,600	31,600	59.6%
Utilities	215,100	142,660	66%	244,700	29,600	13.8%
Biosolids Disposal	125,000	77,628	62%	125,000	0	0.0%
Supplies & Equipment	212,500	123,514	58%	204,200	(8,300)	-3.9%
Repairs & Maintenance	178,400	67,542	38%	180,000	1,600	0.9%
Professional Services	122,400	76,494	62%	141,300	18,900	15.4%
Other Expenses	18,000	4,898	27%	18,000	0	0.0%
Total Operating Expenses:	3,208,100	2,046,835	64%	3,412,000	203,900	6.4%
<b><u>2) Non-Operating Expenses:</u></b>						
Debt Service	1,224,300	262,104	21%	1,187,700	(36,600)	-3.0%
Capital Improvement Projects	5,063,000	2,764,619	55%	7,883,000	2,820,000	55.7%
Total Non-Operating Expenses:	6,287,300	3,026,723	52%	9,070,700	2,783,400	44.27%
Total Uses of Cash:	9,495,400	5,073,558	53%	12,482,700		
Surplus (Deficit) for the Year	-3,990,300	-1,638,954	41%	-6,159,200		
Estimated Cash and Equivalent				14,800,000		
Estimate Year End Balance				8,640,800		
Ratio	1.39			1.44		

# Carpinteria Sanitary District Expense Summary FY 2013/2014

Total Projected Expenditures = \$12,482,700





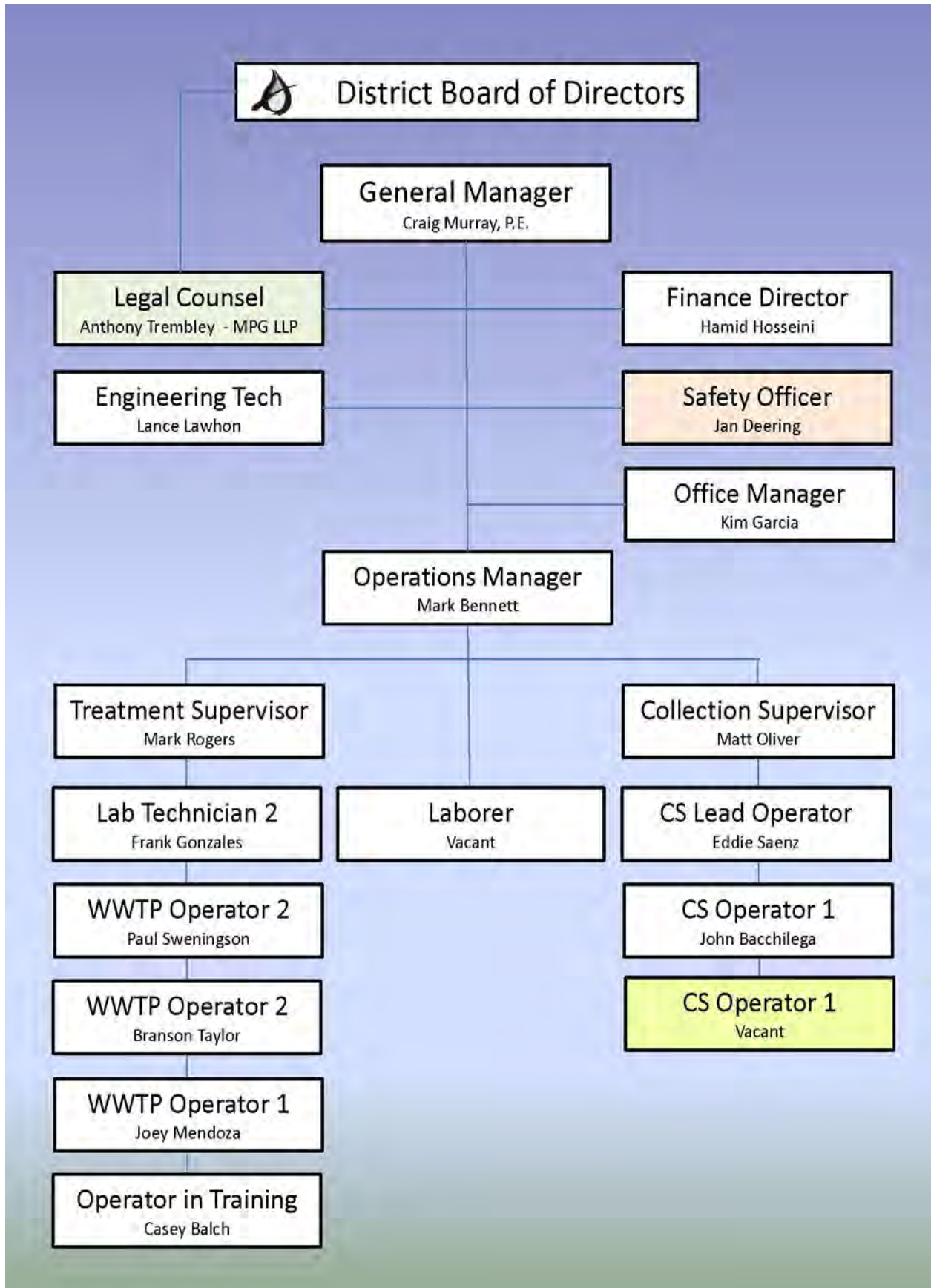
**Carpinteria Sanitary District  
Pro-Forma Statement**

Description	Actual	Actual	Projected Actual	Budget	2014/15	Projected		2017/18
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
1 Sewer Service Charge Revenues	3,973,417	4,213,459	4,329,800	<b>4,533,500</b>	4,737,508	4,950,695	5,000,202	5,050,204
<u>Other Revenue</u>								
2 Property Taxes	451,286	448,588	454,600	<b>454,600</b>	460,000	462,300	464,612	466,935
3 Development Impact Fees	2,400	237,805	146,400	<b>0</b>	0	0	0	0
4 Other Fees and Income	28,862	44,992	32,819	<b>20,000</b>	20,000	20,000	20,000	20,000
5 Interest Income	79,890	56,996	16,000	<b>30,000</b>	28,000	26,000	25,000	25,000
6 Other Districts Contribution/Safety Officer	79,845	85,562	101,863	<b>85,400</b>	88,400	91,400	94,400	97,400
7 Other Source of Cash/Grant	3,537	1,533,264	417,984	<b>1,200,000</b>	0	0	0	0
<b>8 Total Revenue</b>	<b>4,619,237</b>	<b>6,620,666</b>	<b>5,499,466</b>	<b>6,323,500</b>	<b>5,333,908</b>	<b>5,550,395</b>	<b>5,604,214</b>	<b>5,659,539</b>
<u>Expenses:</u>								
9 Wages & Benefits	1,819,914	1,813,516	2,049,200	<b>2,186,400</b>	2,251,992	2,319,552	2,389,138	2,460,812
10 General Operating Expenses	157,954	171,996	207,991	<b>227,800</b>	239,190	251,150	263,707	276,892
11 Environmental Monitoring	26,861	37,878	33,775	<b>84,600</b>	40,000	41,200	42,436	43,709
12 Utilities	218,500	196,309	205,021	<b>244,700</b>	252,041	259,602	267,390	275,412
13 Sludge Disposal	111,243	94,425	103,628	<b>125,000</b>	109,273	111,458	113,688	115,961
14 Supplies and Equipment	161,003	144,738	156,037	<b>204,200</b>	210,326	216,636	223,135	229,829
15 Repairs and Maintenance	125,308	142,639	137,957	<b>180,000</b>	200,000	206,000	212,180	218,545
16 Professional Services	74,368	109,114	96,228	<b>141,300</b>	141,300	141,300	141,300	141,300
17 Other Expenses	14,366	11,896	15,198	<b>18,000</b>	18,900	19,845	20,837	21,879
<b>18 Total Operating Expenses</b>	<b>2,709,517</b>	<b>2,722,511</b>	<b>3,005,035</b>	<b>3,412,000</b>	<b>3,463,022</b>	<b>3,566,743</b>	<b>3,673,811</b>	<b>3,784,341</b>
19 Operating Exp. Increase (Decrease)	-1.5%	0.5%	10.4%	<b>13.5%</b>	1.5%	3.0%	3.0%	3.0%
20 Net Available	1,909,720	3,898,155	2,494,431	<b>2,911,500</b>	1,870,886	1,983,653	1,930,402	1,875,198
21 Scheduled Installment Payment	1,225,778	1,223,508	1,224,300	<b>1,187,700</b>	1,192,500	1,188,600	1,185,500	1,204,300
22 CIP	420,730	2,086,678	884,500	<b>7,883,000</b>	1,029,251	1,286,844	1,155,820	1,178,936
23 Net cash for the year	263,212	587,969	385,631	<b>-6,159,200</b>	-350,866	-491,791	-410,918	-508,038
24 Debt Services Ratio (>1.25%)	<b>1.56</b>	<b>1.93</b>	<b>1.70</b>	<b>1.44</b>	<b>1.57</b>	<b>1.67</b>	<b>1.63</b>	<b>1.56</b>
<b>Total Cash Available</b>			<b>14,800,000</b>	<b>8,640,800</b>	<b>8,289,935</b>	<b>7,798,143</b>	<b>7,387,226</b>	<b>6,879,187</b>

**Carpinteria Sanitary District**  
**2012 Wastewater Revenue Bonds-Debt Service Schedule**

Date	Principal	Interest	Semiannual Total	Fiscal Total
8/1/2013	\$ 565,000.00	\$ 356,466.52	\$ 921,466.52	
2/1/2014		\$ 266,231.25	\$ 266,231.25	\$ 1,187,697.77
8/1/2014	\$ 670,000.00	\$ 266,231.25	\$ 936,231.25	
2/1/2015		\$ 256,181.25	\$ 256,181.25	\$ 1,192,412.50
8/1/2015	\$ 690,000.00	\$ 256,181.25	\$ 946,181.25	
2/1/2016		\$ 242,381.25	\$ 242,381.25	\$ 1,188,562.50
8/1/2016	\$ 715,000.00	\$ 242,381.25	\$ 957,381.25	
2/1/2017		\$ 228,081.25	\$ 228,081.25	\$ 1,185,462.50
8/1/2017	\$ 745,000.00	\$ 228,081.25	\$ 973,081.25	
2/1/2018		\$ 213,181.25	\$ 213,181.25	\$ 1,186,262.50
8/1/2018	\$ 775,000.00	\$ 213,181.25	\$ 988,181.25	
2/1/2019		\$ 197,681.25	\$ 197,681.25	\$ 1,185,862.50
8/1/2019	\$ 800,000.00	\$ 197,681.25	\$ 997,681.25	
2/1/2020		\$ 183,681.25	\$ 183,681.25	\$ 1,181,362.50
8/1/2020	\$ 830,000.00	\$ 183,681.25	\$ 1,013,681.25	
2/1/2021		\$ 167,081.25	\$ 167,081.25	\$ 1,180,762.50
8/1/2021	\$ 865,000.00	\$ 167,081.25	\$ 1,032,081.25	
2/1/2022		\$ 149,781.25	\$ 149,781.25	\$ 1,181,862.50
8/1/2022	\$ 905,000.00	\$ 149,781.25	\$ 1,054,781.25	
2/1/2023		\$ 127,156.25	\$ 127,156.25	\$ 1,181,937.50
8/1/2023	\$ 950,000.00	\$ 127,156.25	\$ 1,077,156.25	
2/1/2024		\$ 103,406.25	\$ 103,406.25	\$ 1,180,562.50
8/1/2024	\$ 1,000,000.00	\$ 103,406.25	\$ 1,103,406.25	
2/1/2025		\$ 78,406.25	\$ 78,406.25	\$ 1,181,812.50
8/1/2025	\$ 1,050,000.00	\$ 78,406.25	\$ 1,128,406.25	
2/1/2026		\$ 52,156.25	\$ 52,156.25	\$ 1,180,562.50
8/1/2026	\$ 135,000.00	\$ 52,156.25	\$ 187,156.25	
2/1/2027		\$ 49,456.25	\$ 49,456.25	\$ 236,612.50
8/1/2027	\$ 145,000.00	\$ 49,456.25	\$ 194,456.25	
2/1/2028		\$ 46,556.25	\$ 46,556.25	\$ 241,012.50
8/1/2028	\$ 150,000.00	\$ 46,556.25	\$ 196,556.25	
2/1/2029		\$ 44,306.25	\$ 44,306.25	\$ 240,862.50
8/1/2029	\$ 150,000.00	\$ 44,306.25	\$ 194,306.25	
2/1/2030		\$ 42,056.25	\$ 42,056.25	\$ 236,362.50
8/1/2030	\$ 155,000.00	\$ 42,056.25	\$ 197,056.25	
2/1/2031		\$ 39,731.25	\$ 39,731.25	\$ 236,787.50
8/1/2031	\$ 160,000.00	\$ 39,731.25	\$ 199,731.25	
2/1/2032		\$ 37,331.25	\$ 37,331.25	\$ 237,062.50
8/1/2032	\$ 165,000.00	\$ 37,331.25	\$ 202,331.25	
2/1/2033		\$ 34,356.25	\$ 34,356.25	\$ 236,687.50
8/1/2033	\$ 170,000.00	\$ 34,856.25	\$ 204,856.25	
2/1/2034		\$ 32,200.00	\$ 32,200.00	\$ 237,056.25
8/1/2034	\$ 175,000.00	\$ 32,200.00	\$ 207,200.00	
2/1/2035		\$ 29,137.50	\$ 29,137.50	\$ 236,337.50
8/1/2035	\$ 185,000.00	\$ 29,137.50	\$ 214,137.50	
2/1/2036		\$ 25,900.00	\$ 25,900.00	\$ 240,037.50
8/1/2036	\$ 190,000.00	\$ 25,900.00	\$ 215,900.00	
2/1/2037		\$ 22,575.00	\$ 22,575.00	\$ 238,475.00
8/1/2037	\$ 195,000.00	\$ 22,575.00	\$ 217,575.00	
2/1/2038		\$ 19,162.50	\$ 19,162.50	\$ 236,737.50
8/1/2038	\$ 205,000.00	\$ 19,162.50	\$ 224,162.50	
2/1/2039		\$ 15,575.00	\$ 15,575.00	\$ 239,737.50
8/1/2039	\$ 210,000.00	\$ 15,575.00	\$ 225,575.00	
2/1/2040		\$ 11,900.00	\$ 11,900.00	\$ 237,475.00
8/1/2040	\$ 220,000.00	\$ 11,900.00	\$ 231,900.00	
2/1/2041		\$ 8,050.00	\$ 8,050.00	\$ 239,950.00
8/1/2041	\$ 225,000.00	\$ 8,050.00	\$ 233,050.00	
2/1/2042		\$ 4,112.50	\$ 4,112.50	\$ 237,162.50
8/1/2042	\$ 235,000.00	\$ 4,112.50	\$ 239,112.50	\$ 239,112.50
<b>Totals</b>	<b>\$ 13,630,000.00</b>	<b>\$ 5,812,591.52</b>	<b>\$ 19,442,591.52</b>	<b>\$ 19,442,591.52</b>

Source: Official Statement-Carpinteria Sanitary District 2012 Wastewater Revenue Bonds



## 2.0 REVENUE PROJECTION

### Revenue Policy

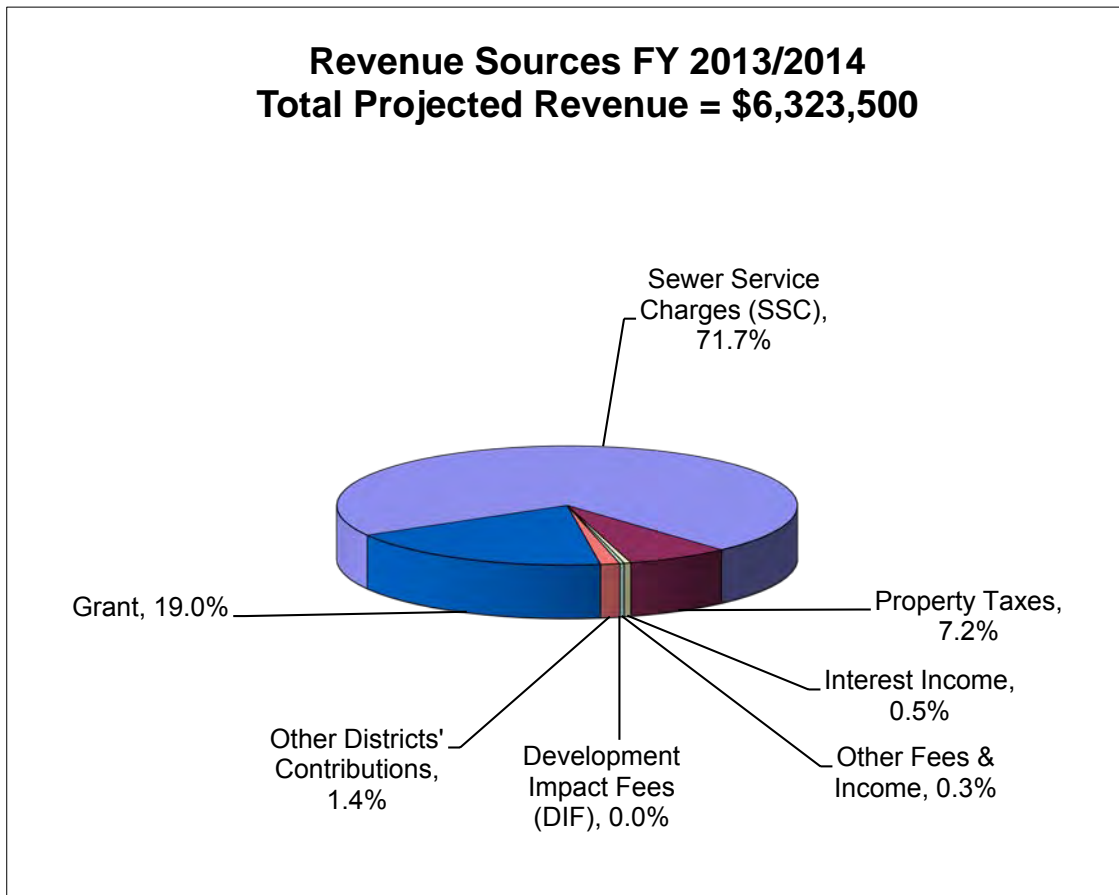
The Carpinteria Sanitary District must collect sufficient funds to maintain a prudent and balanced budget based on projected operational and capital expenses, while maintaining, at a minimum, a required debt service ratio of 1.25.

### Sources of Revenue

The Carpinteria Sanitary District's main sources of revenue are:

- Sewer Service Charges (SSC)
- Property Taxes
- Interest Income
- Grants
- Other Fees and Income

Sewer service charges make up over 71.7% of the District's total revenue. The following figure shows a percentage breakdown of projected revenue for the 2013/14 fiscal year by source.



## **SEWER SERVICE CHARGES**

The District collects Sewer Service Charges (SSCs) from its residential and non-residential customer base that are intended to cover the bulk of the agency's operating costs. Annual SSCs for each customer are determined pursuant to District Ordinance No. 12, which was developed and adopted based on a comprehensive wastewater rate and fee study completed in 2011.

The rate study involved a careful review of the District's financial plan, user classifications, and rate structure for the wastewater enterprise. The District's revenue requirements were assessed to determine the appropriate level of revenue adjustments to maintain financial sufficiency and rate stability. Ultimately, Ordinance No. 12, adopted on June 7, 2011, established a series of 4.5% annual rate increases that are being implemented over a five year period.

The incremental rate adjustments are necessary to fund operating and capital expenses, to maintain targeted reserve fund levels, and to meet debt service obligations. A powerful computer model was developed as part of the rate and fee update process which allowed the District to analyze a myriad of funding scenarios. The series of modest increases was determined to be the most appropriate means of meeting revenue requirements with the lowest impact to the customer base.

### **Residential Sewer Service Charges**

Residential SSCs continue to be based on a flat rate per dwelling unit. In FY 2013/14, the annual charge per unit will be \$562.40 per year. This rate is based on an average water use of 180 gallons per day per unit. Total residential SSC revenue is projected to be about \$3,463,200, or about 76.4% of the total SSC revenue. This represents an increase of approximately \$172,800, or 5.25%, over the prior year. The increase results from the aforementioned serial rate increase and the net addition of 44 new residential units to the District's customer base. Currently, the total number of residential dwelling units being served by the District is 6,158.

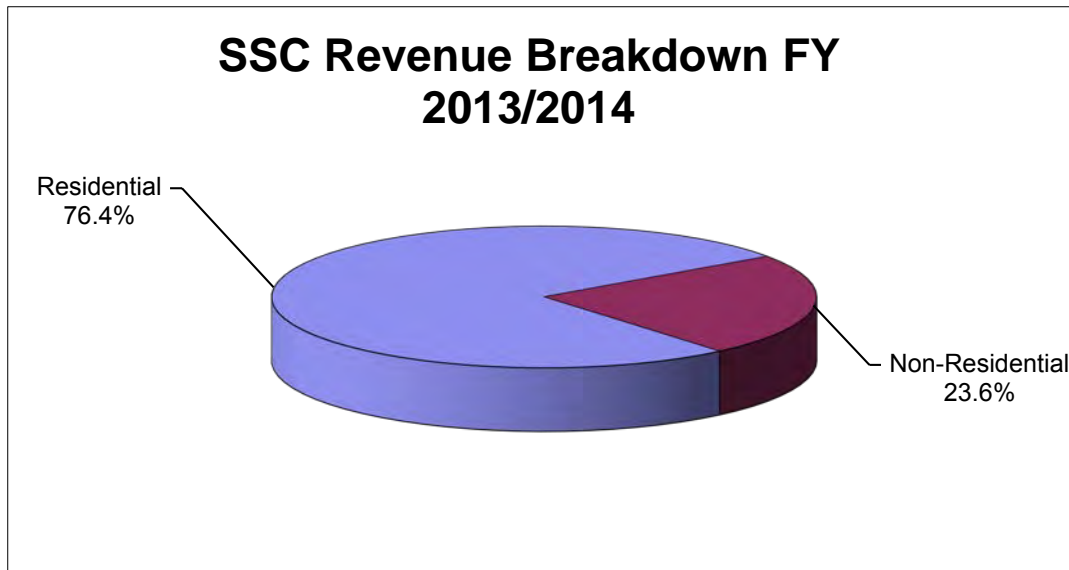
### **Non-Residential Sewer Service Charges**

According to District Ordinance No. 12, non-residential customers are grouped into six classifications, based on wastewater strength, ranging from low to very high strength. For each classification, charges are determined based on a unit cost per 1,000 gallons of water used (based on a 3-year annual average). The unit rates uniformly assume that 90% of water used is returned to the sanitary sewer system. Additionally, the non-residential rate structure includes a minimum charge per parcel (or account) that is equivalent to one residential unit charge, or \$562.40 in the current year.

While the District increased rates by 4.5% for all customers, total non-residential revenue increased by 3.74% due to declining water use in this sector and specific changes to the user class designations associated with tenancy changes at a number of commercial properties.

The District annually updates non-residential user information by performing a survey of commercial and industrial connections within its service area in February of each year. The survey also records changes in occupancy during the year, particularly those that have an impact on wastewater strength or projected flow rates. The District maintains and updates assessors' parcel number (APN) information each year to reflect any changes, including lot splits or property owners name and mailing addresses.

The total non-residential revenue for FY 2013/14 is projected to be \$1,070,300, or 23.6% of the District's total SSC revenue. This is approximately \$38,500 more revenue than what was projected for the prior year. The total number of non-residential customers remains at approximately 525.



### **Sewer Service Charge (SSC) Billings and Collections**

Residential and non-residential sewer service charges are collected by the Santa Barbara County Assessor's office on behalf of the District on the annual property tax rolls. The SSC revenue is guaranteed by the County under the "Teeter Plan". Under this plan the County will pay the District 100 percent of the SSC funds requested by the District for collection. The County will then retain the penalties for all past due accounts. The SSC for each parcel is shown on the property tax billing as a separate line item. The County's fee for printing of the additional line is one dollar per parcel. This fee is added to the SSC by the County and paid by the property owners. The District attempts to collect sewer service charges for all new connections during the same fiscal year that they come on line.

### **PROPERTY TAXES**

Property tax revenue is the District's second largest revenue source. Property tax revenue collected by the County Assessor consists of secured, unsecured, supplementary, unitary, and special assessment property taxes. The secured property tax is based on the assessed value of the property and may be increased a maximum of two percent per year by law. Secured property tax revenue has generally increased each year due to the rising in property values and changes in assessed value following property transfers.

The District typically receives one percent (1%) of the total property tax collected for parcels and other assets within its service area. The Santa Barbara County property tax revenue projection is \$454,600, which is same as previous fiscal year. This is based on preliminary projection by the County for the District property tax revenue for 2013/14 fiscal year.

It should be noted that over the past fifteen years or so, the District has pursued property tax exchange agreements for parcels annexed to the District's service area. Accordingly, tax revenue is not received for a substantial number of properties receiving sewer service.



### **Appropriation Limit**

The District receives data from the State of California Department of Finance each year on Price and Population information for the purpose of calculating an annual Appropriation Limit. This process, required by State law, is intended to ensure that the District is not collecting excess property tax. The determination, which shows the District to be well within limitations for the coming fiscal year, is presented in the following table:

	<b>Description</b>	<b>FY 2012/13</b>	<b>FY 2013/14</b>
A	Prior Year Appropriation Limit	\$3,021,482	\$3,149,593
B	Change in Calif. Per Capita Income	1.0377	1.0512
C	Change in District's Population	1.0036	1.0054
C1	Change in County Population	1.0045	1.0071
D	Multiplying Factor (Larger of C or C1 times B)	1.0424	1.0587
E	New Appropriation Limit	3,149,593	3,334,474
F	Property Tax Collected/ Estimate	454,600	454,600
G	Under Limit	\$2,694,993	\$2,879,874

### **INTEREST INCOME**

This source of income comes from interest earned on District funds deposited at Union Bank (formerly Santa Barbara Bank & Trust), the State of California Local Agency Investment Fund (LAIF), and the Santa Barbara County Treasurer's pool. The interest rate for Fiscal Year 2013/14 is computed based on an expected average balance and a 0.3% interest rate for both restricted and non-restricted funds. This amount is projected to be approximately \$30,000, or about 15% more than the previous fiscal year. The increase is due to the fact that the District obtained \$4,500,000 additional bond proceeds during the refinancing of the 2003 revenue bonds in December of 2012. The additional bond proceeds have been restricted specifically for the Aerobic Digester Construction Project.

### **OTHER FEES & INCOME**

This source of revenue includes miscellaneous fees charged by the District for issuing and processing permits for sewer system connections and plumbing alterations. The projected revenue for FY 2013/14 from these sources is \$20,000. Other miscellaneous revenue may be accounted for in this category.

### **Development Impact Fees**

Development Impact Fees (DIF) are fees collected for new sewer connections and developments within the District's service area. This revenue is restricted for use on capital improvement projects that are capacity related.

District Ordinance No. 13 establishes the magnitude of the DIF. From a baseline value set in 2011 as part of the rate and fees study, the charge per equivalent dwelling unit (EDU)

escalates on July 1<sup>st</sup> of each year, based upon the change in the Engineering News Record Construction Cost Index (ENR-CCI, 20 City Index). The residential DIF for FY 2012/13 was \$3,008 and will increase to \$3,087 per EDU for FY 2013/14. Non-Residential impact fees are computed based on estimates of water usage and wastewater strength for the given square footage of developed area.

Although the District generally collects a limited number of DIFs each year from new connections and small developments, existing limitations on growth within the District's service area make this a variable and mostly insignificant source of revenue. Furthermore, because of the restricted nature of these funds, it is assumed for budgetary purposes that no DIF will be collected in this fiscal year. Any fees that are collected will be dedicated and accounted for in accordance with State law.

### **Joint Safety Officer Revenue**

In FY 2007/08 the District implemented a cooperative agreement with four other local sanitary districts to employ a joint Safety and Training Officer. This individual is an employee of the Carpinteria Sanitary District, with salary and benefits paid directly by the agency. However, costs for this entire program, including personnel costs, are apportioned amongst the participating agencies based on a simple formula. For the Fiscal Year 2013/14, there will be three agencies party to the cooperative arrangement, down from four agencies in the prior year. Each agency pays a pro-rata share at the outset of the fiscal year and the District's true cost burden is approximately 39% of the overall program cost. The anticipated contribution from other agencies for the joint Safety and Training Officer will be approximately \$85,400 in FY 2013/14.

The group is actively seeking to replace the member agency that dropped out of this program effective June 30, 2013. For budgetary purposes, we have conservatively assumed that only three agencies will participate, however, negotiations are in progress to add another partner District which would reduce the annual cost for current members substantially.

### **Other Sources of Cash**

The District was awarded a \$2.1 M Clean Beaches Initiative grant by the State Water Resources Control Board. This Prop 84 Grant Program award is intended to provide partial grant funding for the sewer improvements authorized through formation of Assessment District 2007-1 (South Coast Beach Communities Septic to Sewer Project). Grant funds have already been received and distributed for the Sandyland Cove and Sand Point Road components of this project. In FY 2013/14 the District anticipates completion of the Rincon Point component and associated receipt of approximately \$1.2M. Although these funds are for the benefit of the property owners and not the District at large, we account for the grant as revenue for accounting purposes.

## Revenue Summary

The total projected revenue for the 2013/14 fiscal year is shown in the following table:

Revenue Sources	2012/13 Budget	2013/14 Proposed Budget	Dollar Variance	Percent Change
Sewer Service Charges (SSC)	\$4,316,000	\$4,533,500	\$217,500	5.0%
Property Taxes	\$454,600	\$454,600	<\$0>	<0%>
Interest Income	\$26,000	\$30,000	\$4,000	15.4%
Other Fees & Income	\$15,000	\$20,000	\$5,000	33.3%
Development Impact Fees (DIF)	\$0	\$0	\$0	0%
Joint Safety Officer Revenue	\$93,500	\$85,400	<\$8,100>	<8.7%>
Grant Income	\$600,000	\$1,200,000	\$600,000	100.0%
<b>Total Gross Revenues</b>	<b>\$5,505,100</b>	<b>\$6,323,500</b>	<b>\$818,400</b>	<b>14.9%</b>

The revenue projection for the coming fiscal year will be sufficient to support the District's operating costs and also to fund a portion of planned capital expenses. The following pages provide detailed revenue projections by account. A history of the District's residential sewer service charges is also provided, with a comparison against charges for other local wastewater agencies.

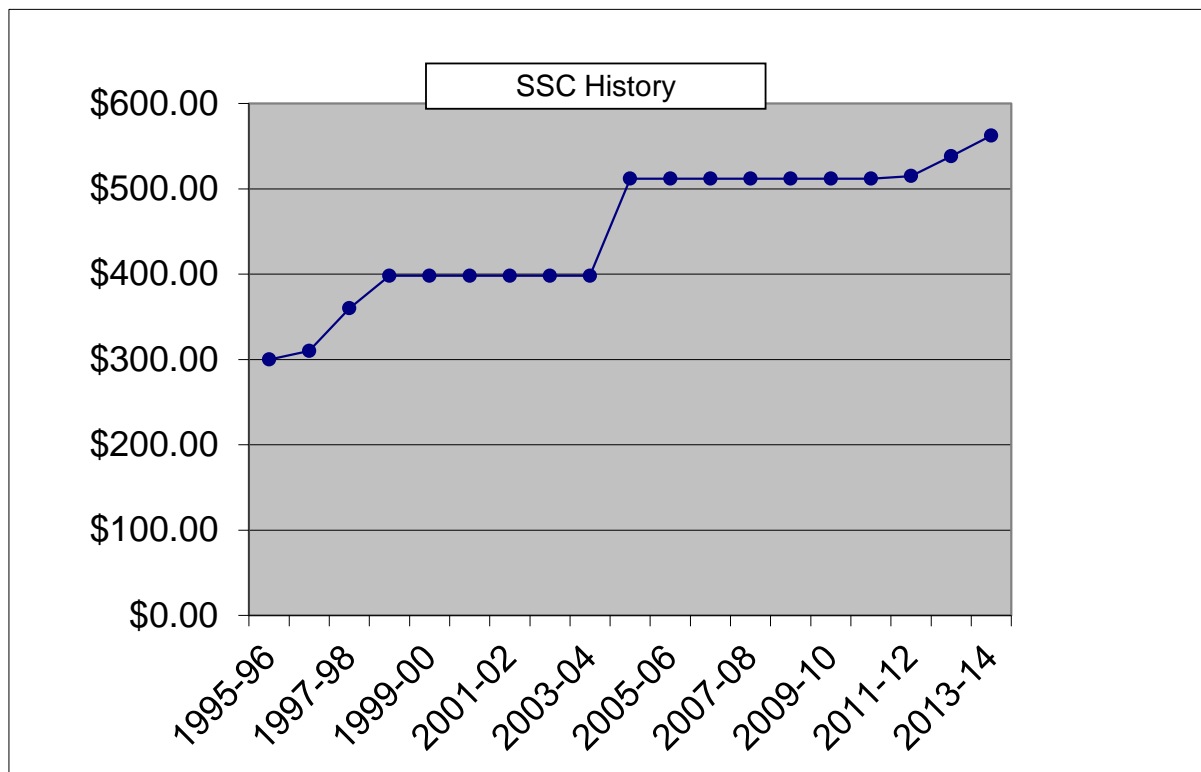
## Carpinteria Sanitary District Revenue Accounts Details

<b>ACCOUNT NUMBER:</b>	3100	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Sewer Service Charges (SSC)	This account represents the total aggregate SSC that the District projects will be collected during the year. Per Ordinance No. 12, the residential SSC is \$538.18/year per equivalent dwelling unit. Non-residential SSC are based on water use and wastewater strength.
<b>ACCOUNT NUMBER:</b>	3300	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Property Taxes	This revenue section represents the District's share of 1% of secured, unsecured, unitary, supplemental, and homeowner property tax relief collected by the County.
<b>ACCOUNT NUMBER:</b>	3400	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Interest Income (General Fund)	This account includes interest income earned on the District's cash balances at local banks, the State of California Local Agency Investment Fund (LAIF), Santa Barbara County Treasury, and the Santa Barbara Bank & Trust
<b>ACCOUNT NUMBER:</b>	3130	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Development Impact Fees (DIF)	The budget does not include revenue related to collection of Development Impact Fees. All DIF revenue are used for the current and future capacity related capital improvement projects.
<b>ACCOUNT NUMBER:</b>	Various	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Other Fees and Income	These accounts represent miscellaneous fees charged by the District for service provided. These include annexation fees, sewer service permit fees, plan check fees, and inspection fees. Other miscellaneous revenue is covered under these accounts.
<b>ACCOUNT NUMBER:</b>	3380	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Other Districts' Contribution/Safety & Training Officer	This is the account for reimbursement of a shared employee/Safety Officer, from the other sanitary districts.

## Carpinteria Sanitary District History of Residential Sewer Service Charges

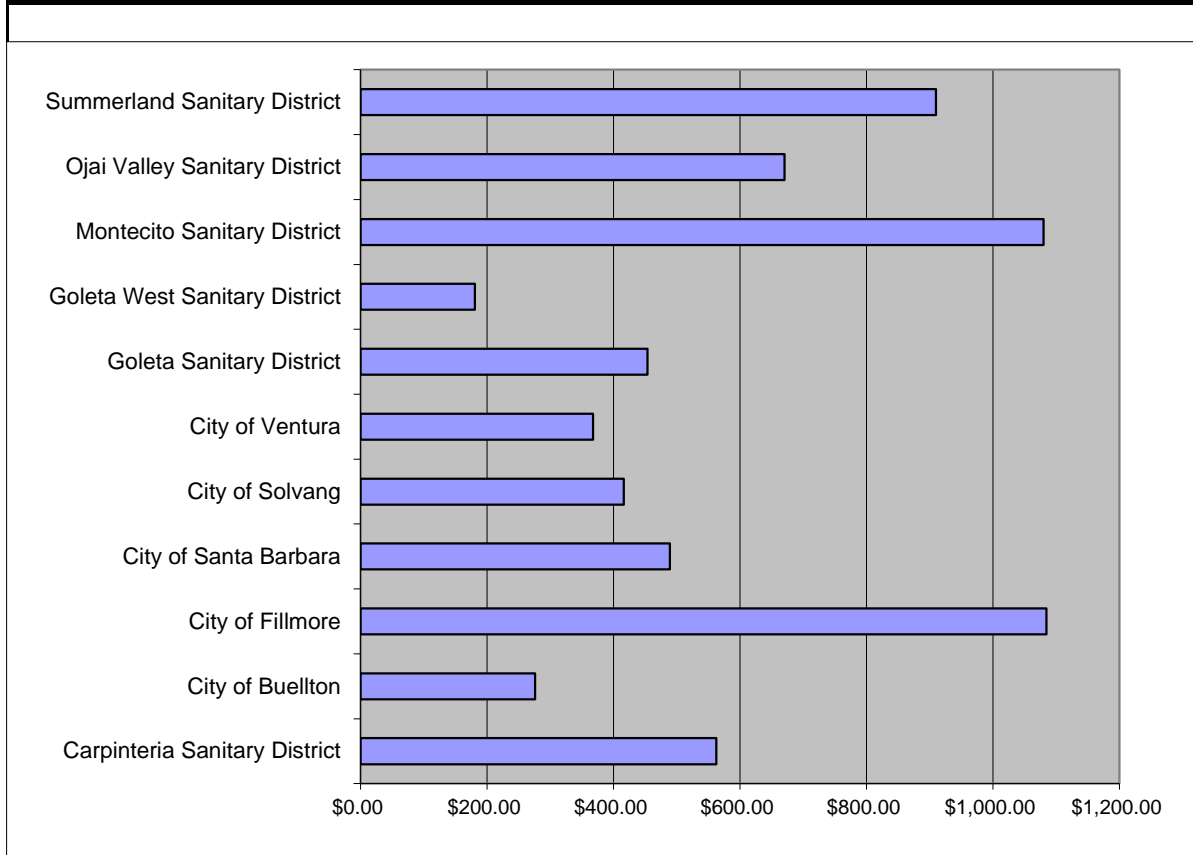
Residential Annual SSC	Mobile Homes Annual SSC	Ordinance Number
\$35	\$25	1979-1
\$70	\$50	1981-1
\$70	\$70	1987-2
\$161	\$161	1989-5
\$172	\$165	Ord#3
\$190	\$183	Ord#4
\$233	\$226	Ord#5 (1992)
\$398	\$386	Ord#6 (1993)
\$512	\$512	Ord#10 (2004)
\$515	\$515	Ord#12 (2011)
\$538	\$538	Ord#12 (2011)
\$562	\$562	Ord#12 (2011)

Fiscal Year	Actual SSC Charged	SSC Ordinance	Cost per Month
1995-96	\$300.00	\$398.00	\$25.00
1996-97	\$310.00	\$398.00	\$25.83
1997-98	\$359.95	\$398.00	\$30.00
1998-99	\$398.00	\$398.00	\$33.17
1999-00	\$398.00	\$398.00	\$33.17
2000-01	\$398.00	\$398.00	\$33.17
2001-02	\$398.00	\$398.00	\$33.17
2002-03	\$398.00	\$398.00	\$33.17
2003-04	\$398.00	\$398.00	\$33.17
2004-05	\$512.00	\$512.00	\$42.67
2005-06	\$512.00	\$512.00	\$42.67
2006-07	\$512.00	\$512.00	\$42.67
2007-08	\$512.00	\$512.00	\$42.67
2008-09	\$512.00	\$512.00	\$42.67
2009-10	\$512.00	\$512.00	\$42.67
2010-11	\$512.00	\$512.00	\$42.67
2011-12	\$515.00	\$515.00	\$42.92
2012-13	\$538.18	\$538.18	\$44.85
2013-14	\$562.40	\$562.40	\$46.87



## Carpinteria Sanitary District Peer Agencies' Sewer Service Charges

	Current Annual SSC 2012/13	Proposed SSC 2013/14
<b>Carpinteria Sanitary District</b>	<b>\$538.18</b>	<b>\$562.40</b>
City of Buellton	\$252.00	\$276.00
City of Fillmore	\$1,084.56	\$1,084.56
City of Santa Barbara	\$470.52	\$489.36
City of Solvang	\$389.76	\$416.16
City of Ventura	\$439.62	\$367.56
Goleta Sanitary District	\$453.63	\$453.63
Goleta West Sanitary District	\$168.00	\$181.00
Montecito Sanitary District	\$1,080.00	\$1,080.00
Ojai Valley Sanitary District	\$624.84	\$670.32
Summerland Sanitary District	\$827.10	\$909.81

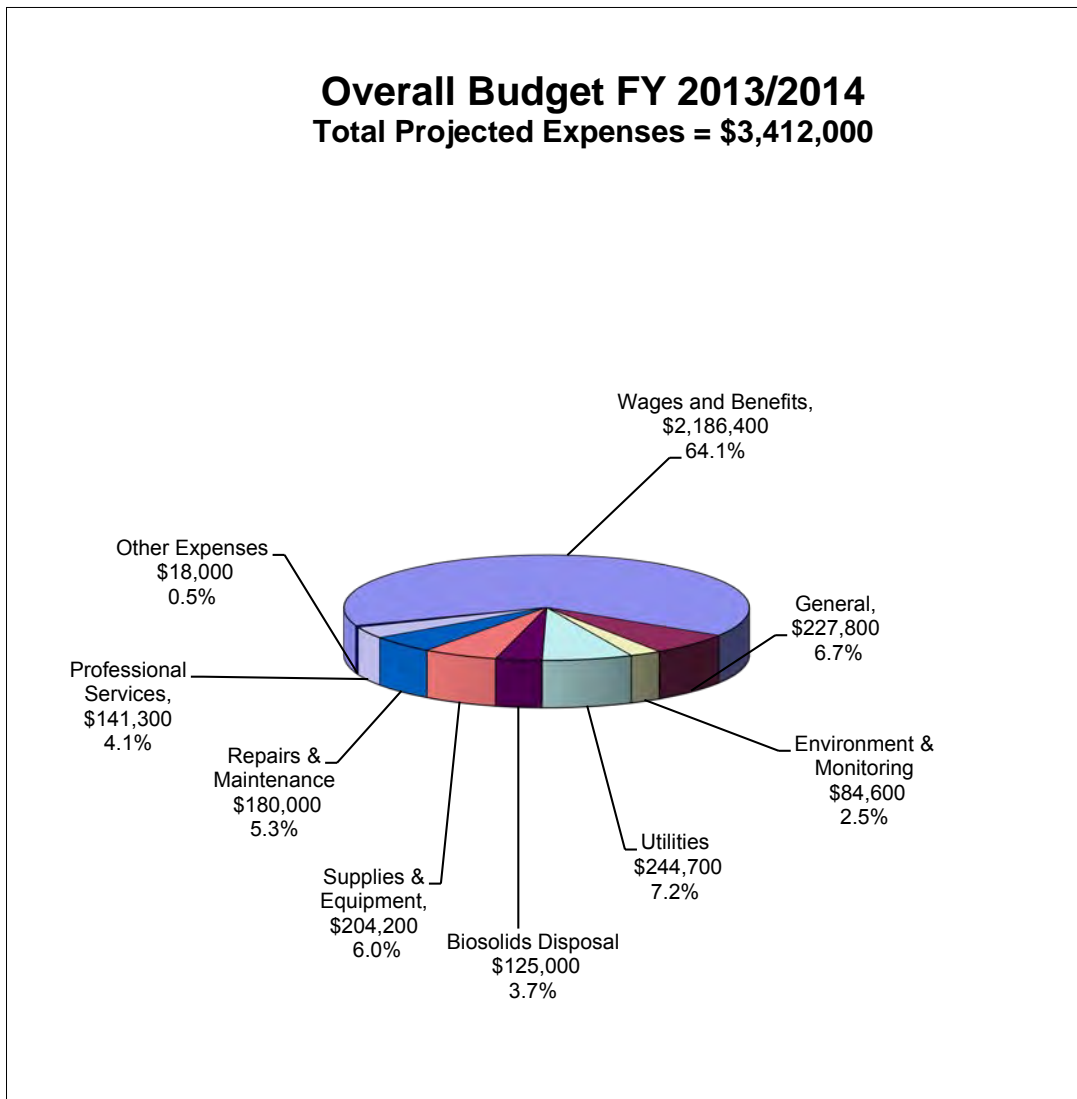




### 3.0 EXPENSE OVERVIEW

The Carpinteria Sanitary District's operating expense budget is separated into three departments: the Administration Department, the Plant/Collection Department, and the Safety and Training Department. The operating expense section of the overall budget includes expenses associated with the day-to-day operation of the agency, exclusive of projected expenses for capital purchases, capital improvements and debt service payments.

The following figure provides a graphical overview of the District's operating budget for 2013/14 fiscal year.



The Administration section includes the projected expenses associated with the administration of the District including employee salaries and benefits, auditing, legal, engineering, professional services, permitting fees, Board of Directors' expenses, District insurance and miscellaneous repairs for the upkeep of the Administration Building and Board Room. The projected Administration department operating budget for 2013/14 fiscal year is \$918,800, or 26.9% of the overall budget.

The Plant/Collection section includes the projected expenses associated with the operation and maintenance of the wastewater treatment plant, the collection system, and associated lift stations. Expenses include employee salaries and benefits, utilities, chemicals, equipment maintenance, professional services, biosolids disposal and general operating expenses. The projected Plant/Collection department operating budget for 2013/14 fiscal year is \$2,355,600, or 69% of the overall budget.

The Safety and Training section includes the projected expenses associated with utilization of outside consultants and employment of a joint Safety and Training Officer. Other direct expenses associated with occupational safety and regulatory compliance are also included in the budget. The projected 2013/14 fiscal year budget for this department is \$137,600, or 4.1% of the overall budget.

The District's operating budget has taken into consideration the projected needs and projected costs for achieving key goals and objectives in the upcoming fiscal year. The operating expenses presented herein represent a summary of the more detailed expenses shown in the individual Administration and Plant/Collection budget sections.

## **Summary Data**

The remainder of this section contains figures and financial data in tabular and graphic format that summarize the projected expenditures District wide for the coming fiscal year, as follows:

- **All Department Operating Expenses**
- **CPI Cost Escalation Factor Summary**
- **FY 2013/14 Salary Matrix**
- **Personnel Cost Summary**
- **Employee Benefit Summary**
- **Standby Pay Detail**

Carpinteria Sanitary District  
**All Departments Budget**  
 Fiscal Year 2013/2014

Account Number	Description	2012/13 Budget	2012/13 9 Months Actual	% Expended	2013/14 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010	Regular Salaries	1,342,700	871,910	65%	<b>1,386,900</b>	<b>44,200</b>	<b>3.3%</b>
5030	Overtime	12,500	5,585	45%	<b>12,500</b>	<b>0</b>	<b>0.0%</b>
5040	Special Duty Pay	36,800	25,669	70%	<b>37,200</b>	<b>400</b>	<b>1.1%</b>
5050	Directors Fees	17,500	8,300	47%	<b>16,300</b>	<b>(1,200)</b>	
	<b>Total Wages</b>	<b>1,409,500</b>	<b>911,465</b>	<b>65%</b>	<b>1,452,900</b>	<b>43,400</b>	<b>3.1%</b>
<b><u>Employee Benefits</u></b>							
5111	PERS	241,700	174,276	72%	<b>256,900</b>	<b>15,200</b>	<b>6.3%</b>
5112	Social Security	105,700	65,200	62%	<b>111,000</b>	<b>5,300</b>	<b>5.0%</b>
5120	Medical Insurance	180,200	134,081	74%	<b>215,700</b>	<b>35,500</b>	<b>19.7%</b>
5121	Retiree Health Benefit/GASB 45	0	0	0%	<b>0</b>	<b>0</b>	<b>NA</b>
5122	Unemployment Insurance	7,400	4,444	60%	<b>7,400</b>	<b>0</b>	<b>0.0%</b>
5124	Long Term Disability	9,100	6,906	76%	<b>9,100</b>	<b>0</b>	<b>0.0%</b>
5126	Life Insurance	4,500	3,329	74%	<b>4,500</b>	<b>0</b>	<b>0.0%</b>
5127	Dental/ Vision Self Funding Plan	42,500	20,214	48%	<b>42,500</b>	<b>0</b>	<b>0.0%</b>
5128	Workers' Compensation	46,200	45,627	99%	<b>84,000</b>	<b>37,800</b>	<b>81.8%</b>
5132	Employee Physicals & First Aid	2,400	1,477	62%	<b>2,400</b>	<b>0</b>	<b>0.0%</b>
	<b>Total Employee Benefits</b>	<b>639,700</b>	<b>455,554</b>	<b>71%</b>	<b>733,500</b>	<b>93,800</b>	<b>14.7%</b>
	<b>TOTAL PERSONNEL</b>	<b>2,049,200</b>	<b>1,367,019</b>	<b>67%</b>	<b>2,186,400</b>	<b>137,200</b>	<b>6.7%</b>
<b><u>General Expenses</u></b>							
5210	Departmental Expense	12,500	7,485	60%	<b>11,800</b>	<b>(700)</b>	<b>-5.6%</b>
5215	Office Supplies	8,000	3,534	44%	<b>6,800</b>	<b>(1,200)</b>	<b>-15.0%</b>
5222	Directors Confs. & Training	15,000	8,782	59%	<b>15,000</b>	<b>0</b>	<b>0.0%</b>
5226	Directors Election Expense	10,000	0	0%	<b>0</b>	<b>(10,000)</b>	<b>NA</b>
5228	Directors Dental / Vision	12,500	5,726	46%	<b>12,500</b>	<b>0</b>	<b>0.0%</b>
5231	District Liability Insurance	69,500	73,881	106%	<b>71,500</b>	<b>2,000</b>	<b>2.9%</b>
5241	Uniform Expenses	12,000	9,642	80%	<b>14,500</b>	<b>2,500</b>	<b>20.8%</b>
5242	Memberships and Dues	23,200	20,289	87%	<b>23,300</b>	<b>100</b>	<b>0.4%</b>
5244	Conference & Training	21,000	11,081	53%	<b>23,600</b>	<b>2,600</b>	<b>12.4%</b>
5246	Employee Education Reimb.	2,500	0	0%	<b>1,500</b>	<b>(1,000)</b>	<b>-40.0%</b>
5260	Vehicle Fuel Expenses	16,600	10,672	64%	<b>16,600</b>	<b>0</b>	<b>0.0%</b>
5265	Employee Mileage Reimb.	2,000	761	38%	<b>1,000</b>	<b>(1,000)</b>	<b>-50.0%</b>
5270	Equipment Rental and Leases	4,700	2,941	63%	<b>4,700</b>	<b>0</b>	<b>0.0%</b>
5290	Licenses and Permits	25,000	14,610	58%	<b>25,000</b>	<b>0</b>	<b>0.0%</b>
	<b>Total General</b>	<b>234,500</b>	<b>169,404</b>	<b>72%</b>	<b>227,800</b>	<b>(6,700)</b>	<b>-2.9%</b>
<b><u>Environment &amp; Monitoring</u></b>							
5310	Monitoring-Equipment Expense	27,500	10,592	39%	<b>25,000</b>	<b>(2,500)</b>	<b>-9.1%</b>
5320	Monitoring-Lab Work	15,500	7,084	46%	<b>49,600</b>	<b>34,100</b>	<b>220.0%</b>
5330	Prop. 65 Clean Up Expense	10,000	0	0%	<b>10,000</b>	<b>0</b>	<b>0.0%</b>
	<b>Total Environment &amp; Monit.</b>	<b>53,000</b>	<b>17,676</b>	<b>33%</b>	<b>84,600</b>	<b>31,600</b>	<b>59.6%</b>
<b><u>Utilities</u></b>							
5410	Natural Gas	1,800	1,018	57%	<b>1,800</b>	<b>0</b>	<b>0.0%</b>
5420	Electricity	184,000	123,264	67%	<b>214,000</b>	<b>30,000</b>	<b>16.3%</b>
5430	Telephone	10,700	5,958	56%	<b>10,300</b>	<b>(400)</b>	<b>-3.7%</b>
5440	Water	12,100	7,983	66%	<b>12,100</b>	<b>0</b>	<b>0.0%</b>
5450	Rubbish	5,000	3,485	70%	<b>5,000</b>	<b>0</b>	<b>0.0%</b>
5480	Underground Service Alert	800	333	42%	<b>800</b>	<b>0</b>	<b>0.0%</b>
5490	Building Alarm System	700	620	89%	<b>700</b>	<b>0</b>	<b>0.0%</b>
	<b>Total Utilities</b>	<b>215,100</b>	<b>142,660</b>	<b>66%</b>	<b>244,700</b>	<b>29,600</b>	<b>13.8%</b>

Carpinteria Sanitary District  
**All Departments Budget**  
 Fiscal Year 2013/2014

Account Number	Description	2012/13 Budget	2012/13 9 Months Actual	% Expended	2013/14 Budget	\$ Increase (Decrs.)	% Change
<b><u>Sludge Disposal</u></b>							
5470	Biosolids Disposal	125,000	77,628	62%	125,000	0	0.0%
	<b>Total Sludge Disposal</b>	<b>125,000</b>	<b>77,628</b>	<b>62%</b>	<b>125,000</b>	<b>0</b>	<b>0.0%</b>
<b><u>Supplies &amp; Equipment</u></b>							
5510	General Supplies	15,000	13,206	88%	15,000	0	0.0%
5521	Odor Control Chemicals	35,000	3,640	10%	35,000	0	0.0%
5522	Chlorine-SO2	120,000	74,268	62%	108,000	(12,000)	-10.0%
5524	Polymers	26,000	23,190	89%	31,000	5,000	19.2%
5525	Tools/Small Parts	4,300	2,363	55%	2,000	(2,300)	-53.5%
5526	Fuel, Diesel, Lubricants	6,500	3,775	58%	7,500	1,000	15.4%
5527	Safety Equipment	5,700	3,071	54%	5,700	0	0.0%
	<b>Total Supplies &amp; Equipment</b>	<b>212,500</b>	<b>123,514</b>	<b>58%</b>	<b>204,200</b>	<b>(8,300)</b>	<b>-3.9%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5610	Equipment (minor)	19,300	6,250	32%	17,900	(1,400)	-7.3%
5620	Building Maintenance	8,000	2,581	32%	8,000	0	0.0%
5630	Grounds Maintenance	3,500	2,146	61%	3,500	0	0.0%
5640	Vehicle Maintenance	11,600	7,466	64%	11,600	0	0.0%
5650	Treatment Plant Maintenance	45,000	24,820	55%	47,000	2,000	4.4%
5680	Lift Station Maintenance	9,000	8,237	92%	10,000	1,000	11.1%
5690	Trunk Line Maintenance	82,000	16,041	20%	82,000	0	0.0%
	<b>Total Repairs &amp; Maint.</b>	<b>178,400</b>	<b>67,542</b>	<b>38%</b>	<b>180,000</b>	<b>1,600</b>	<b>0.9%</b>
<b><u>Professional Services</u></b>							
5821	Accounting (Annual Audit)	8,800	8,800	100%	9,000	200	2.3%
5831	Legal Counsel	24,000	17,615	73%	24,000	0	0.0%
5843	Computer Related Expenses	25,500	15,823	62%	24,000	(1,500)	-5.9%
5844	SCADA Related Expenses	20,000	18,312	92%	20,000	0	0.0%
5847	Public Relations	15,000	9,214	61%	35,000	20,000	133.3%
5849	Other Professional Services	24,000	3,945	16%	24,000	0	0.0%
5851	Payroll Service-Paychex	4,600	2,785	61%	4,800	200	4.3%
5855	IDP/Monitoring Source Control	500	0	0%	500	0	0.0%
	<b>Total Professional Services</b>	<b>122,400</b>	<b>76,494</b>	<b>62%</b>	<b>141,300</b>	<b>18,900</b>	<b>15.4%</b>
<b><u>Other Expenses</u></b>							
6020	Admin Charges-SB County	10,000	0	0%	10,000	0	0.0%
6030	Debt Services Administration Fees	3,200	1,400	44%	3,200	0	0.0%
6031	LAFCO Pro-Rata Costs	3,800	3,023	80%	3,800	0	0.0%
6032	Regional Grant/Planning Costs	1,000	475	48%	1,000	0	0.0%
	<b>Total Other Expenses</b>	<b>18,000</b>	<b>4,898</b>	<b>27%</b>	<b>18,000</b>	<b>0</b>	<b>0.0%</b>
<b>GRAND TOTALS</b>		<b>3,208,100</b>	<b>2,046,835</b>	<b>64%</b>	<b>3,412,000</b>	<b>203,900</b>	<b>6.4%</b>

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5010	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Regular Salaries	Funds the regular salary and wages for three various departments, including; Administration, Plant/Collection, and Safety & Training.
<b>ACCOUNT NUMBER:</b>	5030	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Overtime	Funds for scheduled and unscheduled overtime expense for the department.
<b>ACCOUNT NUMBER:</b>	5040	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Special Duty Pay	Funds for two employees' standby pay. This is based on 1.5 hours of pay per day using the average hourly pay rate for the group of participants with compensation determined on June 15th of each year for the following year.
<b>ACCOUNT NUMBER:</b>	5050	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Fees	Funds for five elected officials to attend board and committee meetings.
<b>ACCOUNT NUMBER:</b>	5111	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	PERS (Public Employees' Retirement System)	Funds PERS contributions for sixteen full-time employees. CSD provides a 7.0% employee contribution. The current PERS retirement plan is 2% @ 55.
<b>ACCOUNT NUMBER:</b>	5112	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Social Security & Medicare (FICA)	Funds for employer portion of Social Security and Medicare expense.
<b>ACCOUNT NUMBER:</b>	5120	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Medical Insurance	Provides funding for medical insurance premiums for employees and their dependents.
<b>ACCOUNT NUMBER:</b>	5121	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Retiree Health Benefit/GASB 45	Provides funding for post retirement medical insurance premiums for retired employees up to a maximum of 36 months.
<b>ACCOUNT NUMBER:</b>	5122	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Unemployment Insurance	Funds unemployment insurance premiums. Unemployment insurance is based on the first \$7,000 of each employee's wages.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5124	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Long Term Disability	Funds long term disability insurance for sixteen full-time Plant employees.
<b>ACCOUNT NUMBER:</b>	5126	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Life Insurance	Funds for employees' life insurance. The District provides \$40,000 term life insurance for all full-time employees.
<b>ACCOUNT NUMBER:</b>	5127	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Dental/Vision Plan	Funds for Direct Dental/Vision care self funded plan. The District self funds the program at \$2,500/benefit year for the employee and dependents.
<b>ACCOUNT NUMBER:</b>	5128	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Workers' Compensation	Funds for pooled CSRMA workers' compensation insurance premiums.
<b>ACCOUNT NUMBER:</b>	5132	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Physicals & First Aid	Funds for employees physicals. Physicals are required for Class B drivers license. Includes DATCO drug/alcohol testing, pre-employment screening, first aid supplies and use.
<b>ACCOUNT NUMBER:</b>	5210	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Departmental Expense	Funds for the purchase of routine various expenses such as coffee, drinking water, subscriptions, mailing, and other misc. items.
<b>ACCOUNT NUMBER:</b>	5215	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Office Supplies	Funds for office supplies and minor office equipment.
<b>ACCOUNT NUMBER:</b>	5222	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Conference Exp.	Funds for elected officials' conferences, trainings, lodging, travel expenses, and Board workshop.
<b>ACCOUNT NUMBER:</b>	5226	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Election Expense	Funds for all required activities related to the Board of Directors election expenses.



**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5228	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Directors Dental & Vision Plan	Funds for the elected officials' dental/vision self funded plan up to \$2,500 for each elected officials and their eligible dependent family similar to the employees.
<b>ACCOUNT NUMBER:</b>	5231	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	District Liability Insurance	Funds the premiums for CSRMA pooled insurance programs which include liability, property, dishonesty bond, auto physical damage, and mobile equipment.
<b>ACCOUNT NUMBER:</b>	5241	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Uniform Expenses	Funds to provide uniform service for the Plant/Collection Department employees.
<b>ACCOUNT NUMBER:</b>	5242	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Professional Licenses and Certifications	Funds for State/CWEA licenses, exams and TCP certification and class B license renewals and professional membership dues.
<b>ACCOUNT NUMBER:</b>	5244	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Conferences & Training	Funds to provide training expenses, conferences, CWEA, and TCP, safety, maintenance and supervisory training.
<b>ACCOUNT NUMBER:</b>	5246	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Education Reimbursement	Funds for education reimbursement for job-related courses completed successfully that have advance approval from the General Manager.
<b>ACCOUNT NUMBER:</b>	5260	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Vehicle Fuel Expenses	Funds for fuel for the District vehicles and equipment.
<b>ACCOUNT NUMBER:</b>	5265	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Employee Mileage Reimbursement	Funds for mileage reimbursement for employees who travel with their own vehicle on District business. The reimbursement rate is at the IRS mileage rate.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5270	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Equipment Rental and Leases	Funds for the cost of renting pumps, equipment and other needed equipment not currently owned by the District.
<b>ACCOUNT NUMBER:</b>	5290	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Licenses & Permits	Funds for the various licenses and permits required of the District by various State, County and local agencies.
<b>ACCOUNT NUMBER:</b>	5310	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Laboratory Expense	Funds for minor lab equipment purchases and reagent chemicals necessary to perform the inhouse lab analysis required to monitor the plant's effluent discharge and to perform process control monitoring.
<b>ACCOUNT NUMBER:</b>	5320	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Laboratory-Outside Services	Funds for expenses related to the testing efforts performed by outside lab. These include ocean, beach, sludge and raw wastewater samples.
<b>ACCOUNT NUMBER:</b>	5330	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Prop 65 Clean Up Expense	Funds for the cleanup of minor sewage spills that are below the District's insurance deductible.
<b>ACCOUNT NUMBER:</b>	5410	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Natural Gas	Funds for natural gas usage.
<b>ACCOUNT NUMBER:</b>	5420	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Electricity	Funds for projected electricity usage at the Plant, seven lift stations, and the Administration office.
<b>ACCOUNT NUMBER:</b>	5430	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Telephone	Funds for long distance, local, cellular and lift station telemetry service.
<b>ACCOUNT NUMBER:</b>	5440	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Water	Funds for water usage at the treatment plant, lift stations, temp meter, and Administration building.
<b>ACCOUNT NUMBER:</b>	5450	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Trash Services	Funds for the disposal of trash, grit and screening from the Plant.

**Carpinteria Sanitary District  
Accounts Details**

ACCOUNT NUMBER:	5470	<b>Description:</b>
ACCOUNT TITLE:	Biosolids Disposal	Funds for biosolids transportation and composting fees.
ACCOUNT NUMBER:	5480	<b>Description:</b>
ACCOUNT TITLE:	Underground Service Alert	Fund for the USA dig alert.
ACCOUNT NUMBER:	5490	<b>Description:</b>
ACCOUNT TITLE:	Building Alarm System	Funds for the Administration building security alarm system.
ACCOUNT NUMBER:	5510	<b>Description:</b>
ACCOUNT TITLE:	General Supplies	Funds for general supplies related to the Plant & Collection Department.
ACCOUNT NUMBER:	5521	<b>Description:</b>
ACCOUNT TITLE:	Odor Control Chemicals	Replacement and disposal of odor control media for the facility's air scrubbers.
ACCOUNT NUMBER:	5522	<b>Description:</b>
ACCOUNT TITLE:	Disinfection Chemicals, Chlorine/Bisulfite	Funds for sodium hypochlorite used for disinfection of the final effluent and sodium bisulfite used to dechlorinate prior to final discharge.
ACCOUNT NUMBER:	5524	<b>Description:</b>
ACCOUNT TITLE:	Polymer	Funds for a liquid polymer used to dewater the biosolids prior to being sent to the commercial composting facility.
ACCOUNT NUMBER:	5525	<b>Description:</b>
ACCOUNT TITLE:	Tools	Funds for the purchase and replacement of miscellaneous hand tools.
ACCOUNT NUMBER:	5526	<b>Description:</b>
ACCOUNT TITLE:	Fuel, Diesel & Lubricants	Funds for fuel and oil expenses associated with stationary equipment and portable generators, pumps, etc.
ACCOUNT NUMBER:	5527	<b>Description:</b>
ACCOUNT TITLE:	Safety Equipment	Funds for the purchase of personal protection and safety equipment.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5610	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Equipment Maintenance	Funds for scheduled maintenance and calibration of District's equipment testing using outside professional services.
<b>ACCOUNT NUMBER:</b>	5620	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Building Maintenance	Funds for the general repair and upkeep of the buildings.
<b>ACCOUNT NUMBER:</b>	5630	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Grounds Maintenance	Funds for the maintenance of fences, irrigation, paved roads, gutters, landscaping and other general grounds work.
<b>ACCOUNT NUMBER:</b>	5640	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Vehicle Maintenance	Funds for the in-house supplies and outside services needed to maintain the District vehicles. Includes lubricants, filters, batteries, tune-up parts, smog certifications, etc.
<b>ACCOUNT NUMBER:</b>	5650	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Treatment Plant Equipment Maintenance	Funds for scheduled/unscheduled repair of both the mechanical and electrical components of stationary equipment.
<b>ACCOUNT NUMBER:</b>	5680	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Lift Station Maintenance	Funds for the scheduled/unscheduled maintenance of the mechanical and electrical portions of the District's seven lift stations.
<b>ACCOUNT NUMBER:</b>	5690	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Collection System Maintenance	Funds for sewer system supplies required for ongoing maintenance efforts. Items include manhole rings, manhole covers, manhole grade rings, and lateral repairs, main line repair, root chemicals, and contracted MH raising.
<b>ACCOUNT NUMBER:</b>	5821	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Audit Fee	Funds for yearly audit services required for public entity.
<b>ACCOUNT NUMBER:</b>	5831	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Legal Counsel	Funds for legal services provided by the District legal counsel.

**Carpinteria Sanitary District  
Accounts Details**

<b>ACCOUNT NUMBER:</b>	5843	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Computer Related Expenses	Expenses for computer related services, software, hardware, remote and on-site support, maintenance agreements, upgrades.
<b>ACCOUNT NUMBER:</b>	5844	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	SCADA Related Expenses	Expenses related to maintenance of SCADA computer system. SCADA system provides continuous monitoring of plant equipment and remote pump stations. It also maintains historical data and has an integrated alarm and notification system.
<b>ACCOUNT NUMBER:</b>	5847	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Public Relation	Funds for expenses related to the District's public relations efforts such as newspaper print media, webpage update and support.
<b>ACCOUNT NUMBER:</b>	5849	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Other Professional Services	Funds for other professional services such as engineering, GIS support, and other services needed which are not included in other line items.
<b>ACCOUNT NUMBER:</b>	5851	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Payroll Services	Funds for payroll services through Paychex, Inc.
<b>ACCOUNT NUMBER:</b>	5855	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Monitoring Source Control Program	Funds for outside laboratory service required for monitoring the District's industrial/commercial discharges as per the issued discharge permits.
<b>ACCOUNT NUMBER:</b>	6020	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Santa Barbara County Admin Fees	SB County fees for collection of property taxes. Fees are based on amount collected.
<b>ACCOUNT NUMBER:</b>	6030	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Debt Services Admin Fees	Funds for trustee administration fees charged for the 2003 Revenue Refunding Bonds.
<b>ACCOUNT NUMBER:</b>	6031	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	LAFCO Pro-Rata Cost	Funds for the Santa Barbara County pro-rata LAFCO Budget.
<b>ACCOUNT NUMBER:</b>	6032	<b>Description:</b>
<b>ACCOUNT TITLE:</b>	Regional Grant/Planning Costs	Funds for the Integrated Regional Water Management Plan project fees.



# Databases, Tables & Calculators by Subject

FONT SIZE: [ - ] [ + ]

Change Output Options: From: 2003 To: 2013

include graphs

[More Formatting Options](#)

Data extracted on: June 6, 2013 (1:48:40 PM)

## Consumer Price Index - Urban Wage Earners and Clerical Workers

### 12-Month Percent Change

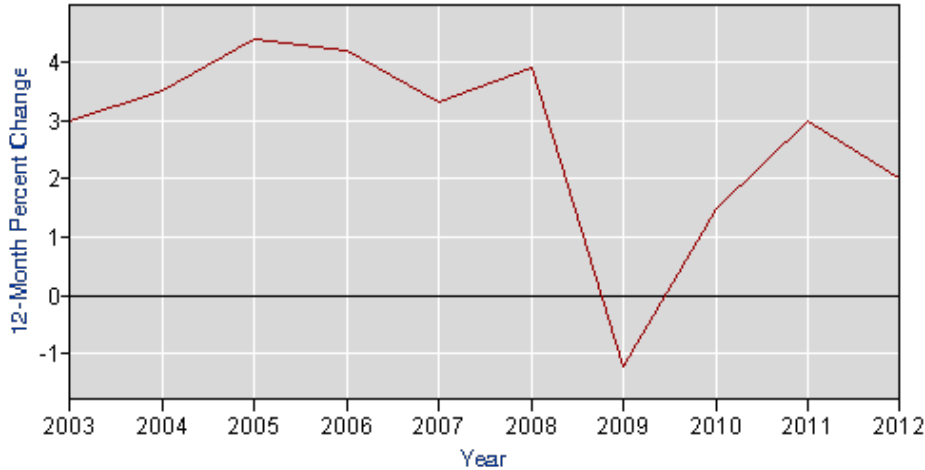
Series Id: CWURA421SA0

Not Seasonally Adjusted

Area: Los Angeles-Riverside-Orange County, CA

Item: All items

Base Period: 1982-84=100



Download: .xls

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	HALF1	HALF2
2003	3.7	3.9	4.5	3.5	2.6	2.8	2.6	2.8	3.2	2.7	2.0	2.0	3.0	3.5	2.6
2004	2.2	2.1	1.8	2.4	3.8	4.3	4.0	3.3	3.2	4.7	5.4	4.6	3.5	2.8	4.2
2005	3.7	3.8	3.9	4.9	4.2	3.4	4.2	5.3	6.0	5.4	4.3	4.2	4.4	3.9	4.9
2006	5.2	5.0	4.5	4.5	5.3	5.4	5.1	4.4	3.2	1.8	2.5	3.3	4.2	5.0	3.3
2007	3.1	3.4	4.0	3.6	3.0	2.7	2.4	2.1	2.2	3.8	4.7	4.6	3.3	3.3	3.3
2008	4.6	3.7	3.6	3.7	4.1	6.1	6.6	5.7	5.0	3.5	0.6	-0.6	3.9	4.3	3.5
2009	-0.6	-0.5	-1.6	-2.1	-2.4	-2.8	-3.2	-2.1	-1.4	-0.6	1.2	2.5	-1.2	-1.7	-0.6
2010	2.3	1.8	2.4	2.4	2.0	1.0	1.0	1.0	0.5	0.9	1.0	1.6	1.5	2.0	1.0
2011	2.0	2.6	3.5	3.9	3.7	3.3	2.7	2.7	3.5	3.1	3.2	2.2	3.0	3.2	2.9
2012	2.1	2.1	2.0	1.3	1.5	1.5	1.9	2.5	2.2	3.2	2.1	2.0	2.0	1.8	2.3
2013	1.9	2.4	1.3	0.9											

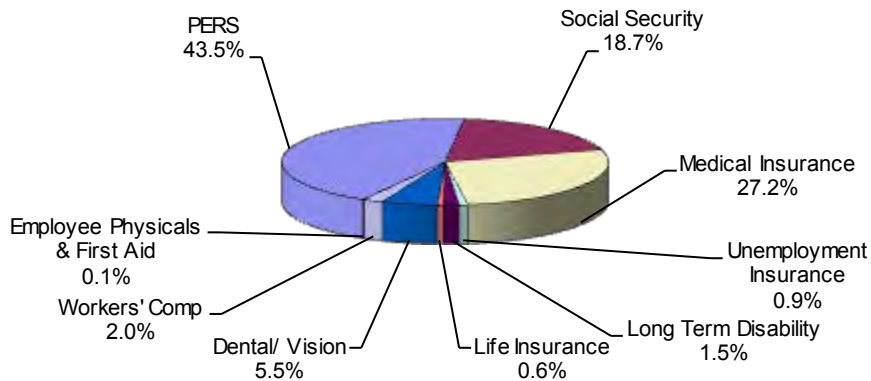


**Carpinteria Sanitary District**  
**Salary Matrix - Monthly**  
**Fiscal Year 2013/14**

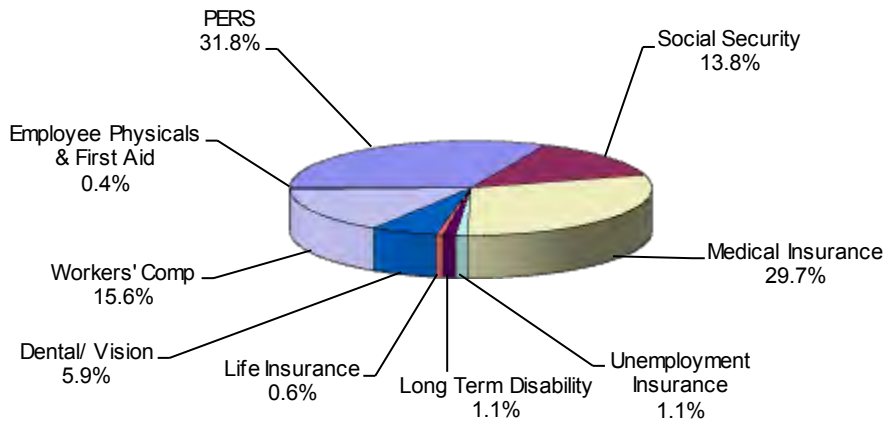
Positions	A	B	C	D	E
Finance Director	8,168	8,578	9,008	9,457	9,931
Engineering Technician	5,134	5,389	5,660	5,943	6,239
Office Manager	5,818	6,109	6,415	6,734	7,072
Operations Manager	8,682	9,116	9,571	10,050	10,552
Treatment Supervisor	6,745	7,082	7,436	7,808	8,198
Operator in Training	3,926	4,124	4,330	4,545	4,773
Operator 1	4,435	4,656	4,890	5,135	5,390
Operator 2	4,852	5,096	5,350	5,617	5,899
Maintenance Tech 2	4,820	5,058	5,312	5,577	5,857
Laborer	3,290	3,456	3,627	3,810	3,999
Lab Tech 2	5,544	5,820	6,112	6,417	6,737
Collection System Supervisor	6,890	7,236	7,597	7,976	8,374
Collection System Lead Operator	5,544	5,820	6,112	6,417	6,737
Collection System Operator 1	3,926	4,124	4,330	4,546	4,773
Safety Training Officer	6,068	6,372	6,691	7,026	7,378

The above matrix includes a 2% annual escalation factor (Los Angeles, Orange, Riverside) starting the first pay period after 6/30/2013

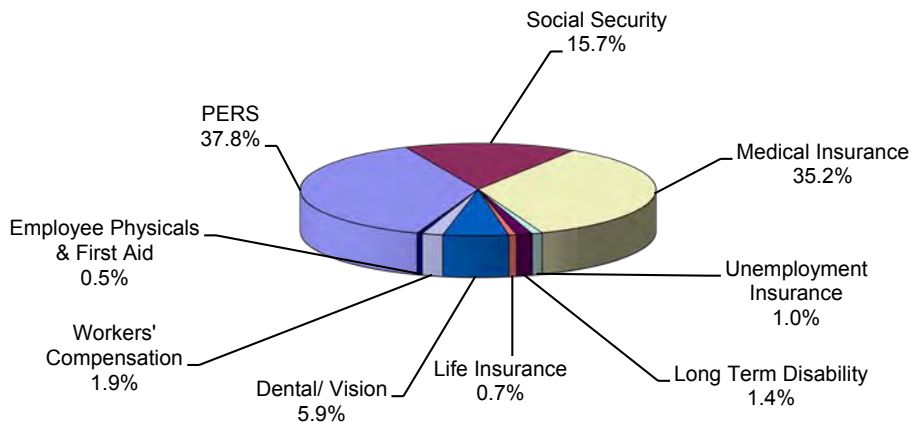
**Administration Department Employee Benefits  
Total = \$182,200**



**Plant/Collection Department Employee Benefits  
Total = \$509,200**



**Safety Officer Employee Benefits  
Total = \$42,100**



Carpinteria Sanitary District  
**Standby Pay Detail for Fiscal Year 2013/14**  
**1.5 hrs / Day @ Average Salary for Standby Personnel**

	1	2	3	4	5	6	7
Eligible On-Call Employees							
Current Wage(As of 6/15/13)	46.37	40.93	33.36	30.26	34.57	23.33	27.66
<u>Average Hrlly Rate</u>	\$ 33.78						
<u>Daily Rate</u>	\$ 50.67						

Standby Pay is based on a 1.5 hours of pay per day using the average hourly pay rate for the group of participating employees, with compensation determined each year on June 15th for the following fiscal year.

	Week Starting	Week Ending	Hours	No. of Staff on Call	On Call Compensations
1	7/1/2012	7/6/2012	10.5	2	\$ 709.38
2	7/7/2012	7/20/2012	21	2	1,418.76
3	7/21/2012	8/3/2012	21	2	1,418.76
4	8/4/2012	8/17/2012	21	2	1,418.76
5	8/18/2012	8/31/2012	21	2	1,418.76
6	9/1/2012	9/14/2012	21	2	1,418.76
7	9/15/2012	9/28/2012	21	2	1,418.76
8	9/29/2012	10/12/2012	21	2	1,418.76
9	10/13/2012	10/26/2012	21	2	1,418.76
10	10/27/2012	11/9/2012	21	2	1,418.76
11	11/10/2012	11/23/2012	21	2	1,418.76
12	11/24/2012	12/7/2012	21	2	1,418.76
13	12/8/2012	12/21/2012	21	2	1,418.76
14	12/22/2012	1/4/2013	21	2	1,418.76
15	1/5/2013	1/18/2013	21	2	1,418.76
16	1/19/2013	2/1/2013	21	2	1,418.76
17	2/2/2013	2/15/2013	21	2	1,418.76
18	2/16/2013	3/1/2013	21	2	1,418.76
19	3/2/2013	3/15/2013	21	2	1,418.76
20	3/16/2013	3/29/2013	21	2	1,418.76
21	3/30/2013	4/12/2013	21	2	1,418.76
22	4/13/2013	4/26/2013	21	2	1,418.76
23	4/27/2013	5/10/2013	21	2	1,418.76
24	5/11/2013	5/24/2013	21	2	1,418.76
25	5/25/2013	6/7/2013	21	2	1,418.76
26	6/8/2013	6/21/2013	21	2	1,418.76
27	6/22/2013	6/30/2013	14.5	2	979.62
			550		\$ 37,158.00

**Total Cost based on 1.5 hrs / Day @ Average Wages of Participants as of 6/15/2013 \$ 37,158.00**

## **4.0 ADMINISTRATION DEPARTMENT EXPENSES**

The Administration department consists of the General Manager, the Finance Director, the Office Manager, and the Engineering Technician. The department is responsible for the day-to-day administrative functions of the District including overall management, accounting functions, sewer service charge development and billing, financial planning, human resources, risk management, District planning and development, customer relations, and the onsite inspection of all sewer related improvements. The operating budget for fiscal year 2013/14 is projected to be \$918,800 which represents an increase of 3.7%, or \$33,000, over the prior fiscal year. A description of changes to each account category is provided below. Expenses attributable to the District's Board of Directors are also included in the Administration Department budget. These expenses include Directors fees, limited benefits and training/conference expenses.

### **Administration Budget Account Highlights**

#### **Total Personnel Expenses**

The personnel section represents the largest portion of the administration department budget. This account funds all wages, salaries, and benefits for the department's four employees as well as the five elected officials. The total projected expense is estimated to be \$628,000 or 68.4% of the administration budget. The budget increases are due to merit increases, cost of living adjustment, higher social security, and PERS contributions. Health insurance renewal rates will increase by a very modest 4.4% in the coming year. However, workers' compensation costs also expected to increase by over 20%, primarily due to the District's performance history over the past two years. Our x-mod factor, which is a premium multiplier that accounts for individual insured performance, has increased from 1.12 to 1.94. On top of this, across the board pure premium escalation on the order of 5% is expected.

#### **General Expenses**

The projected budget for general administrative expenses is \$142,700, or 15.5% of the total administration budget. This represents a reduction of 7.3% over the previous fiscal year, attributable to the lack of election costs during the coming fiscal year, a slightly lower level of mileage reimbursement and lower than anticipated expenditures on department expenses, office expenses, and employee education reimbursements. District's liability insurance costs are projected to rise modestly by \$2,000, or 2.9%, in the coming year.

#### **Utilities**

Utility costs include natural gas, electricity, water, telephone, and the security system for the administration building. The budgeted amount for the 2013/14 fiscal year is \$12,400, or 1.3% of the overall administration budget.

#### **Repairs and Maintenance**

The budget for this account covers repairs and maintenance of the administration building, grounds and related equipment. The projected budget expense is \$7,900, or 0.9% of the administration budget. A modest decrease in equipment and building maintenance is projected in the coming year.

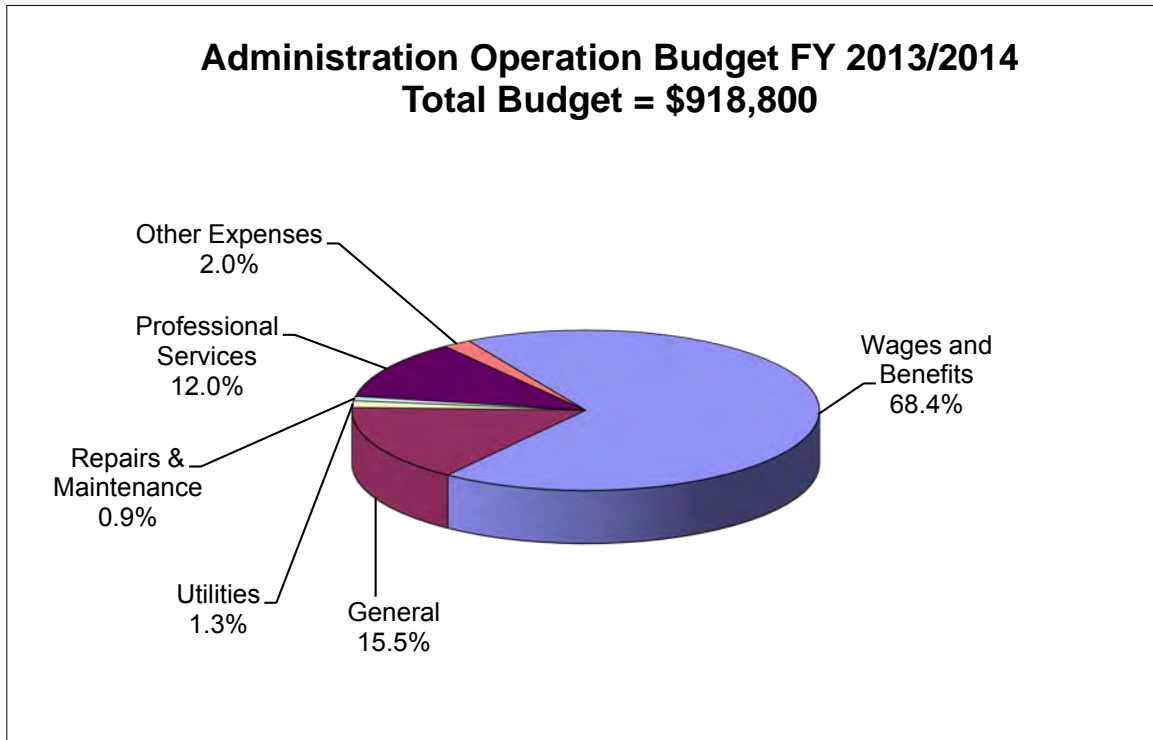
**Professional Services**

The projected budget for professional services is \$109,800 or 12% of the overall administration budget. This represents an increase of 22.8%, or \$20,400, over the prior year. The projected increase is due to a ramp up of public relations and outreach activities, including a website makeover, updated color scheme for District materials, professional photos for use in various media and an overall upgrade to the District’s public outreach plan. Based on recommendations from the Board Public Relations Committee, we anticipate engagement of an outreach consultant to coordinate and assist with implementation of these tasks. Additionally, a small increase for annual financial audit fee and payroll service by Paychex is included. Computer related expenses, which include costs for hardware replacement, software licensing, technical support and software updates/support for the District’s accounting software and SSC database application, are unchanged.

**Other Expenses**

The budget for other expenses is \$18,000, or 2% of the administration budget. This is no increase from the prior fiscal year in this category of expenses.

The remainder of this section presents detailed budget spreadsheets for the Administration Department.



Carpinteria Sanitary District  
**Administration Department Budget**  
 Fiscal Year 2013/2014

Account Number	Description	2012/13 Budget	2012/13 9 Months Actual	% Expended	2013/14 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010-0	Regular Salaries	413,400	298,282	72%	429,000	15,600	3.8%
5030-0	Overtime	500	0	0%	500	0	0.0%
5050-0	Directors Fees	17,500	8,300	47%	16,300	(1,200)	-6.9%
	<b>Total Wages</b>	<b>431,400</b>	<b>306,582</b>	<b>71%</b>	<b>445,800</b>	<b>14,400</b>	<b>3.3%</b>
<b><u>Employee Benefits</u></b>							
5111-0	PERS	74,200	59,308	80%	79,300	5,100	6.9%
5112-0	Social Security	31,000	20,300	65%	34,000	3,000	9.7%
5120-0	Medical Insurance	47,500	39,337	83%	49,600	2,100	4.4%
5121-0	Retiree Health Benefit/GASB 45	0	0	0%	0	0	NA
5122-0	Unemployment Insurance	1,600	1,028	64%	1,600	0	0.0%
5124-0	Long Term Disability	2,800	2,264	81%	2,800	0	0.0%
5126-0	Life Insurance	1,100	848	77%	1,100	0	0.0%
5127-0	Dental/ Vision Self Funding Plan	10,000	8,219	82%	10,000	0	0.0%
5128-0	Workers' Compensation	3,000	2,652	88%	3,600	600	20.0%
5132-0	Employee Physicals & First Aid	200	0	0%	200	0	0.0%
	<b>Total Employee Benefits</b>	<b>171,400</b>	<b>133,957</b>	<b>78%</b>	<b>182,200</b>	<b>10,800</b>	<b>6.3%</b>
	<b>TOTAL PERSONNEL</b>	<b>602,800</b>	<b>440,539</b>	<b>73%</b>	<b>628,000</b>	<b>25,200</b>	<b>4.2%</b>
<b><u>General Expenses</u></b>							
5210-0	Departmental Expense	9,000	5,726	64%	8,500	(500)	-5.6%
5215-0	Office Supplies	5,500	2,187	40%	4,500	(1,000)	-18.2%
5222-0	Directors Conf, Training & Misc.	15,000	8,782	59%	15,000	0	0.0%
5226-0	Directors Election Expense	10,000	0	0%	0	(10,000)	-100.0%
5228-0	Directors Dental / Vision	12,500	5,726	46%	12,500	0	0.0%
5231-0	District Liability Insurance	68,000	72,381	106%	70,000	2,000	2.9%
5242-0	Memberships and Dues	18,000	16,332	91%	18,000	0	0.0%
5244-0	Conference & Training	9,500	3,618	38%	9,500	0	0.0%
5246-0	Employee Education Reimb.	2,000	0	0%	1,000	(1,000)	-50.0%
5265-0	Employee Mileage Reimb.	1,000	644	64%	200	(800)	-80.0%
5270-0	Equipment Rental and Leases	3,500	2,467	70%	3,500	0	0.0%
	<b>Total General</b>	<b>154,000</b>	<b>117,863</b>	<b>77%</b>	<b>142,700</b>	<b>(11,300)</b>	<b>-7.3%</b>
<b><u>Utilities</u></b>							
5410-0	Natural Gas	1,000	523	52%	1,000	0	0.0%
5420-0	Electricity	4,000	3,012	75%	4,000	0	0.0%
5430-0	Telephone	5,000	2,504	50%	4,600	(400)	-8.0%
5440-0	Water	2,100	1,124	54%	2,100	0	0.0%
5490-0	Security System Service	700	620	89%	700	0	0.0%
	<b>Total Utilities</b>	<b>12,800</b>	<b>7,783</b>	<b>61%</b>	<b>12,400</b>	<b>(400)</b>	<b>-3.1%</b>
<b><u>Repairs &amp; Maintenance</u></b>							
5610-0	Equipment (minor) & Maint.	2,800	561	20%	1,900	(900)	-32.1%
5620-0	Building Maintenance	5,000	2,232	45%	5,000	0	0.0%
5630-0	Grounds Maintenance	1,000	0	0%	1,000	0	0.0%
	<b>Total Repairs &amp; Maint.</b>	<b>8,800</b>	<b>2,793</b>	<b>32%</b>	<b>7,900</b>	<b>(900)</b>	<b>-10.2%</b>



Carpinteria Sanitary District  
**Adminstration Department Budget**  
 Fiscal Year 2013/2014

Account Number	Description	2012/13 Budget	2012/13 9 Months Actual	% Expended	2013/14 Budget	\$ Increase (Decrs.)	% Change
<b><u>Professional Services</u></b>							
5821-0	Accounting (Annual Audit)	8,800	8,800	100%	9,000	200	2.3%
5831-0	Legal Counsel	24,000	17,615	73%	24,000	0	0.0%
5843-0	Computer Related Expenses	13,000	11,646	90%	13,000	0	0.0%
5847-0	Public Relations	15,000	9,214	61%	35,000	20,000	133.3%
5849-0	Professional Services	24,000	3,945	16%	24,000	0	0.0%
5851-0	Payroll Service-Paychex	4,600	2,785	61%	4,800	200	4.3%
Total Professional Services		89,400	54,005	60%	109,800	20,400	22.8%
<b><u>Other Expenses</u></b>							
6020-0	Admin Charges-SB County	10,000	0	0%	10,000	0	0.0%
6030-0	Debt Services Administration Fees	3,200	1,400	44%	3,200	0	0.0%
6031-0	LAFCO Pro-Rata Costs	3,800	3,023	80%	3,800	0	0.0%
6032-0	Regional Grant/Planning Costs	1,000	475	48%	1,000	0	0.0%
Total Other Expenses		18,000	4,898	27%	18,000	0	0.0%
<b>GRAND TOTALS</b>		885,800	627,882	71%	918,800	33,000	3.7%

## 5.0 PLANT/COLLECTION DEPARTMENT EXPENSES

The Plant/Collection Department is responsible for carrying out the day-to-day operation and maintenance of the District's wastewater treatment plant and collection system. The projected FY 2013/14 budget for this department is \$2,355,600, which represents an increase of 7.5% or \$164,500 from the previous fiscal year.

### Plant/Collection Budget Account Highlights

#### Total Personnel Expenses

Personnel costs make up 60.7% of the Plant/Collection Department's operating budget. This budget account funds all of the department wages, benefits, overtime, and standby costs. Expenditures in this account are projected to increase by \$103,700 or 7.8%, over the previous year. The budgeted increases are due to merit increases, cost of living adjustment, higher social security, and PERS contributions. Health insurance renewal rates will increase by a very modest 4% in the coming year. However, workers' compensation costs also expected to increase by over 86.9%, primarily due to the District's performance history over the past two years. Our x-mod factor, which is a premium multiplier that accounts for individual insured performance, has increased from 1.12 to 1.94. On top of this, across the board pure premium escalation on the order of 5% is expected.

In the coming fiscal year the District is anticipating several changes within the Plant/Collections Department. First, we expect one long term employee to retire in July 2013. Instead of backfilling the **Maintenance Mechanic 2** position held by this individual, the District plans to continue execution of its plan to consolidate the operations and maintenance groups. As the final element of this plan, we plan to fill the currently vacant **Laborer** position. This entry level staff position will provide grounds and building maintenance, and will also support both the Operations and Collections groups on an as-needed basis. We will eliminate the Maintenance Mechanic 2 position from the organizational chart.

Also proposed in the coming fiscal year is the addition of one full-time position within the Collections group. Due in part to a higher regulatory burden, the workload in this department has increased over the years. The District has initiated a lower lateral inspection and maintenance program to proactively minimize or eliminate sanitary sewer overflows (SSOs) associated with defects in the public portion of individual lateral connections. With the addition of three new communities served by low pressure sewer systems, and a number of other new residential developments, our customer base has increased imparting additional demands on departmental resources. A recently completed staffing resource study indicates that we are conservatively deficient by 600 man-hours even without considering the lateral program labor requirements. Accordingly, addition of a **Collection System Operator 1** Position is proposed to meet the minimum demands in the Collections department.

In FY 2013/14, the elimination of one higher level position and the filling of two entry level positions will add approximately \$16,000 in salary costs. Benefits and related costs associated with addition of one full-time position will add approximately \$10,000 to the overall budget in this category in the coming year.

### **General Expenses**

The total budget in this category is \$79,000, or 3.4% of the Plant/Collection Department budget. This reflects an increase of \$5,000 over the previous fiscal year, due to higher projected costs for uniform services for new staff members, and also for higher associated conference and training expenses for new-hires.

### **Environmental Monitoring**

The projected budget for environmental and monitoring services is \$84,600, or 3.6% of the department budget. An increase of \$31,600 from the prior fiscal year is projected based on scheduled ocean and benthic community monitoring to be performed by an outside contractor this year. This comprehensive monitoring program is required by the District's NPDES discharge permit to be performed once every five years. A moderate reduction monitoring equipment expenses is anticipated.

### **Utilities**

The cost for utilities, which include water, electricity, natural gas, trash service, and USA (underground service alert) is projected to be \$231,400, or 9.8% of the departmental budget. This reflects an increase of \$30,000, or 14.9%, over the previous year budget and it is due to recent rate changes imposed by Southern California Edison for two of the District's largest service accounts. Rate schedule changes, reportedly approved by the California Public Utilities Commission, resulted in shifting our two highest energy use account to alternative rate categories. Although both remain in the relatively favorable Time-of-Use Agriculture and Pumping Rate (TOU-PA), an increase of 18.6% was imposed for the treatment plant account and an increase of 7.5% was imposed for Lift Station No. 1.

### **Biosolids Disposal**

The District contracts with Engel & Gray, Inc. for biosolids hauling and composting. The cost for biosolids transport and off-site composting is currently \$55.26 per ton plus a fuel surcharge as set forth in the agreement. The budget for this account is projected to be \$125,000 or approximately 5.3% of the overall operating budget. The budget for this line item remains unchanged from previous fiscal year. The rotary screw press which was put in place two years ago, continues to produce a dryer biosolids cake and a significantly lower annual tonnage as compared to historical averages.

### **Supplies and Equipment**

This budget category includes the supply of chemicals, fuel, safety equipment and tools needed to operate the treatment plant and collection system. The major costs in this category are for polymer and disinfection chemicals. The proposed budget for this account is \$204,200, or 8.7% of the departmental budget. This represents a net decrease of 3.9%, or \$8,300, over the prior year. The decrease is attributed primarily to lower unit pricing for disinfection chemicals which result from a recent public bid process.

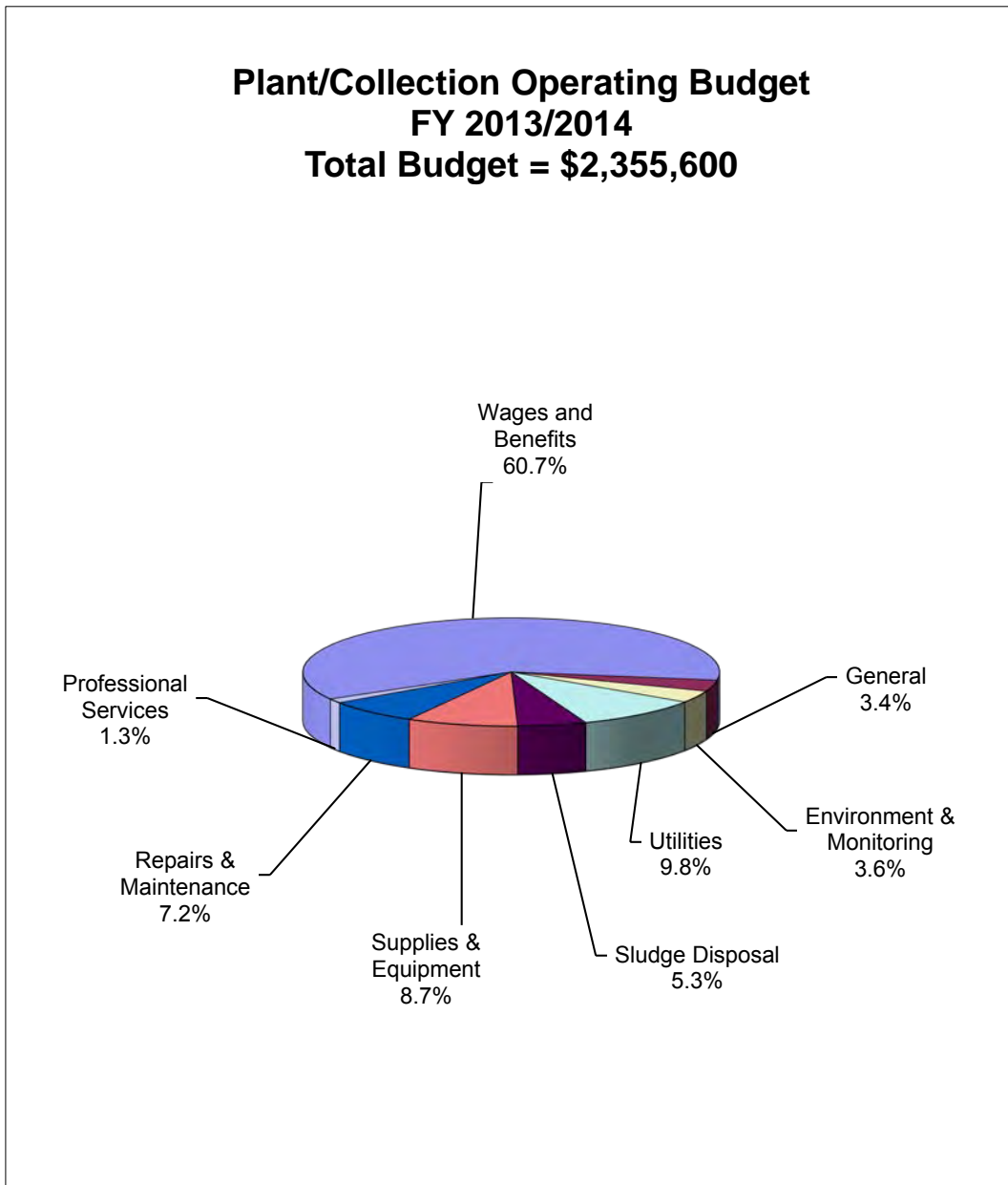
### **Repairs and Maintenance**

The total projected budget for repairs and maintenance is \$170,500, or 7.2% of the department budget. Minor increases in the Treatment Plant and Lift Station subcategories are anticipated.

**Professional Services**

The budget for this account is \$30,500, or 1.3% of the Plant/Collection Department budget. This is unchanged from the previous fiscal year.

The remainder of this section presents detailed budget spreadsheets for the Plant/Collection Department.



Carpinteria Sanitary District  
**Plant/Collection Department Budget**

Fiscal Year 2013/2014

Account Number	Description	2012/13 Budget	2012/13 9 Months Actual	% Expended	2013/14 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010-1	Regular Salaries	849,000	516,392	61%	872,000	23,000	2.7%
5030-1	Overtime	12,000	5,585	47%	12,000	0	0.0%
5040-1	Special Duty Pay	36,800	25,669	70%	37,200	400	1.1%
	<b>Total Wages</b>	<b>897,800</b>	<b>547,647</b>	<b>61%</b>	<b>921,200</b>	<b>23,400</b>	<b>2.6%</b>
<b><u>Employee Benefits</u></b>							
5111-1	PERS	153,000	98,410	64%	161,700	8,700	5.7%
5112-1	Social Security	68,500	40,563	59%	70,400	1,900	2.8%
5120-1	Medical Insurance	118,600	83,342	70%	151,300	32,700	27.6%
5121-1	Retiree Health Benefit/GASB 45	0	0	0%	0	0	0.0%
5122-1	Unemployment Insurance	5,400	3,157	58%	5,400	0	0.0%
5124-1	Long Term Disability	5,700	4,209	74%	5,700	0	0.0%
5126-1	Employee Life Insurance	3,100	2,268	73%	3,100	0	0.0%
5127-1	Dental/ Vision Self Funding Plan	30,000	11,120	37%	30,000	0	0.0%
5128-1	Workers' Compensation	42,600	42,600	100%	79,600	37,000	86.9%
5132-1	Employee Physicals & First Aid	2,000	1,477	74%	2,000	0	0.0%
	<b>Total Employee Benefits</b>	<b>428,900</b>	<b>287,146</b>	<b>67%</b>	<b>509,200</b>	<b>80,300</b>	<b>18.7%</b>
	<b>TOTAL PERSONNEL</b>	<b>1,326,700</b>	<b>834,793</b>	<b>63%</b>	<b>1,430,400</b>	<b>103,700</b>	<b>7.8%</b>
<b><u>General Expenses</u></b>							
5210-1	Departmental Expense	3,000	1,744	58%	3,000	0	0.0%
5215-1	Office Supplies	2,000	1,347	67%	2,000	0	0.0%
5241-1	Uniform Expenses	12,000	9,642	80%	14,500	2,500	20.8%
5242-1	Memberships and Dues	5,000	3,729	75%	5,000	0	0.0%
5244-1	Conferences & Training	9,500	6,983	74%	12,000	2,500	26.3%
5246-1	Employee Education Reimb.	500	0	0%	500	0	0.0%
5260-1	Vehicle Fuel Expenses	15,000	10,131	68%	15,000	0	0.0%
5265-1	Employee Mileage Reimb.	800	117	15%	800	0	0.0%
5270-1	Equipment Rental and Leases	1,200	474	40%	1,200	0	0.0%
5290-1	Licenses and Permits	25,000	14,610	58%	25,000	0	0.0%
	<b>Total General</b>	<b>74,000</b>	<b>48,777</b>	<b>66%</b>	<b>79,000</b>	<b>5,000</b>	<b>6.8%</b>
<b><u>Environment &amp; Monitoring</u></b>							
5310-1	Monitoring-Equipment Expense	27,500	10,592	39%	25,000	(2,500)	-9.1%
5320-1	Monitoring-Lab Work	15,500	7,084	46%	49,600	34,100	220.0%
5330-1	Prop. 65 Clean Up Expense	10,000	0	0%	10,000	0	0.0%
	<b>Total Environment &amp; Monit.</b>	<b>53,000</b>	<b>17,676</b>	<b>33%</b>	<b>84,600</b>	<b>31,600</b>	<b>59.6%</b>
<b><u>Utilities</u></b>							
5410-1	Natural Gas	800	495	62%	800	0	0.0%
5420-1	Electricity	180,000	120,252	67%	210,000	30,000	16.7%
5430-1	Telephone	4,800	2,823	59%	4,800	0	0.0%
5440-1	Water	10,000	6,858	69%	10,000	0	0.0%
5450-1	Rubbish	5,000	3,485	70%	5,000	0	0.0%
5480-1	Underground Service Alert	800	333	42%	800	0	0.0%
	<b>Total Utilities</b>	<b>201,400</b>	<b>134,246</b>	<b>67%</b>	<b>231,400</b>	<b>30,000</b>	<b>14.9%</b>

Carpinteria Sanitary District  
**Plant/Collection Department Budget**

Fiscal Year 2013/2014

Account Number	Description	2012/13 Budget	2012/13 9 Months Actual	% Expended	2013/14 Budget	\$ Increase (Decrs.)	% Change
<b><u>Sludge Disposal</u></b>							
5470-1	Biosolids Disposal	125,000	77,628	62%	125,000	0	0.0%
	Total Sludge Disposal	125,000	77,628	62%	125,000	0	0.0%
<b><u>Supplies &amp; Equipment</u></b>							
5510-1	General Supplies	15,000	13,206	88%	15,000	0	0.0%
5521-1	Odor Control Chemicals	35,000	3,640	0%	35,000	0	0.0%
5522-1	Disinfection Chemicals	120,000	74,268	62%	108,000	(12,000)	-10.0%
5524-1	Polymers	26,000	23,190	89%	31,000	5,000	19.2%
5525-1	Tools/Small Parts	4,300	2,363	55%	2,000	(2,300)	-53.5%
5526-1	Fuel, Diesel, Lubricants	6,500	3,775	58%	7,500	1,000	15.4%
5527-1	Safety Equipment	5,700	3,071	54%	5,700	0	0.0%
	Total Supplies & Equipment	212,500	123,514	58%	204,200	(8,300)	-3.9%
<b><u>Repairs &amp; Maintenance</u></b>							
5610-1	Equipment Maintenance	16,500	5,689	34%	16,000	(500)	-3.0%
5620-1	Building Maintenance	3,000	349	12%	3,000	0	0.0%
5630-1	Grounds Maintenance	2,500	2,146	86%	2,500	0	0.0%
5640-1	Vehicle Maintenance	10,000	7,466	75%	10,000	0	0.0%
5650-1	Treatment Plant Maint.	45,000	24,820	55%	47,000	2,000	4.4%
5680-1	Lift Station Maintenance	9,000	8,237	92%	10,000	1,000	11.1%
5690-1	Collection System Maintenance	82,000	16,041	20%	82,000	0	0.0%
	Total Repairs & Maint.	168,000	64,748	39%	170,500	2,500	1.5%
<b><u>Professional Services</u></b>							
5843-1	Computer Related Expenses	10,000	2,505	25%	10,000	0	0.0%
5844-1	SCADA Related Expenses	20,000	18,312	0%	20,000	0	0.0%
5855-1	IDP/ Monitoring Source Control	500	0	0%	500	0	0.0%
	Total Professional Services	30,500	20,817	68%	30,500	0	0.0%
<b>GRAND TOTALS</b>		2,191,100	1,322,199	60%	2,355,600	164,500	7.5%



## **6.0 SAFETY AND TRAINING DEPARTMENT EXPENSES**

In 2007 the District entered into a cooperative agreement with four other local wastewater agencies for the purpose of hiring a joint Safety and Training Officer. The group pursued this goal and hired an individual to provide safety program development and safety training for all of the agencies. The objective is to have a dedicated and qualified safety professional serving the group at a reasonable cost.

The Safety and Training Officer is an employee of the Carpinteria Sanitary District, but costs are distributed to participating agencies based on a joint participation agreement. Approximately 61.9% of the estimated program costs for 2013/14 fiscal year will be paid up-front by the other participating agencies and reported as "Other Districts' Contribution" in the revenue section of the District's budget.

As discussed in Section 2.0, one participating agency dropped out of this co-op program effective June 30, 2013. The group expects to add back a new member agency during the coming fiscal year to offset higher member costs.

The Safety and Training Department consists of one employee and the total budget is projected to be \$137,600 for the coming year. This total is \$6,400, or 4.9%, higher than previous fiscal year. The projected costs for this position including payroll and benefits, and other related expenses is included here and described below.

### **Safety Officer Budget Account Highlights**

#### **Total Personnel Expenses**

Personnel costs are \$128,000 or 93% of the Safety Officer Department's total budget. The increase is due to a regular step increase, higher costs of PERS retirement, social security, workers' compensation and health insurance costs.

#### **General Expenses**

The total budget in this category is \$6,100, or 4.4% of the departmental budget. This reflects a reduction of \$400 from the previous fiscal year.

#### **Utilities**

Utility costs for this department includes a cell phone. There is no change from prior year.

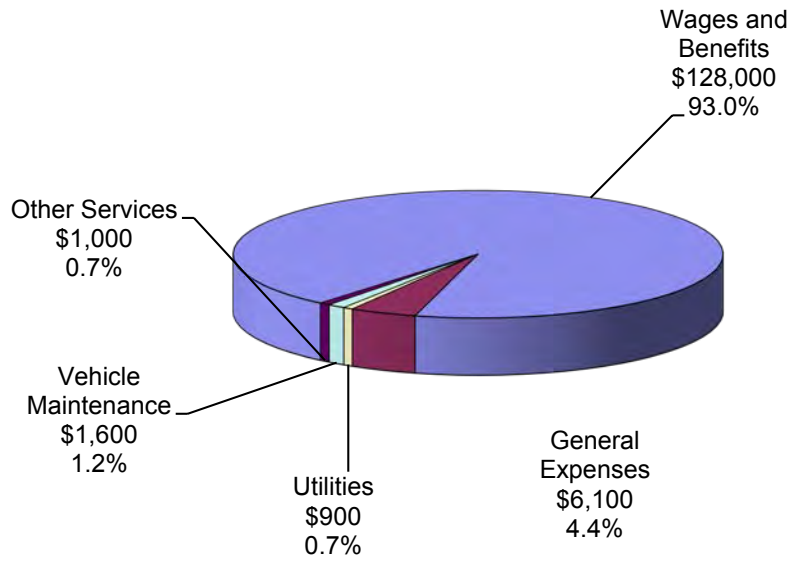
#### **Repairs & Maintenance**

The District has dedicated a 2007 Ford Focus sedan to the Safety and Training officer to be used for traveling to other sanitary districts that share the cost of this department. The vehicle is six years old and the cost of service and maintenance is projected to be \$1,600. This is no change from previous fiscal year.

#### **Professional/Other Services**

The projected expense for computer related expenses is \$1,000. This is \$1,500 lower than the previous fiscal year, during which a computer system was replaced.

**Safety Officer Budget FY 2013/2014**  
**Total Budget = \$137,600**



**Carpinteria Sanitary District  
Safety & Training Department Budget**

Fiscal Year 2013/2014

Account Number	Description	2012/13 Budget	2012/13 9 Months Actual	% Expended	2013/14 Budget	\$ Increase (Decrs.)	% Change
<b><u>Personnel Expenses</u></b>							
5010-3	Regular Salaries	80,300	57,236	71%	85,900	5,600	7.0%
	Total Wages	80,300	57,236	71%	85,900	5,600	6.5%
<b><u>Employee Benefits</u></b>							
5111-3	PERS	14,500	16,558	114%	15,900	1,400	9.7%
5112-3	Social Security	6,200	4,337	70%	6,600	400	6.5%
5120-3	Medical Insurance	14,100	11,402	81%	14,800	700	5.0%
5121-3	Retiree Health Benefit/GASB 45	0	0	0%	0	0	0.0%
5122-3	Unemployment Insurance	400	259	65%	400	0	0.0%
5124-3	Long Term Disability	600	433	72%	600	0	0.0%
5126-3	Life Insurance	300	212	71%	300	0	0.0%
5127-3	Dental/ Vision Self Funding Plan	2,500	875	35%	2,500	0	0.0%
5128-3	Workers' Compensation	600	375	63%	800	200	33.3%
5132-3	Employee Physicals & First Aid	200	0	0%	200	0	0.0%
	Total Employee Benefits	39,400	34,452	87%	42,100	2,700	6.4%
	<b>TOTAL PERSONNEL</b>	<b>119,700</b>	<b>91,687</b>	<b>77%</b>	<b>128,000</b>	<b>8,300</b>	<b>6.5%</b>
<b><u>General Expenses</u></b>							
5210-3	Departmental Expense	500	15	3%	300	(200)	-40.0%
5215-3	Office Supplies	500	0	0%	300	(200)	-40.0%
5231-3	District Liability Insurance(Auto)	1,500	1,500	100%	1,500	0	0.0%
5242-3	Memberships and Dues	200	228	114%	300	100	50.0%
5244-3	Conference & Training	2,000	480	24%	2,100	100	5.0%
5260-3	Vehicle Fuel Expenses	1,600	541	34%	1,600	0	0.0%
5265-3	Employee Mileage Reimb.	200	0	0%	0	(200)	-100.0%
	Total General	6,500	2,764	42.5%	6,100	(400)	-6.6%
<b><u>Utilities</u></b>							
5430-3	Telephone	900	630	70%	900	0	0.0%
	Total Utilities	900	630	70%	900	0	0.0%
<b><u>Repairs &amp; Maintenance</u></b>							
5640-3	Vehicle Maintenance	1,600	0	0%	1,600	0	NA
	Total Utilities	1,600	0	0%	1,600	0	NA
<b><u>Professional Services</u></b>							
5843-3	Computer Related Expenses	2,500	1,672	67%	1,000	(1,500)	-60.0%
	Total Professional Expenses	2,500	1,672	67%	1,000	(1,500)	-60.0%
	<b>GRAND TOTALS</b>	<b>131,200</b>	<b>96,753</b>	<b>74%</b>	<b>137,600</b>	<b>6,400</b>	<b>4.9%</b>

## 7.0 CAPITAL IMPROVEMENT PROJECTS

A significant portion of the District's projected overall budget for the 2013/14 fiscal year is allocated to capital improvement program (CIP) projects. These projects have been developed through long term planning efforts and through ongoing condition assessment of key infrastructure. They are complementary to several ongoing capital upgrades within the collection system, authorized in prior fiscal years, and are critical elements of the District's overall quality improvement plan.

### Planning Assumptions

The following assumptions were used in the development of the District's capital improvement projects for the coming fiscal year:

- The proposed CIP projects consist of projects from the District's long range Capital Improvement Program (2007-2019) and other necessary projects and equipment acquisitions.
- The District will fund the approved projects through a direct appropriation of operating revenue and dedicated reserves held in the General Fund into the Capital Improvement Fund.
- The overall funding goal of the District's long term CIP is a "pay-as-you-go" scenario which avoids the need to incur additional long-term debt.
- One major capital project within the treatment facility was funded through issuance of revenue bonds in order to provide generational equity for this upgrade.
- Certain capacity related projects will be funded or partially funded with Development Impact Fees (DIF) collected by the District for new service connections. DIF monies are strictly accounted for to comply with state law.

### CIP Budget Components

The CIP section of the proposed budget for the 2013/14 fiscal year (Capitalized Expenditures) is a component of the Non-Operating Expense section as illustrated in the Budget Snapshot in Section 1.0. The CIP budget includes the projected expenses for purchase of fixed assets/equipment as well as those expenses associated with infrastructure repair and replacement projects undertaken by the District.

The combined budgets for newly proposed and carry over CIP projects for the 2013/14 fiscal year is **\$7,883,000**. The list of projects and their funding source is provided below for ongoing and new capital projects.

#### Existing/Carryover CIP Projects

The District is currently implementing a number of capital improvement projects that have been authorized and funded by the Board of Directors in prior years. Four of these projects will continue into the 2013/14 fiscal year. Significant ongoing CIP projects include:

- Plum Street Sewer Replacement Project (P-132)
- Aerobic Digester Replacement Project (P-138)
- Collection System Rehabilitation Project- Phase 1
- Carpinteria Creek Suspended Line Crossing Rehabilitation

Detailed project descriptions have been provided in previous year budget documents. Funds for these projects have been appropriated to the District's dedicated CIP fund. The first two of the above projects are in the final design phase. The Carpinteria Creek Suspended Line Crossing project is now being coordinated with a major CalTrans and City of Carpinteria transportation project that involves widening of US 101 and extension of Via Real in the proximity of this existing pipeline.

Final design activities are underway for the Aerobic Digester Replacement Project. During FY 2012/13 the District Board voted to move forward with a project that involves construction of two new aerobic digester tanks in roughly the same location as the existing structures. Due to the nature and magnitude of this project, and the fact that it will serve the community for its anticipated 50-year design life, the District issued \$4,500,000 in new revenue bonds to finance this project. This amount was added to the existing approved budget of \$350,000 and raised the total project budget to \$4,850,000, which is reflected in the proposed capital program budget for FY 2013/14.

### **New CIP Projects**

The following table presents a summary of the new CIP projects proposed for implementation in the coming fiscal year. Detailed project descriptions with justifications are provided later in this section. Project numbers will be assigned at the time individual projects are initiated.

<b>Funding Source</b>	<b>Description</b>	<b>Total Project Budget</b>	<b>FY 2013/14 Allocation</b>
CIP	Garage Building	\$ 140,000	\$ 140,000
CIP	Vehicle Replacement	\$ 24,000	\$ 24,000
CIP	Clarifier Mechanical Retrofit Project	\$ 56,000	\$ 56,000
CIP	RAS Pump Replacement	\$ 45,000	\$ 45,000
CIP	Combination Sewer Cleaning Machine	\$ 400,000	\$ 400,000
CIP	Laboratory Autoclave	\$ 13,000	\$ 13,000
CIP	Maintenance Shop Cabinets	\$ 20,000	\$ 20,000
CIP	Lift Station 6 Pump Replacement	\$ 25,000	\$ 25,000
CIP	Santa Claus Lane Area Sewer Improvements	\$ 180,000	\$ 180,000
CIP	Computerized Maintenance Management System	\$ 50,000	\$ 50,000
CIP	Lab and Breakroom Improvements	\$ 100,000	\$ 100,000
CIP	Vehicle Procurement	\$ 30,000	\$ 30,000
<b>NEW CIP PROJECTS TOTAL</b>		<b>\$ 1,083,000</b>	<b>\$ 1,083,000</b>

## **CIP Program Funding**

### **Current Year CIP Funding Allocation**

Allocation of capital improvement funds for FY 2013/14 will occur once the recommended CIP projects are authorized by the District's Board of Directors. Projects outlined in this section will be funded through a combination of current year operating revenue, bond proceeds, and existing cash reserves. The funding breakdown is detailed in the Pro-Forma worksheet presented in Section 1.0.

A reconciliation of the restricted CIP fund will be completed concurrent with the FY 2013/14 budget approval process. The purpose of this reconciliation is to incorporate Board authorized adjustments to capital project costs and reflect cost savings realized on certain completed capital projects.

### **Future CIP Project Funding**

An update to the District's long range Capital Improvement Program was completed in January 2011, covering the period from 2007 to 2019. From a fiscal planning perspective, the District's long range CIP should be considered a dynamic tool and as such should be reviewed and updated regularly to reflect the District's changing infrastructure needs. For example, in the current year, the long range CIP was modified somewhat to reflect shifting priorities for certain projects.

It is expected that future CIP projects will be funded from a combination of annual SSC revenue and cash reserves from the General Fund appropriated to the CIP Fund. This "pay-as-you go" approach will provide the necessary cash to pay for the improvements while avoiding additional long term debt as long as practical. The funding of future projects can, therefore, be tailored and managed on a cash flow basis.

The series of incremental rate increases that began in 2012/13 fiscal year will provide sufficient revenue to comply with bond covenant debt ratios and implement ongoing CIP projects. The District's financial model will allow for analysis of funding alternatives if and when major replacement or upgrade projects within the treatment plant become necessary.



**Carpinteria Sanitary District**  
**Capital Improvement Project (CIP)**  
**Fiscal Year 2013/2014**

CIP No.	Funding Source	Description	Project Starting Date	2012/13 Budget	Actual Project To Date	2013/14 Budget	Increase (Decrease)
P-132	CIP	Plum Street Sewer Replacement Project	6/30/2006	\$ 1,000,000	\$ 74,281	\$ 1,000,000	0
P-138	CIP	Aerobic Digester Preliminary & Final Design	2/29/2008	\$ 350,000	\$ 343,620	\$ 4,850,000	4,500,000
	CIP	Collection System Rehabilitation Project- Phase 1		\$ 750,000		\$ 750,000	0
	CIP	Carpinteria Creek Suspended Line Crossing Restoration	\$	\$ 200,000		\$ 200,000	0
<b>Total Carry Over Projects</b>				<b>\$ 2,300,000</b>	<b>\$ 417,901</b>	<b>\$ 6,800,000</b>	<b>\$ 4,500,000</b>
	CIP	Garage Building				\$ 140,000	140,000
	CIP	Vehicle Replacement				\$ 24,000	24,000
	CIP	Clarifier Mechanical Retrofit Project				\$ 56,000	56,000
	CIP	RAS Pump Replacement				\$ 45,000	45,000
	CIP	Combination Sewer Cleaning Machine				\$ 400,000	400,000
	CIP	Laboratory Autoclave				\$ 13,000	13,000
	CIP	Maintenance Shop Cabinets				\$ 20,000	20,000
	CIP	Lift Station 6 Pump Replacement				\$ 25,000	25,000
	CIP/DIF	Santa Claus Lane Area Sewer Improvements				\$ 180,000	180,000
	CIP	Computerize Maintenance Management System				\$ 50,000	50,000
	CIP	Lab and Breakroom Improvements				\$ 100,000	100,000
	CIP	Vehicle Procurement				\$ 30,000	30,000
						<b>\$ 1,083,000</b>	<b>\$ 1,083,000</b>
<b>Total CIP Budget</b>				<b>\$ 2,300,000</b>	<b>\$ 417,901</b>	<b>\$ 7,883,000</b>	<b>\$ 5,583,000</b>



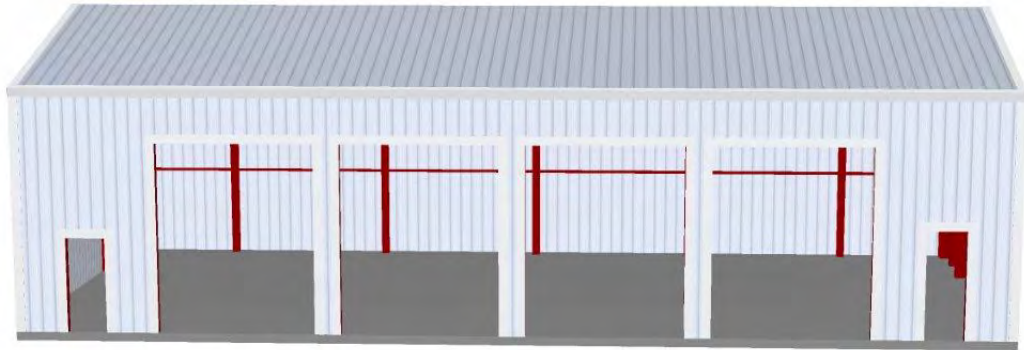
**PROJECT TITLE: Garage Building**

**DESCRIPTION:** This project involves construction of a new garage building adjacent to the existing garage/storage building at the wastewater treatment facility. The proposed structure is a pre-fabricated steel building constructed on a concrete pad, with requisite grading and paving. Colors and basic architectural treatments to match existing site improvements.

**BUDGET COST:** \$140,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** Existing vehicle storage at the wastewater treatment facility is limited. Although we maximize the use of garage space within the maintenance and storage buildings, certain mission critical equipment and vehicles are currently stored outdoors. To protect vehicles from the elements, including the new combination sewer cleaning truck proposed for procurement this fiscal year, additional garage storage space is necessary. Indoor storage will extend the life of all District equipment. This project will also enhance worker safety, as the current garage bays are undersized for heavy equipment parking. Larger storage areas and better configuration will minimize risks associated with vehicle backing and parking. It will additionally free up space within the existing Maintenance Building for normal O&M activities.





**PROJECT TITLE: Vehicle Replacement – 2000 Dodge 1/2-Ton Pickup Truck**

**DESCRIPTION:** This project involves replacement of a 2000 model year pickup truck. The vehicle would be replaced with a new model year vehicle procured through the State of California CMAS Contract and will be equipped to serve as a direct replacement for the existing ½-ton truck. The existing vehicle will be sold at public auction. District staff is considering an electric vehicle as an alternative replacement vehicle for the existing pickup truck and the proposed budget is adequate to fund either the direct replacement or the electric vehicle alternative.

**BUDGET COST:** \$24,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's 2000 Dodge ½ ton pickup truck has been in service for 13 years. This equipment is used primarily for light duty service during workdays and for on-call duty use by plant and collection system operators. The existing truck has some identified mechanical problems and the proposed, scheduled replacement is intended to ensure reliability and availability of this vehicle at all times.





**PROJECT TITLE:** Clarifier Mechanical Retrofit Project

**DESCRIPTION:** This project involves replacing the mechanical parts within the primary and secondary clarifiers, including shafts, gears, sprockets, chains, flights and other components that convey solids within the tanks. The retrofit would incorporate a new chain and flight design that utilizes two chains instead of three within each tank and a simpler bearing system.

**BUDGET COST:** \$56,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The existing mechanical systems within the primary and secondary clarifiers at the wastewater treatment plant have been in continuous service since 1993. Operations staff has rebuilt or replaced components over the years, but major elements have reached the end of their useful service life. Design improvements within the industry have also made available mechanical equipment that will provide enhanced operability and performance. – specifically new rigid fiberglass flights will allow for a two-chain system within the tank and minimize wear and associated maintenance requirements. At this time, we project that staff will procure the new equipment and components and undertake the installation and reconfiguration in-house.





**PROJECT TITLE: RAS Pump replacement**

**DESCRIPTION:** This project involves replacing the existing return activated sludge (RAS) pumps at wastewater treatment facility with new Flygt submersible pumps. The District has standardized on Flygt pumps with semi-open impeller design based on high efficiency and reliability throughout agency facilities.

**BUDGET COST:** \$45,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The existing RAS pumps in the main gallery at the WWTP have been in service since 1993. Due to age and wear, these pumps now require frequent maintenance. Failures of the existing pumps routinely result in after-hours callouts and associated overtime expenses. The new pumps will be of the same type and model as others at the outlying lift stations and other locations within the plant, which have been largely maintenance free since installation. The improved pump design is more efficient and will allow passage of solids without clogging. This pump replacement is part of the District's ongoing proactive asset management program that is intended to provide 100% system reliability.





**PROJECT TITLE:   Combination Sewer Cleaning Machine**

**DESCRIPTION:**   This project involves replacement of a 1996 model year Vac-Con combination sewer cleaning machine. The vehicle would be replaced with new model year equipment of basically the same configuration as the existing unit, but with more efficient and advanced components. It is anticipated that the procurement will involve a competitive bid process. The existing vehicle will be sold at public auction.

**BUDGET COST:**   \$400,000

**FUND SOURCE:**   CIP

**JUSTIFICATION:**   The District's existing Vac-Con combination sewer cleaning machine has been in service since 1996. It is considered the most critical piece of emergency response equipment in the District's inventory and is crucial to our ongoing efforts to maintain the collection system and prevent SSOs. Scheduled replacement has been part of District long range planning for many years. We have previously replaced and retrofit the main and auxiliary diesel engines on the existing unit, but California Air Resource Board requirements will require additional investment in Tier 4 engine technology in the near future. The new vehicle will be equipped with compliant engines and utilize the latest technologies for sewer maintenance. Current equipment also incorporates enhanced features for worker safety. Staff has programmed an increased pipeline cleaning frequency and the new vehicle will provide high reliability going forward for routine maintenance and emergency response.







**PROJECT TITLE:** Laboratory Autoclave

**DESCRIPTION:** This project involves replacement of the 20-year old autoclave that is used in the District's certified laboratory. This is a critical piece of equipment for lab operations and must function properly to ensure accurate and repeatable microbiological analyses.

**BUDGET COST:** \$13,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's existing Autoclave has been in service for over 20 years. It is a required piece of equipment for sterilization of items used in microbiology testing, primarily test tubes and media for the coliform test and laboratory waste before disposal. The existing autoclave has been repaired several times and has now reached the point of obsolescence, where replacement parts are no longer available. This equipment is essential for the District to maintain laboratory certification.





**PROJECT TITLE: Maintenance Shop Cabinets**

**DESCRIPTION:** This project involves replacement of the existing cabinets and workbench in the plant Maintenance Building. The existing dilapidated plywood cabinets, repurposed from the 1960's era laboratory during the plant upgrade in 1993, would be replaced with new aluminum purpose built garage storage cabinets.

**BUDGET COST:** \$20,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's existing shop cabinets were salvaged from the old District laboratory that was originally built in 1960. When the plant was under construction the cabinets were moved to a temporary laboratory. When construction was complete the temporary laboratory was demolished and the cabinets were again salvaged and put into the maintenance shop. The cabinets are rusted, hinges are broken, drawer sliders are worn out, and there is plywood for the counter top. The new cabinets will be designed similarly to the existing layout and will have a new aluminum counter top and other durable components. District staff performs a wide variety of in-house maintenance work. The replacement cabinets and work bench will better represent the standard of care and maintenance throughout the facility.





**PROJECT TITLE:** Lift Station #6 Pump replacement

**DESCRIPTION:** This project involves replacing the two existing pumps with new Flygt 3203 submersible pumps to match the pumps at all District lift stations.

**BUDGET COST:** \$25,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The existing pumps at this lift station are inefficient and have been in service for 22 years. Although they have performed reliably for the handful of users within this service area, they now serve thirty more connections from Sand Point road. This area is environmentally sensitive and it is critical to have serviceable equipment. The existing pumps are difficult to remove and are next to impossible to properly maintain. The new pumps will have a rail system to match other stations allowing for rapid service and repair. The new pumps will also have premium efficiency motors. Installation and reconfiguration would be performed with in-house resources. This pump replacement is part of the District's ongoing proactive asset management program that is intended to provide 100% system reliability.





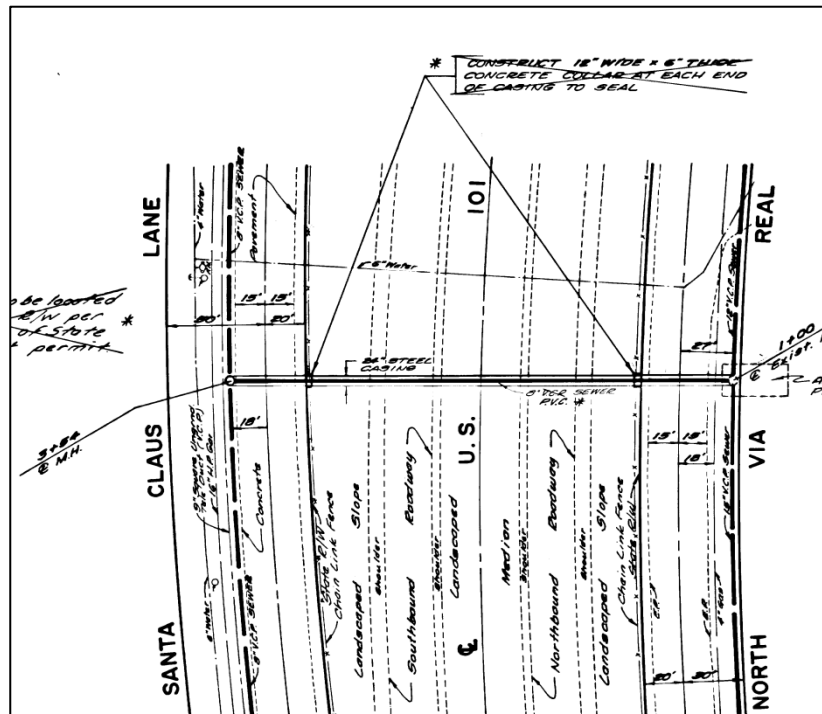
**PROJECT TITLE:** Santa Claus Lane Area Sewer Improvements

**DESCRIPTION:** This project involves reconfiguration of the existing gravity sewer crossing under US 101 from the Santa Claus Lane commercial area. Implementation options include replacement of the existing gravity sewer crossing, or realignment of the collection system to convey flow to Lift Station No. 6 and construction of a new force main crossing under the freeway. Alternative selection would precede final design and permitting. Construction would follow.

**BUDGET COST:** \$180,000

**FUND SOURCE:** CIP/DIF

**JUSTIFICATION:** The existing gravity sewer line that conveys wastewater from the Santa Claus Lane area (including Sand Point Road) was constructed in 1974. It is an 8-inch PVC carrier pipe within a 24-inch diameter steel casing pipe that crosses under US 101. This pipe system has never performed well, likely due to construction defects, and it contributes to major debris and grease accumulation in the sewer system on the south side of the freeway. Not only is this create serious potential for SSOs, District staff has been maintaining area pipelines on a bi-weekly basis for the past several decades. There is no simple remedy for this problem due to site and topographic conditions, but there is no doubt that fixing this problematic system component is necessary and justifiable.





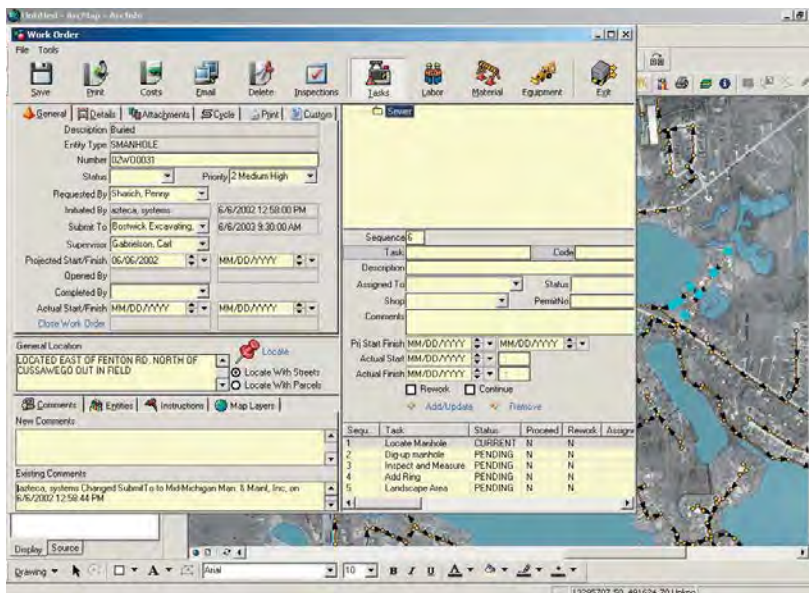
**PROJECT TITLE: Computerized Maintenance Management Software Upgrade**

**DESCRIPTION:** This project involves migration from the District's current computerized maintenance management system (CMMS) software platform to a new application, particularly for collection system management and data integration. There are a myriad of options and staff has not yet identified the desired software solution, however, this is a priority project and a key part of our ongoing efforts to efficiently and effectively manage our infrastructure assets and comply with an increasingly stringent regulatory framework.

**BUDGET COST:** \$50,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District currently uses a CMMS software program called Accela. This is a database program, based on Microsoft Access, that is used to generate and track work orders, maintain inventory, track costs and provide a wide range of functionality for asset management. However, we are using a "legacy" version of the program that is no longer being supported. Problems with the application are increasing in frequency and severity, in part due to the number of records we have generated, and some form of upgrade is impending. Accela, like many CMMS software providers, has transitioned to broad, cloud based applications geared toward full service municipalities. Ideally, we would specify and select a solution that can work for both plant and collection system operations. State regulations continue to drive the collection system management approach towards complete integration of GIS, CCTV, CMMS, hydraulic modeling and other features. This will be a critical part of the package selection process.





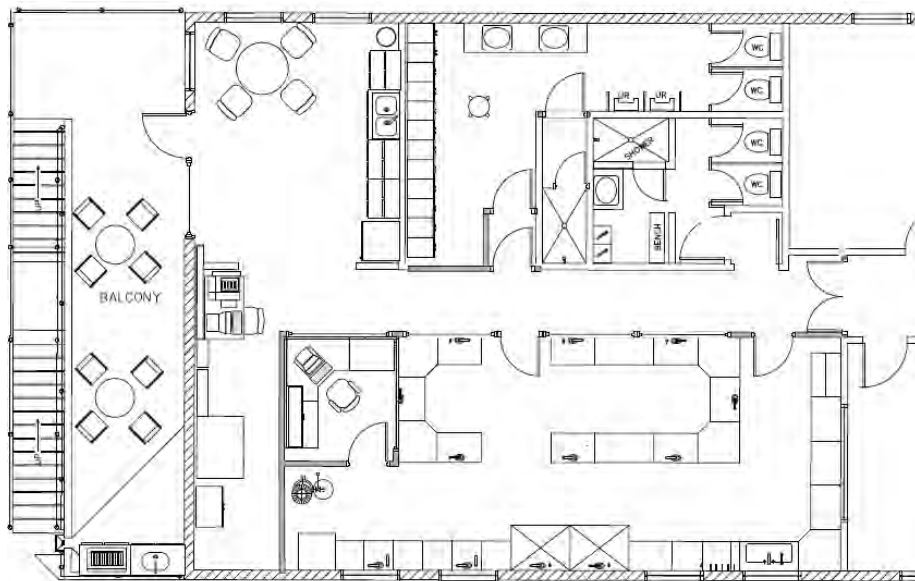
**PROJECT TITLE: Laboratory and Break Room Improvements**

**DESCRIPTION:** This project involves reconfiguration of the laboratory and break room area to segregate the two spaces. The lab and lab director's office would be enclosed with glass panel walls and the adjacent employee break and meal area would be remodeled to provide interior seating and more sanitary facilities. An exterior sitting area, with a canvas weather enclosure would also be created. An outdoor sink and food preparation/storage area are proposed as well. Concurrently, the men's restroom and locker room would be remodeled.

**BUDGET COST:** \$100,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District laboratory and employee break/meal room are currently collocated with no physical separation. This situation results in unpleasant and potentially unsanitary conditions for employees during break periods. The configuration was very poorly designed and developed as part of the plant upgrade, and the existing cabinets and food preparation areas are in very poor condition after 20 years of use. The glass partition walls would contain odors and aerosols generated in the lab operations. The current condition of the men's restroom also reflects 20 years of use. The layout is also a very poor use of space. The project would involve new lockers and reconfiguration of the shower facilities to make them usable. This improvement project is intended to provide a decent environment for employee meal and break periods without incurring the significant cost of constructing a new building or making major structural modifications to existing buildings.







**PROJECT TITLE:** Vehicle Procurement

**DESCRIPTION:** This project involves purchase of a current model year sedan or SUV vehicle for business use by the District's General Manager. It is expected that the vehicle would be procured through the State of California CMAS Contract or another mechanism to ensure that the lowest possible pricing is obtained through an open bidding process.

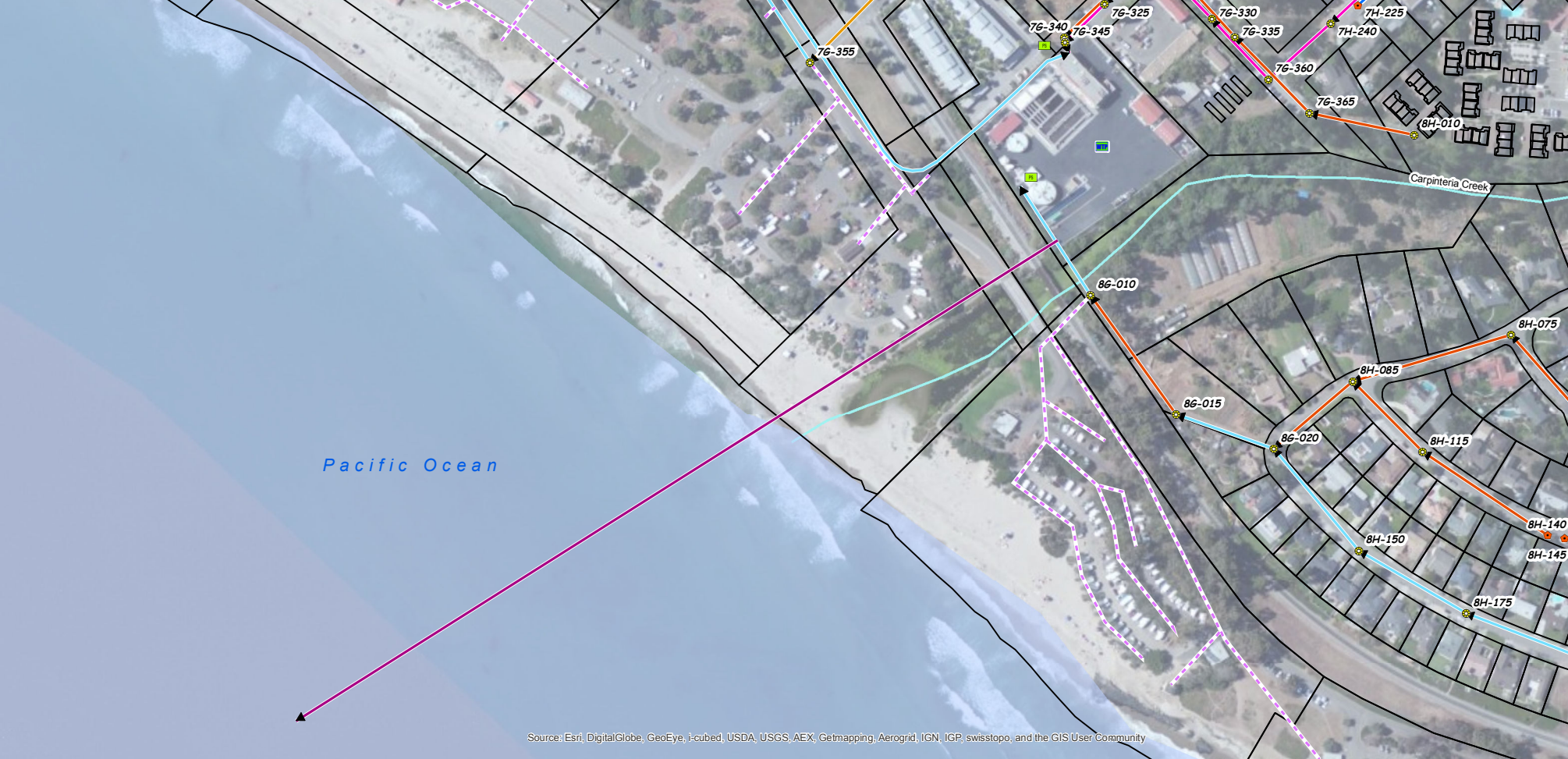
**BUDGET COST:** \$30,000

**FUND SOURCE:** CIP

**JUSTIFICATION:** The District's General Manager is required to be available to respond to agency needs on a 24/7 basis. Additionally, he regularly travels to meetings, conferences and other work related engagements on behalf of the District and is often required to convey passengers. Although the General Manager is currently entitled to mileage reimbursement at the IRS rate, his personal vehicle is not ideal for certain types of travel, nor is it reflective of his public sector role. Most, if not all, public sector executives in this region are provided a vehicle for agency business purposes.



**MAP OF FACILITY AND OUTFALL**



Pacific Ocean

Carpinteria Creek

APPENDIX L

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**AQUATIC BIOASSAYS CONSULTING LABORATORIES  
REPORT**

**Draft Response to Item 9 of the Notice of Violation Letter from the Central Coast Regional Water Quality Control Board to the Carpinteria Sanitary District, December 10, 2013**

Prepared by:

Daniel Hennessy, Anchor QEA, LLC

Scott Johnson, Aquatic Bioassay & Consulting Laboratories, Inc.



## **Summary of Qualifications for Dan Hennessy**

Mr. Dan Hennessy is a Managing Scientist for Anchor QEA in Bellingham, Washington. He has led and supported a wide range of environmental assessment and restoration projects. With 20 years of professional experience, he has worked on a diversity of environmental projects and contributed at all levels, including as a project manager, technical advisor, aquatic toxicology laboratory manager, and field team leader. This experience provides a pragmatic knowledge base to efficiently assess complex issues, including human and ecological risks from complex exposure pathways, and the selection of appropriate interpretative criteria. His primary areas of expertise are aquatic ecology, toxicology, and ecological and human health risk assessment. Mr. Hennessy's work experience has included significant contributions to state and federal remedial investigation/feasibility studies, aquatic and terrestrial ecological risk assessments, human health risk assessments, sediment and water quality studies and criteria development, biological monitoring, habitat analysis, natural resource damage assessments, and discharge permit evaluations.

## **Education**

University of Washington, M.S., Fisheries Science, 1998

Western Washington University, B.S., Environmental Science, 1992

University of California, Irvine, B.A., Social Science, 1990

## **Professional Memberships and Registrations**

Member, Society of Environmental Toxicology and Chemistry, 1994 to present

Member, Association for Environmental Health & Sciences, 2007 to present

40-hour HAZWOPER Training and current 8-hour Refresher Course, 2013



## **Summary of Qualifications for Scott Johnson**

Mr. Scott Johnson is the Laboratory Director for Aquatic Bioassay & Consulting Laboratories (Aquatic Bioassay) in Ventura, California. Mr. Johnson joined Aquatic Bioassay in 2001 and currently manages the freshwater bioassessment and marine monitoring programs for several of the largest municipal, state, and private agencies in the State of California. His career has focused on the effects of anthropogenic contaminants and habitat conditions on the composition and integrity of biological communities, the development and implementation of both distributed and centralized environmental database systems, and laboratory management. Mr. Johnson began his career with the City of Los Angeles, where he managed the biology laboratories and was responsible for the regulatory permits pertaining to the Los Angeles River, Santa Monica Bay, and Los Angeles Harbor. He joined EcoAnalysis, Inc., an environmental analysis and database company in 1994, advancing to President in 1998. He has numerous scientific papers and presentations to his credit.

## **Education**

California State University, Long Beach, M.S., Biology, 1988

California State University, Long Beach, B.S., Biology (minor in Chemistry), 1981

University of Uppsala, Sweden, Limnology studies, 1978 to 1979

## **Professional Memberships and Registrations**

Board, Southern California Chapter of the Society of Environmental Toxicologists and Chemists, 2010 to 2013

Board, Southwestern Association of Freshwater Invertebrate Taxonomists, 2007 to 2011

Member, Technical Advisory Committee for the Southern California Stormwater Monitoring Coalition, 2006 to present

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Daniel Hennessy, Anchor QEA, LLC



Scott Johnson, Aquatic Bioassay & Consulting Laboratories, Inc.



## **Introduction**

The following evaluation partially addresses the information request in the notice of violation letter from the Central Coast Regional Water Quality Control Board (CCRWQCB) to Craig Murray (Carpinteria Sanitary District; CSD) dated December 10, 2013. The letter is regarding three self-reported deviations of CSD National Pollutant Discharge Elimination System (NPDES) permit provisions. Specifically addressed herein is Item 9 of the letter, Impacts of Discharge. Included in this evaluation are an assessment of potential short and long-term impacts of the discharge events on public health and animal and plant communities (including sensitive and/or endangered species in the Pacific Ocean located downstream of the CSD outfall), and on the overall ecosystem downstream of the discharges. Supporting evaluations and sampling and analysis activities are described.

Three reported discharge events are addressed, an October 3, 2012, loss of disinfection and two chlorine residual effluent limit excursions, one on January 3, 2013, and the other on January 7, 2013. The potential for effluent exposure to aquatic life and people is a function of the effluent concentration and rate of discharge to the receiving water. The fate and transport of effluent in the receiving water is a function of the chemical and physical conditions of the receiving environment. Effluent that has not been disinfected has the potential to contain pathogens that are at sufficient concentrations to be harmful to human health through water contact recreation or shellfish harvesting. Effluent that contains excess residual chlorine has the potential to pose adverse acute effects on aquatic biota, including threatened or endangered species. The CSD NPDES permit specifies concentrations of pathogenic bacteria and residual chlorine limits under different exposure and sampling regimes, and these are the primary basis for determining potential impacts to people and aquatic life. The permit also specifies the application of the minimum initial dilution factor. Review of the technical basis for the effluent limits and the dilution factor provided in the CSD NPDES permit were beyond the scope of this review and they were applied per the permit.

This evaluation applied conservative assumptions to compare available data from the three discharge events to CSD NPDES permit requirements. Recognizing the high energy environment of the beach where the CSD outfall is located, the distribution of effluent beyond the initial dilution zone was also evaluated using a simple mixing model. Overall, impacts to aquatic biota from the chlorine residual events, including threatened or

endangered species, is unlikely. Likewise, it is unlikely that the loss of disinfection event posed any threat to people involved in water contact recreation or shellfish harvesting. Uncertainties associated with the data, assumptions, and evaluation are detailed at the end of this discussion in the Risk Characterization and Uncertainty Evaluation section.

### **Problem Formulation**

The problem formulation includes a review of discharge event information, the determination of likely ecological receptors and human uses in the area of discharge, and summarizes diffuser and receiving water characteristics. The methods used to evaluate potential impacts of the discharges follow established environmental risk assessment steps including:

- Effects assessment including a review of permit conditions and relevant water quality benchmarks established for the protection of aquatic life and human health
- Exposure assessment including an evaluation of discharge event duration and magnitude, and fate and transport considerations
- Risk characterization and discussion of uncertainties

### **Discharge Event Information**

The discharge occurred from the CSD outfall diffuser, which is located approximately 1,000 feet offshore in approximately 30 feet of water. The CSD outfall is regulated under NPDES permit CA0047364. The outfall diffuser section is approximately 93 feet long, with diffuser ports located every 6 feet. Post-event monitoring data were not collected by CSD for the loss of disinfection incident. The three events addressed in the letter and reviewed herein are one loss of disinfection event on October 3, 2012, and two similar short duration chlorine residual events on January 3, 2013 and January 7, 2013. Details related to these three incidents were provided by CSD for the purposes of this analysis.

For the October 3, 2012 loss of disinfection, the event lasted for 5 hours 37 minutes with total estimated flow of 231,076 gallons<sup>1</sup>. During this period, the effluent flow rate ranged from approximately 400 gallons per minute (gpm) to 1,700 gpm. In support of the evaluation of the loss of disinfection event, on January 6, 2014, CSD staff collected samples of ocean

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<sup>1</sup> The event flow was initially estimated by CSD to be 281,250 gallons. The actual amount, 231,076 gallons, was subsequently calculated by Carollo Engineers.

water and un-disinfected secondary effluent. The CSD certified laboratory then conducted multi-tube fermentation bacteriological analyses for total and fecal coliform most probable number (MPN) on plant effluent before chlorination, plant effluent after chlorination, ocean water, and effluent-spiked ocean water at a 93:1 dilution (see Attachment 1). These results were used in lieu of post-event monitoring data and indicate the MPN counts that could be expected for the event in plant effluent (160,000 coliform MPN/100 milliliters [mL] and 92,000 fecal MPN/100 mL, respectively) and under the permit-established dilution factor of 93:1 (490 coliform MPN/100 mL and 330 fecal MPN/100 mL).

One chlorine residual event occurred on January 3, 2013, with a 26-minute duration starting at 8:26 a.m. and a total estimated flow of 22,610 gallons. A second chlorine residual event occurred on January 7, 2013, with a 2-minute duration starting at 7:27 a.m. and a total estimated flow of 2,060 gallons. Total chlorine concentrations measured in the first and second events were 10.4 milligrams per liter (mg/L) and 7.8 mg/L, respectively.

### Ecological and Human Receptors

Beneficial uses of the Pacific Ocean around the outfall include water contact recreation, marine habitat, shellfish harvesting, wildlife habitat, migration of aquatic organisms, and spawning, reproduction, and/or early development. For the purpose of this assessment, water quality objectives specified in the CSD NPDES permit were applied to evaluate potential impacts to the above listed beneficial uses.

An appropriate and required literature search of the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CNDDDB<sup>2</sup>) was conducted. The following quadrangles were queried for known sensitive Elements of Occurrence of natural communities, plants, and animals using the commercial computer application RAREFIND 3: Carpinteria (3411945) and Santa Barbara (3411946). This information is often helpful in determining which elements might be present and should be looked for, or perhaps are at least expected to occur. This list was further refined to reflect one species, the Southern California distinct population segment (DPS) of steelhead (*Oncorhynchus mykiss irideus*), that is expected to be present in the habitat of the outfalls (located approximately 1,000 feet

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<sup>2</sup> California Natural Diversity Data Base (CNDDDB). 2014. Rarefind data output for the Cambria USGS 7.5-minute quadrangle, January, 2014. California Department of Fish and Wildlife. Sacramento, California. Accessed online January 16, 2014, from the following link: <https://map.dfg.ca.gov/rarefind/view/RareFind.aspx>

offshore in approximately 30 feet of water). The Southern California DPS of steelhead is a federally endangered species and a CDFW Species of Special Concern. Shorebirds and wetland or dune species were not included due to the location of the outfalls 500 feet offshore. The tidewater goby was not considered because it lives in lagoon, estuary, and brackish marsh shallow water areas.

For the purpose of this evaluation, only chlorine exposure was considered for aquatic life. Bacterial loading from secondary effluent is unlikely to have an impact on aquatic biota. Further, there are no interpretative criteria for pathogen exposure to aquatic life. The water quality objectives in the Ocean Plan (2012)<sup>3</sup> are intended to be protective of marine communities, including vertebrate, invertebrate, and plant species. Therefore, the Ocean Plan water quality objectives for total chlorine residual applying to intermittent discharges not exceeding 2 hours was applied to characterize potential risk to aquatic life from the chlorine residual events. For the purpose of evaluating potential impacts on listed species, the receptor evaluated was individual steelhead. As discussed below in the Exposure and Effects Assessment section, toxicity data applied by EPA (1985)<sup>4</sup> to develop the aquatic life criteria for chlorine were used to develop an acute benchmark for steelhead.

Humans potentially exposed are those involved in water contact recreation and shellfish harvesting. Chlorine discharges at the levels observed are well below the conservative EPA dermal screening levels for residential tap water of 240 mg/L.<sup>5</sup> Therefore, chlorine was not considered a risk to people. For the purpose of this evaluation, only potential effects from exposure to total coliform and fecal coliform bacteria were considered for people.

### Diffuser and Receiving Water

The outfall diffuser section is a 93-foot section with diffuser pipes spaced 6 feet apart along the entire diffuser length. The dilution zone is defined as the region in which the rapid, initial mixing occurs and provides the basis for determining the minimum initial dilution ratio of seawater to effluent achieved during the initial mixing phase in the dilution zone. The minimum initial dilution ratio is calculated under an assumption that no current flows

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<sup>3</sup> State Water Resources Control Board. 2012. Water Quality Control Plan, Ocean Waters of California.

<sup>4</sup> U.S. Environmental Protection Agency (EPA). 1985. Ambient Water Quality Criteria for Chlorine – 1984. EPA 440/5-84-030. January, 1985.

<sup>5</sup> <http://www.epa.gov/region9/superfund/prg/>



across the discharge structure. Waves and currents in the vicinity of the discharge structure will significantly dilute effluent beyond the minimum initial dilution ratio. The CSD permit applies a dilution ratio of 93:1 to the discharge to determine effluent limitations derived from Ocean Plan water quality objectives.

To better understand the fate and transport of the effluent plume a simple point discharge effluent mixing model developed by the U.S. Army Corps of Engineers (USACE) was applied. The calculation follows the dilution volume method for confined disposal facility (CDF) effluent discharges in USACE (1998)<sup>6</sup>. This method was selected because it is a relatively simple model that is consistent with a point effluent discharge into a tidal receiving water.

### ***Exposure and Effects Assessment***

#### **Chlorine**

Discharges of chlorine are common because it is used to disinfect effluents. In salt water, the addition of chlorine results in a solution that contains free chlorine and chlorine-produced oxidants including hypochlorous acid (HOCl) and hypochlorite ion (OCl<sup>-</sup>). Because saltwater contains bromide, hypobromous acid (HOBr), hypobromous ion (OBr<sup>-</sup>), and bromamines are also produced. The term *chlorine-produced oxidants* is used to refer to the sum of these oxidants in salt water and is measured by the methods for total chlorine residual (EPA 1985).

Per the permit, water quality objectives for total chlorine residual applying to intermittent discharges not exceeding 2 hours shall be determined using the following equation:

$$\text{Log } y = -0.43 (\text{log } x) + 1.8$$

where:

- y = the water quality objective (in micrograms per liter [ $\mu\text{g/L}$ ]) to apply when chlorine is being discharged
- x = the duration of uninterrupted chlorine discharge in minutes

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<sup>6</sup> U.S. Army Corps of Engineers (USACE). 1998. Evaluation of Dredged Material Proposed for Discharge in Water of the U.S. – Testing Manual, Appendix C.

The applicable effluent limitation must then be determined using Equation No. 1 from the Ocean Plan (2012) as follows:

$$C_e = C_o + D_m (C_o - C_s)$$

where:

- $C_e$  = the effluent concentration limit, in  $\mu\text{g/L}$
- $C_o$  = the concentration (water quality objective) to be met at the completion of initial dilution, in  $\mu\text{g/L}$
- $C_s$  = background seawater concentration, in  $\mu\text{g/L}$
- $D_m$  = minimum probable initial dilution expressed as parts seawater per part wastewater; the minimum probable initial dilution applying to the discharger is 93:1, therefore,  $D_m = 93$

For the purpose of evaluating potential effects on individuals from the Southern California DPS of steelhead, the National Ambient Water Quality Criteria for Chlorine (EPA 1985) was reviewed for acute toxicity data for species of the genus *Oncorhynchus*. The saltwater genus mean acute value (GMAV) for *Oncorhynchus* (0.047 mg/L) was used as a conservative benchmark to evaluate potential impacts on individual steelhead. Other Pacific Ocean fish and invertebrate species data used by EPA (1985) had higher GMAV. This benchmark is applied per EPA methods and represents a 1-hour average concentration. Marine plant toxicity benchmarks reported by EPA (1976)<sup>7</sup> ranged from 0.075 to 0.330 mg/L and are all above the GMAV value for *Oncorhynchus*. Therefore, the selected value is also protective of marine plant species.

For the January 3, 2013, 8:26 a.m. chlorine residual event, which had a duration of 19 minutes, the calculated water quality objective for total chlorine residual is 1.7 mg/L. The measured total chlorine concentration in the effluent discharge was 10.4 mg/L. The effluent concentration at the edge of the zone of initial dilution is 0.11 mg/L.

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<sup>7</sup> Gentile, J.H., J. Cardin, M. Johnson, and S. Sosnowski. 1976. Power plants, chlorine, and estuaries. EPA-600/3-76-055.

For the January 7, 2013, 7:24 a.m. chlorine residual event, which had a duration of 2 minutes, the calculated water quality objective for total chlorine residual is 4.4 mg/L. The measured total chlorine concentration in the effluent discharge was 7.8 mg/L. The concentration at the edge of the dilution zone is 0.084 mg/L.

For both chlorine residual events, the concentrations were substantially below the water quality objective, and therefore short- or long-term impacts to aquatic life from these events are unlikely.

### **Bacterial**

Bacterial discharges may adversely impact water contact recreation and shellfish harvesting beneficial uses, and therefore potential impacts are mitigated by CSD by applying chlorine as a disinfectant. The CSD permit limit for total coliform is 2,300 MPN/100 mL as a daily maximum, or 23 MPN/100 mL as a weekly median. The Ocean Plan (2012) receiving water standards are a single maximum total coliform of 10,000 MPN/100 mL, and fecal coliform of 400 MPN/100 mL. The 30-day geometric mean standard is total coliform of 1,000 MPN/100 mL, and fecal coliform of 200 MPN/100 mL.

Using samples collected on January 6, 2014, the CSD laboratory tested total coliform and fecal coliform in plant effluent before chlorination and under the permit-established dilution factor of 93:1. During the loss of chlorination event, the effluent flowed through the 80,000-gallon serpentine chlorine contact tank prior to entering the ocean outfall pipe. Therefore, some level of disinfection likely continued due to mixing within the reactor for a period of time after failure of the chemical feed pump. As such, the laboratory test using untreated effluent diluted with ocean water at the permit-established dilution factor of 93:1 is the most appropriate measure of bacterial concentrations released from the outfall diffuser to the initial dilution zone during the Loss of Disinfection event. The test assumes no chlorination, but appropriately dilutes the effluent to conservatively estimate bacterial concentrations. Applying the dilution factor to the 100 percent effluent test result would likely overestimate exposure because coliform colony-forming units decrease with time in seawater<sup>8</sup>. In the 93:1 ocean water-to-effluent dilution test, the total coliform were 490 MPN/100 mL, and fecal

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<sup>8</sup> Dawe, L.L and W.R. Penrose. 1978. "Bactericidal" Property of Seawater: Death or Debilitation? Applied and Environmental Microbiology 35(5):829-833.

coliform were 330 MPN/100 ml. In the 100 percent effluent MPN tests, the total coliform were 160,000 MPN/100 mL, and fecal coliform were 92,000 MPN/100 mL.

### ***Risk Characterization and Uncertainty Evaluation***

#### **Chlorine**

It is unlikely that concentrations outside the zone of initial dilution were above the intermittent discharge permit limit for chlorine. For the January 3, 2013, 7:24 a.m. chlorine residual event, which had a duration of 2 minutes, the estimated concentration at the edge of the dilution zone is 0.084 mg/L. This value is well below the calculated permit limit for total chlorine residual for this event (4.4 mg/L). For the January 7, 2013, 8:26 a.m. chlorine residual event, which had a duration of 19 minutes, the estimated concentration at the edge of the zone of initial dilution is 0.11 mg/L. This value is well below the calculated permit limit for total chlorine residual for this event (1.7 mg/L).

Because of the potential for individuals of the Southern California DPS of steelhead to be present near the outfall, and the exceedance of the acute toxicity benchmark at the edge of the initial dilution zone, the exposure to steelhead was evaluated using the simple mixing model assuming a tidal current velocity of 0.1 foot/second and a 25-foot water column mixing depth (Tables 1 and 2). For the January 3, 2013 event, the effluent residual chlorine concentration at the edge of the zone of initial dilution, 0.084 mg/L, would reach a concentration of 0.047 mg/L (the steelhead acute toxicity benchmark) in approximately 15 seconds and at a distance of approximately 2 feet from the point of discharge. For the January 7, 2013 event, the effluent residual chlorine concentration at the edge of the zone of initial dilution, 0.11 mg/L, would reach a concentration of 0.047 mg/L (the steelhead acute toxicity benchmark) in approximately 24 seconds and at a distance of approximately 2 feet from the point of discharge. Given that the 2-minute and 19-minute durations of the chlorine residual events are less than the acute toxicity benchmark 1-hour averaging time, no adverse impact on individuals of the Southern California DPS of steelhead would be expected from either of the chlorine residual events.

#### **Bacterial**

Because bacterial samples were not available for the October 3, 2012, Loss of Disinfection event, the CSD laboratory conducted multi-tube fermentation tests using untreated effluent in a 93:1 ocean water-to-effluent dilution test to estimate conditions in the initial dilution

zone. In this test the total coliform were 490 MPN/100 mL, and fecal coliform were 330 MPN/100 mL. Under this set of test conditions, the CSD permit limit for total coliform (2,300 MPN/100 mL as a daily maximum) was not exceeded, nor were the Ocean Plan (2012) receiving water standards for a single maximum total coliform of 10,000 MPN/100 mL or fecal coliform of 400 MPN/100 mL.

Because there is uncertainty associated with the actual bacterial concentrations at the edge of the zone of dilution during the event, the worst case 100 percent effluent MPN tests were evaluated using the mixing model (Table 3). The effluent concentration at the edge of the zone of initial dilution, 990 MPN/100 mL, would reach a concentration of 400 MPN/ 100 mL (the fecal coliform single maximum concentration) in approximately 20 seconds and at a distance of approximately 2 feet from the point of discharge. Given the relatively small area this represents, no adverse impacts to human direct contact recreation or shellfish harvesting would be expected from the loss of disinfection event.

### **Summary**

Three discharge events were evaluated for potential impacts to people and aquatic biota, including sensitive and/or endangered species: an October 3, 2012, loss of disinfection and two reported chlorine residual effluent limit excursions, one on January 3, 2013, and the other on January 7, 2013. Under reasonable maximum exposure scenarios, none of the events resulted in an exceedance of applicable water quality limits and no adverse impacts to human direct contact recreation or shellfish harvesting or aquatic life would be expected.

Steelhead, the single endangered species that could have potentially been near the outfall during the discharge events, was evaluated using data from EPA (1985) aquatic life criteria for chlorine. Based on the duration of the residual chlorine events and conservative plume dilution model, no adverse impact on individuals of the Southern California DPS of steelhead would be expected from either of the two chlorine residual events.

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## Tables

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**Table 1**  
**Estimate of Plume Mixing Characteristics for January 3, 2013 Chlorine Residual Event**

Parameter	Variable	Units	Value	Basis
<b>Effluent Concentration Back-Calculated to Achieve 150-foot Mixing Zone</b>				
<i>Effluent Concentration</i>	$C_0$	Parts/L	0.11	<i>Chlorine concentration estimated in effluent (10.4 mg/L, 93:1 dilution)</i>
<b>Assumptions</b>				
Discharge Rate	$V_p$	cfs	2.64	Event duration was 19 minutes. Estimated flow during event was 22,610 gallons. There are 0.133 cubic feet in 1 gallon.
Average Tidal Current	$V_w$	ft/sec	0.100	Assumed tidal current in location of discharge
Aquatic Life Protective Concentration	$C_c$	mg/L	0.047	Based on <i>Oncorhynchus</i> acute value from EPA (1985) Aquatic Life Criteria for Chlorine
Assumed Water Column Mixing Depth	d	ft	25	Mixing depth could occur to the water depth of up to 42 feet
Assumed Turbulent Dissipation Parameter	$\lambda$	unitless	0.005	Recommended in USACE (1998) for estuary system
<b>Estimate of Concentration with a 150-foot Mixing Zone</b>				
Time to reach 150 ft	t	sec	1,500	$t = 150 \text{ ft} / V_w$
Mixing Zone Width at 150 ft	L	ft	713	$L = (t * \lambda / 0.094)^{3/2}$
Mixing Volume at 150 ft	$V_a$	cfs	1,782	$V_a = V_w * d * L$
<b>Mixed Concentration at 150 ft</b>	$C_m$	mg/L	<b>0.0002</b>	$C_m = C_0 * V_p / (V_a + V_p)$
<b>Estimate of Mixing Zone Required to Meet Water Quality Criteria</b>				
Mixing Factor Required to Achieve Effluent Limit	D	unitless	1.4	$D = (C_0 - C_c) / C_c$ . Assumes background concentration is zero
Mixing Volume to Achieve Mixing	$V_a$	cfs	4	$V_a = V_p * D$
Mixing Zone Width Required to Achieve Mixing	L	ft	1	$L = V_a / (d * V_w)$
Time to Spread to Achieve Mixing Zone Width	t	sec	24	$t = (1/\lambda) * (0.094 * L^{2/3})$ . Assumes a point discharge with an initial width of 0 feet
<b>Length of Mixing Zone Required to Meet Aquatic Life Protective Concentration</b>	<b>X</b>	<b>ft</b>	<b>2.4</b>	$X = V_w * t$

Notes:

Calculation based on the Dilution Volume Method for CDF Effluent Discharges in USACE (1998).

**Table 2**  
**Estimate of Plume Mixing Characteristics for January 7, 2013 Chlorine Residual Event**

Parameter	Variable	Units	Value	Basis
<b>Effluent Concentration Back-Calculated to Achieve 150-foot Mixing Zone</b>				
<i>Effluent Concentration</i>	$C_0$	Parts/L	0.08	<i>Chlorine concentration estimated in effluent (7.8 mg/L, 93:1 dilution)</i>
<b>Assumptions</b>				
Discharge Rate	$V_p$	cfs	2.28	Event duration was 2 minutes. Estimated flow during event was 2,060 gallons. There are 0.133 cubic feet in 1 gallon.
Average Tidal Current	$V_w$	ft/sec	0.100	Assumed tidal current in location of discharge
Aquatic Life Protective Concentration	$C_c$	mg/L	0.047	Based on <i>Oncorhynchus</i> acute value from EPA (1985) Aquatic Life Criteria for Chlorine
Assumed Water Column Mixing Depth	d	ft	25	Mixing depth could occur to the water depth of up to 42 feet
Assumed Turbulent Dissipation Parameter	$\lambda$	unitless	0.005	Recommended in USACE (1998) for estuary system
<b>Estimate of Concentration with a 150-foot Mixing Zone</b>				
Time to reach 150 ft	t	sec	1,500	$t = 150 \text{ ft} / V_w$
Mixing Zone Width at 150 ft	L	ft	713	$L = (t * \lambda / 0.094)^{3/2}$
Mixing Volume at 150 ft	$V_a$	cfs	1,782	$V_a = V_w * d * L$
<b>Mixed Concentration at 150 ft</b>	$C_m$	mg/L	<b>0.0001</b>	$C_m = C_0 * V_p / (V_a + V_p)$
<b>Estimate of Mixing Zone Required to Meet Water Quality Criteria</b>				
Mixing Factor Required to Achieve Effluent Limit	D	unitless	0.8	$D = (C_0 - C_c) / C_c$ . Assumes background concentration is zero
Mixing Volume to Achieve Mixing	$V_a$	cfs	2	$V_a = V_p * D$
Mixing Zone Width Required to Achieve Mixing	L	ft	1	$L = V_a / (d * V_w)$
Time to Spread to Achieve Mixing Zone Width	t	sec	15	$t = (1/\lambda) * (0.094 * L^{2/3})$ . Assumes a point discharge with an initial width of 0 feet
<b>Length of Mixing Zone Required to Meet Aquatic Life Protective Concentration</b>	<b>X</b>	<b>ft</b>	<b>1.5</b>	$X = V_w * t$

Notes:

Calculation based on the Dilution Volume Method for CDF Effluent Discharges in USACE (1998).

**Table 3**  
**Estimate of Plume Mixing Characteristics for October 3, 2012 Loss of Disinfection Event**

Parameter	Variable	Units	Value	Basis
<b>Effluent Concentration Back-Calculated to Achieve 150-foot Mixing Zone</b>				
<i>Effluent Concentration</i>	$C_0$	MPN/L	9,892.5	<i>Fecal coliform bacteria estimated concentration in effluent (92,000 MPN/100 mL, 93:1 dilution)</i>
<b>Assumptions</b>				
Discharge Rate	$V_p$	cfs	1.52	Event duration was 5 hours 37 minutes. Estimated flow during event was 231,076 gallons. There are 0.133 cubic feet in 1 gallon.
Average Tidal Current	$V_w$	ft/sec	0.100	Assumed tidal current in location of discharge
Effluent Limit	$C_c$	MPN/L	4,000	Ocean plan single sample maximum 400 MPN/100 mL
Assumed Water Column Mixing Depth	d	ft	25	Mixing depth could occur to the water depth of up to 42 feet
Assumed Turbulent Dissipation Parameter	$\lambda$	unitless	0.005	Recommended in USACE (1998) for estuary system
<b>Estimate of Concentration with a 150-foot Mixing Zone</b>				
Time to reach 150 ft	t	sec	1,500	$t = 150 \text{ ft} / V_w$
Mixing Zone Width at 150 ft	L	ft	713	$L = (t * \lambda / 0.094)^{3/2}$
Mixing Volume at 150 ft	$V_a$	cfs	1,782	$V_a = V_w * d * L$
<b>Mixed Concentration at 150 ft</b>	$C_m$	MPN/L	<b>8.4318</b>	$C_m = C_0 * V_p / (V_a + V_p)$
<b>Estimate of Mixing Zone Required to Meet Water Quality Criteria</b>				
Mixing Factor Required to Achieve Effluent Limit	D	unitless	1.5	$D = (C_0 - C_c) / C_c$ . Assumes background concentration is zero
Mixing Volume to Achieve Mixing	$V_a$	cfs	2	$V_a = V_p * D$
Mixing Zone Width Required to Achieve Mixing	L	ft	1	$L = V_a / (d * V_w)$
Time to Spread to Achieve Mixing Zone Width	t	sec	17	$t = (1/\lambda) * (0.094 * L^{2/3})$ . Assumes a point discharge with an initial width of 0 feet
<b>Length of Mixing Zone Required to Meet Effluent Limit</b>	<b>X</b>	<b>ft</b>	<b>1.7</b>	$X = V_w * t$

Notes:

Calculation based on the Dilution Volume Method for CDF Effluent Discharges in USACE (1998).

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**Attachment 1**  
**Effluent and Ocean Sample Bacteriological Test Results**

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**CSD Laboratory**  
**Total & Fecal Coliform (MTF)**

Form 9921BE-0

<b>LTB Solution #</b> R-376 <b>BGB Solution #</b> R-126 <b>EC Solution #</b> R-243 <b>Phos. Buffer #</b> R-415	Sampling Point: <b>Plant Effluent After Chlorination</b> Date & Time Collected: 1-6-14/10:25 Sample collected By: FZ	Results: Coliform MPN/100 ML 2-0 Fecal MPN/100 ML <1-8
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Dilutions In	10					1					0.1					0.01				
Portions In ML	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0
Persumptive 24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Confirmed 24		+			-															
48					-															
Fecal Coliform 24		-			-															

Date: 1-6-14 Time: 1:20 Started By: FZ	Date: 1-7-14 Time: 2:30 Read By: FZ	Date: 1-8-14 Time: 1:245 Read By: FZ	Date: 1-9-14 Time: 1:15 Read By: FZ	Date: 1-10-14 Time: 1:10 Read By: FZ
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**Remarks: Ocean Study 2014**

All test done by "Standard Method" (20th Ed.) SM9221B/SM9221C,E

**CSD Laboratory**  
**Total & Fecal Coliform (MTF)**

Form 9921BE-0

**LTB Solution #** R-376  
**BGB Solution #** R-126  
**EC Solution #** R-243  
**Phos. Buffer #** R-415

Sampling Point:  
**Plant Effluent Before Chlorination**

Date & Time Collected:  
 1-6-14/10:20

Sample collected By:  
 JRL

Results:  
 Coliform MPN/100 ML  
 160,000

Fecal MPN/100 ML  
 92,000

Dilutions In	10					1					0.1					0.01					0.001					
Portions In ML	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Persumptive 24	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	-	+	-	-	+	-	
48																	+	+		+		+	-		+	
Confirmed 24	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	+
48																										
Fecal Coliform 24	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+	-

Date: 1-6-14 Time: 1:20 Started By: JRL	Date: 1-7-14 Time: 1:00 Read By: JRL	Date: 1-8-14 Time: 1:00 Read By: JRL	Date: Time: 3rd Read By:	Date: 1-9-14 Time: Fin 1:25 Read By: JRL
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**Remarks: Ocean Study 2014.**

All test done by "Standard Method" (20th Ed.) SM9221B/SM9221C,E



**CSD Laboratory  
Total & Fecal Coliform (MTF)**

Form 9921BE-0

<b>LTB Solution #</b> R-376 <b>BGB Solution #</b> R-126 <b>EC Solution #</b> R-243 <b>Phos. Buffer #</b> R-415	Sampling Point: <b>OCEAN</b> Date & Time Collected: 1-6-14 / 10:30 Sample collected By: BT	Results: Coliform MPN/100 ML <div style="font-size: 2em; text-align: center;">23</div> Fecal MPN/100 ML <div style="font-size: 2em; text-align: center;">13</div>
---	---	--

Dilutions In	10					1					0.1					0.01				
Portions In ML	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0
Persumptive 24	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Confirmed 24	+	+	+	+	+															
48																				
Fecal Coliform 24	-	+	+	+	+															

Date: 1-6-14 Time: 1:00 Started By: JH	Date: 1-7-14 Time: 2:15 Read By: JH	Date: Time: 2nd Read By:	Date: Time: 3rd Read By:	Date: 1-8-14 Time: 1:40 Read By: JH
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**Remarks: Ocean Study 2014**

All test done by "Standard Method" (20th Ed.) SM9221B/SM9221C,E

**CSD Laboratory**  
**Total & Fecal Coliform (MTF)**

Form 9921BE-0

<b>LTB Solution #</b> R-376 <b>BGB Solution #</b> R-126 <b>EC Solution #</b> R-243 <b>Phos. Buffer #</b> R-415	Sampling Point: <b>OCEAN (*SPIKED)</b> Date & Time Collected: 1-6-14 / 10:30 Sample collected By: BT	Results: Coliform MPN/100 ML <div style="font-size: 2em; text-align: center;">490</div> <hr/> Fecal MPN/100 ML <div style="font-size: 2em; text-align: center;">330</div>
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Dilutions In Portions In ML	10					1					0.1					0.01					0.001				
	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	10	10	10	10	10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Persumptive 24	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48											+	-	-	+	-	-	-	-	-	-	-	-	-	-	-
Confirmed 24	+	+	+	+	+	+	+	+	+	+	+				-										
48														+											
Fecal Coliform 24	+	+	+	+	+	+	+	+	+	+	+				-										

Date: 1-6-14	Date: 1-7-14	Date: 1-8-14	Date: 1-9-14	Date: 1-10-14
Time: 1:00	Time: 1:45	Time: 1:20	Time: 1:15	Time: Final 1:10
Started By: FH	Read By: FH	Read By: FH	Read By: FH	Read By: FH

**Remarks: Ocean Study 2014. \* Ocean sample spiked with plant effluent before chlorination (93:1).**

All test done by "Standard Method" (20th Ed.) SM9221B/SM9221C,E

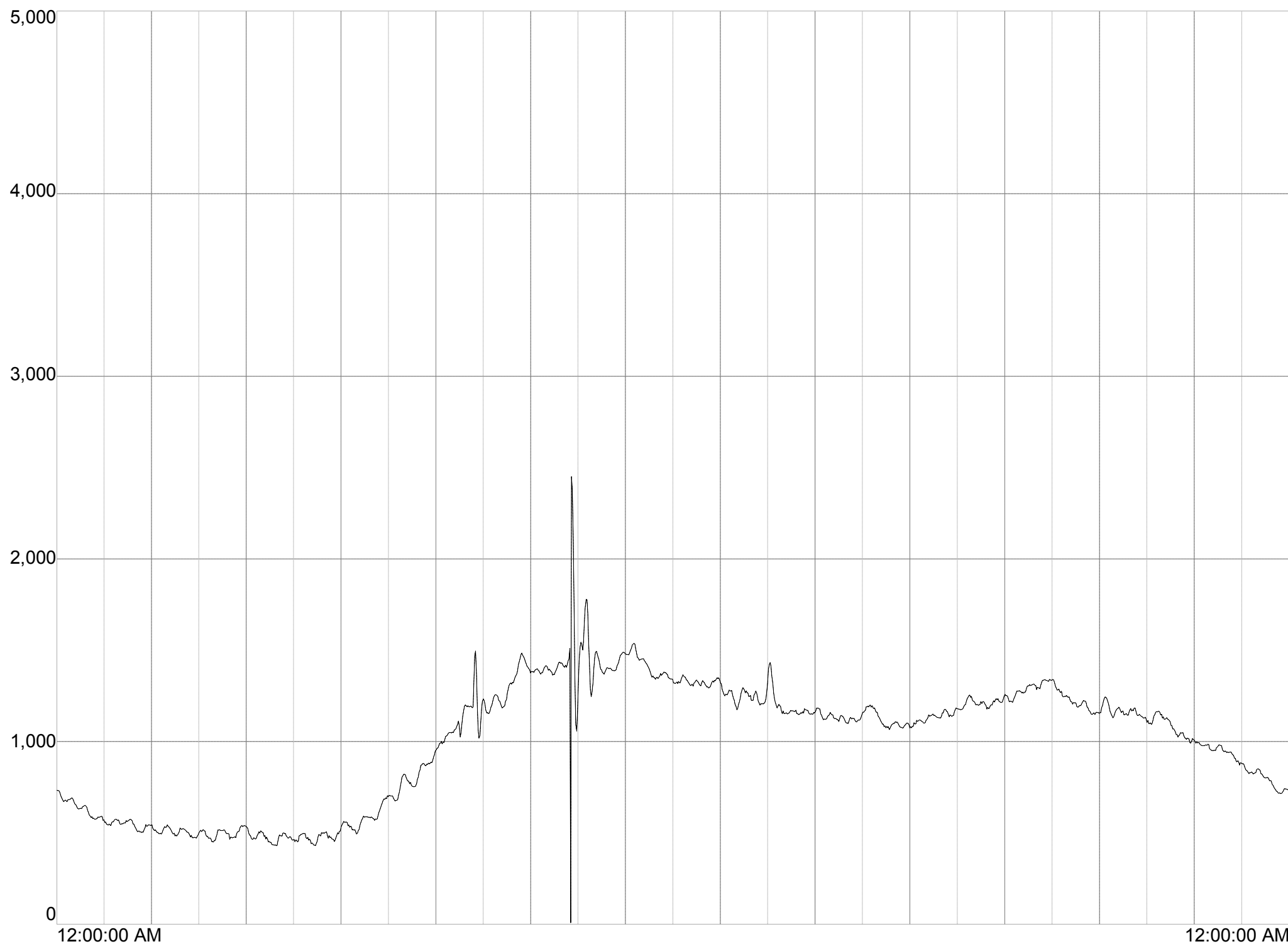
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**FLOW TRENDING AND CHEMICAL USE (JAN 3 & 7)**

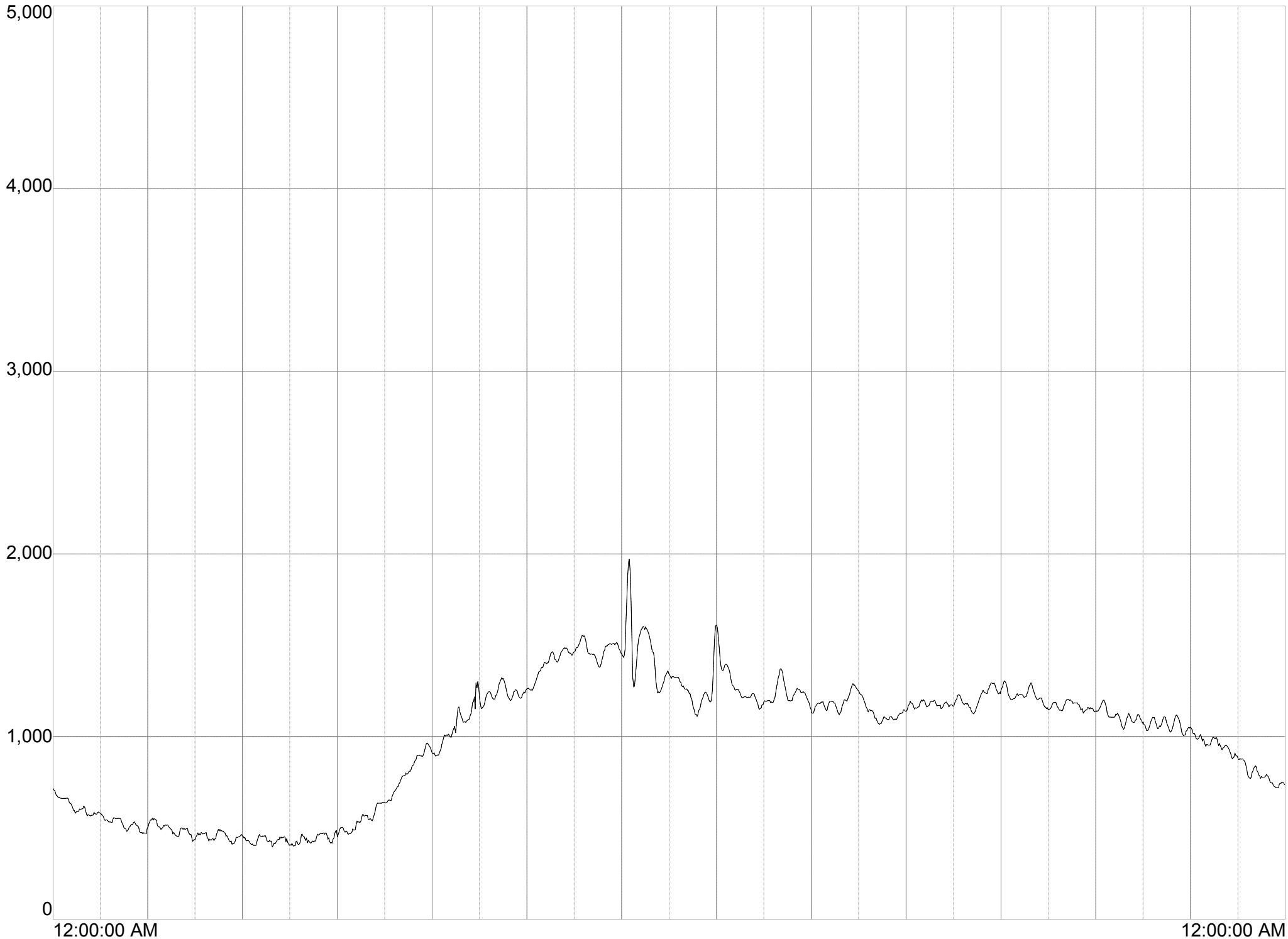
# Monthly Totalizer Report

January-13

Date	Influent Flow MGD	Influent Flow Peak MG	Effluent Flow MGD	Effluent Peak Flow MGD	Hypo-chlorite tank Level GAL	Hypo-chlorite Previous LBS/Day	Bisulfite tank Level GAL	Bisulfite Previous Day LBS	Effluent CL2 Residual Before MG/L	CL2 Residual Average mg/l	CL2 Residual Max MG/L
12/27/2012	1.446	2.678	1.385	2.659	2,330	283	2,489	537	10	0.00	0.66
12/28/2012	1.428	2.841	1.359	2.316	2,109	273	2,362	318	10	0.00	0.9
12/29/2012	1.392	2.348	1.339	2.236	1,784	400	2,212	378	10	0.16	1.3
12/30/2012	1.373	2.449	1.311	2.314	1,546	293	2,077	338	10	0.01	1.88
12/31/2012	1.436	2.737	1.365	2.422	1,316	283	1,918	398	10	0.04	1.2
1/1/2013	1.302	2.16	1.239	2.482	1,126	234	1,712	517	10	0.13	1.2
1/2/2013	1.373	2.23	1.305	2.076	5,676	259	1,498	537	10	0.01	1.88
1/3/2013	1.384	2.662	1.325	2.093	5,485	234	1,554	527	10	0.36	10.4
1/4/2013	1.375	2.488	1.315	2.119	5,287	244	1,538	40	10	0.07	5.1
1/5/2013	1.312	2.215	1.255	2.129	5,097	244	1,023	426	10	0.56	5.05
1/6/2013	1.32	2.78	1.262	2.202	4,915	224	1,102	400	10	0.49	0.08
1/7/2013	1.324	2.341	1.263	1.859	4,724	224	5,089	400	10	0.01	7.8
1/8/2013	1.319	2.048	1.263	1.893	4,534	234	4,978	279	10	0.01	1.31
1/9/2013	1.31	2.077	1.249	1.889	4,352	224	4,851	338	10	0.02	5.06
1/10/2013	1.342	2.376	1.27	2.016	4,162	234	4,716	338	10	0.03	3.49
1/11/2013	1.316	2.741	1.233	1.912	3,971	234	4,590	318	10	0.02	2.96
1/12/2013	1.334	2.176	1.634	2.162	3,773	234	4,447	358	9	0.01	4.05
1/13/2013	1.322	2.209	1.253	2.148	3,575	234	4,304	358	10	0.01	4.35
1/14/2013	1.324	2.07	1.242	2.07	3,353	273	4,154	398	10	0.01	3.72

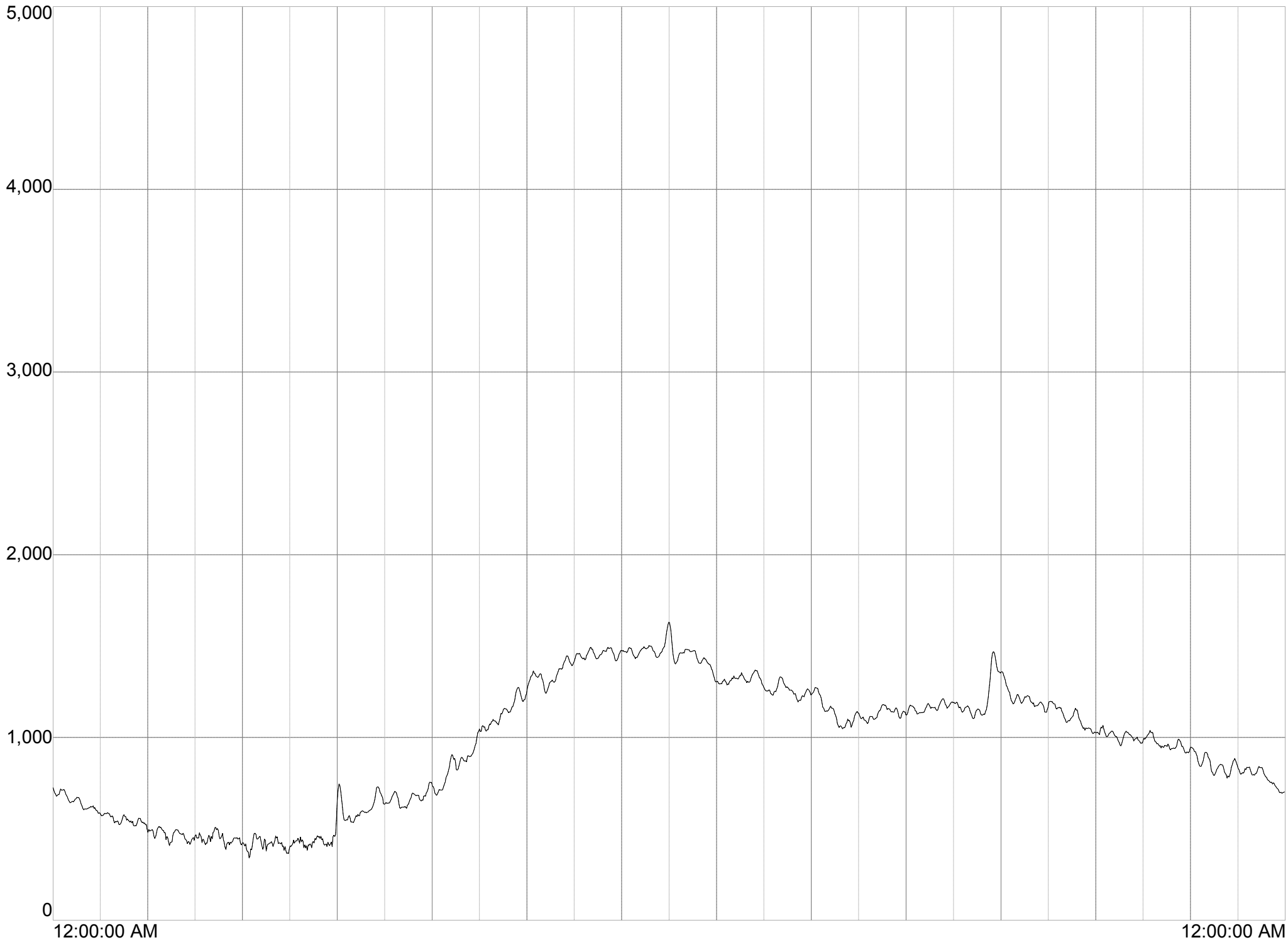


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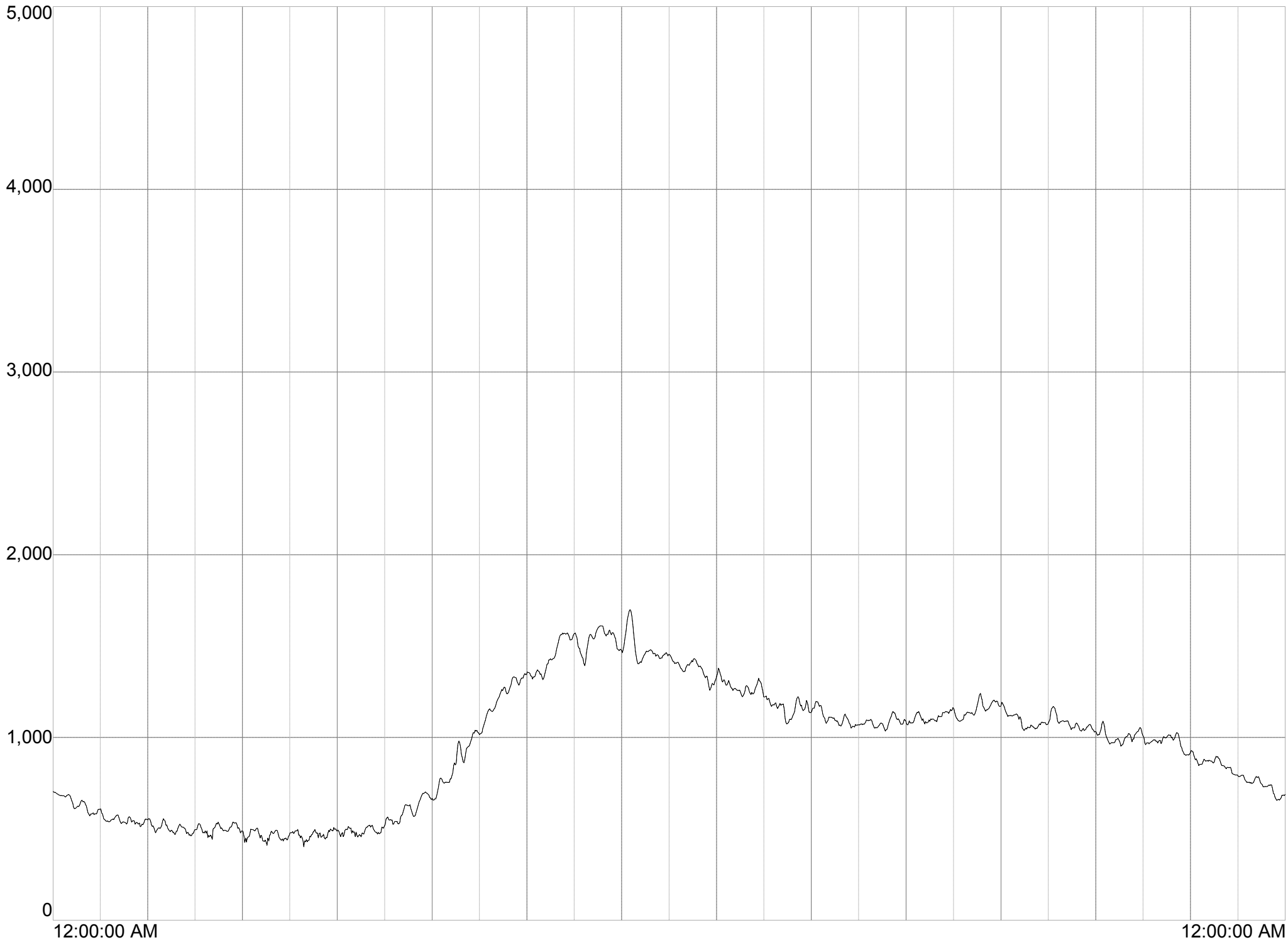


Caption	Value	Min	Max	Units
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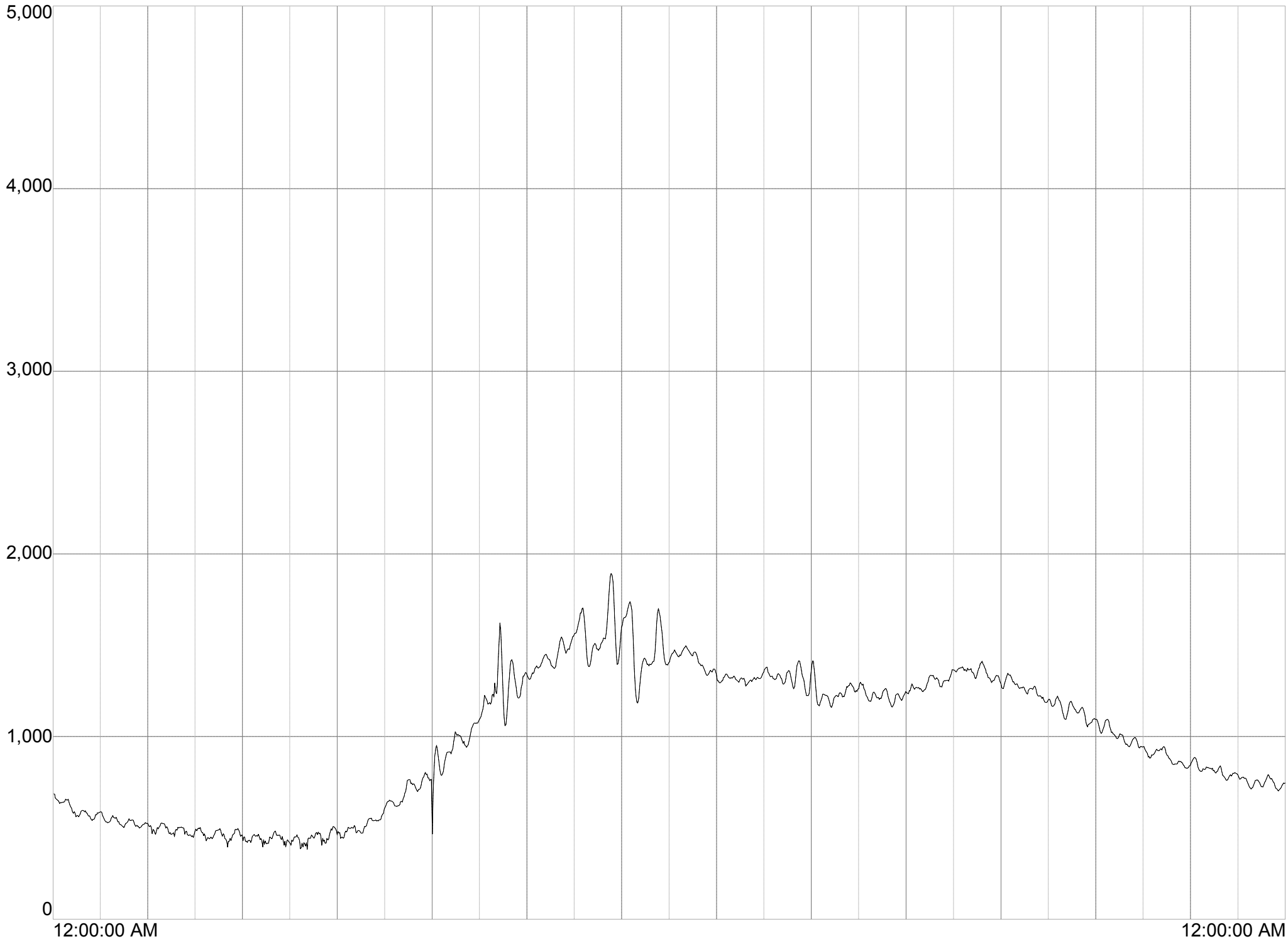


Caption	Value	Min	Max	Units
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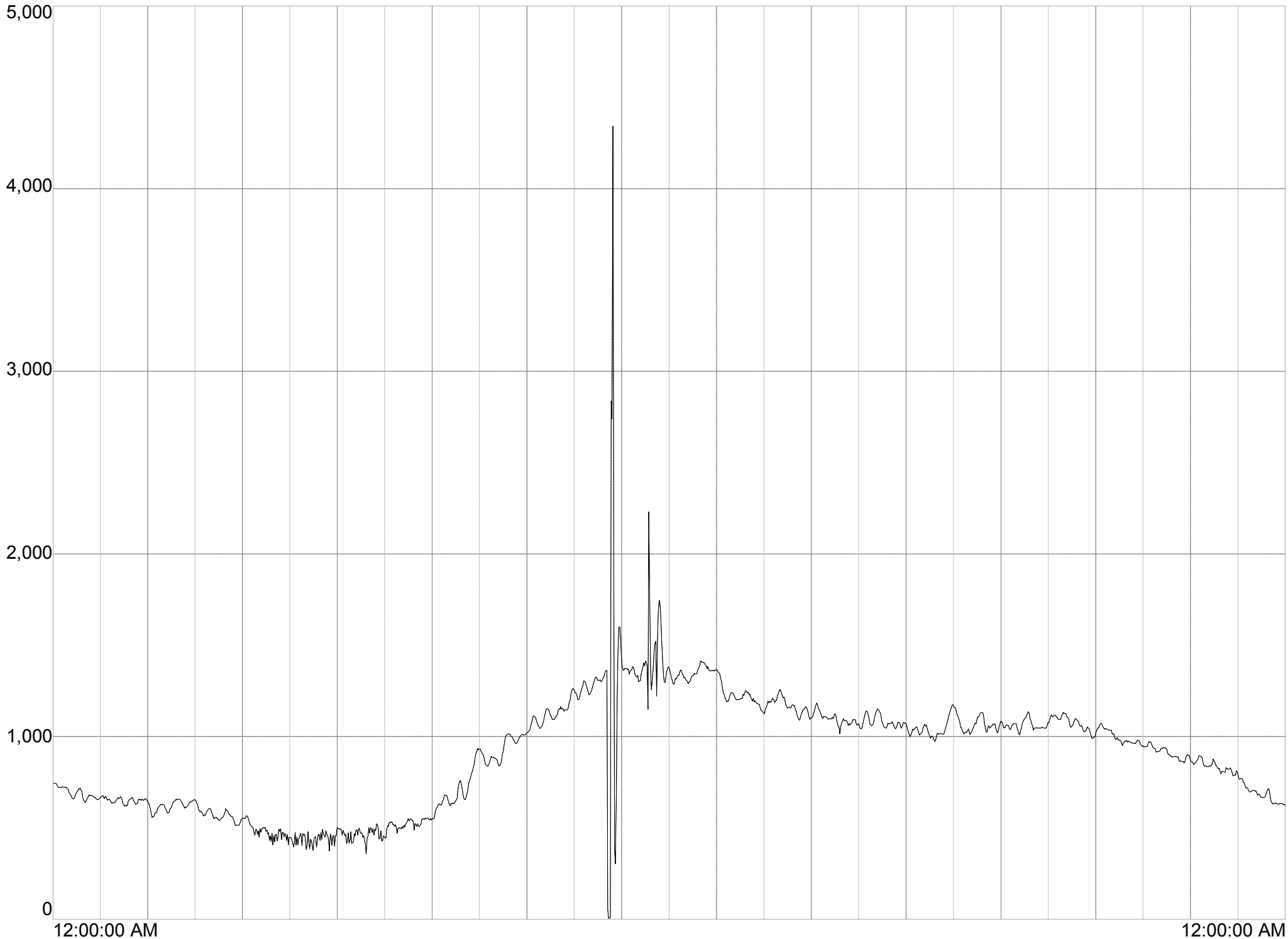


Caption	Value	Min	Max	Units
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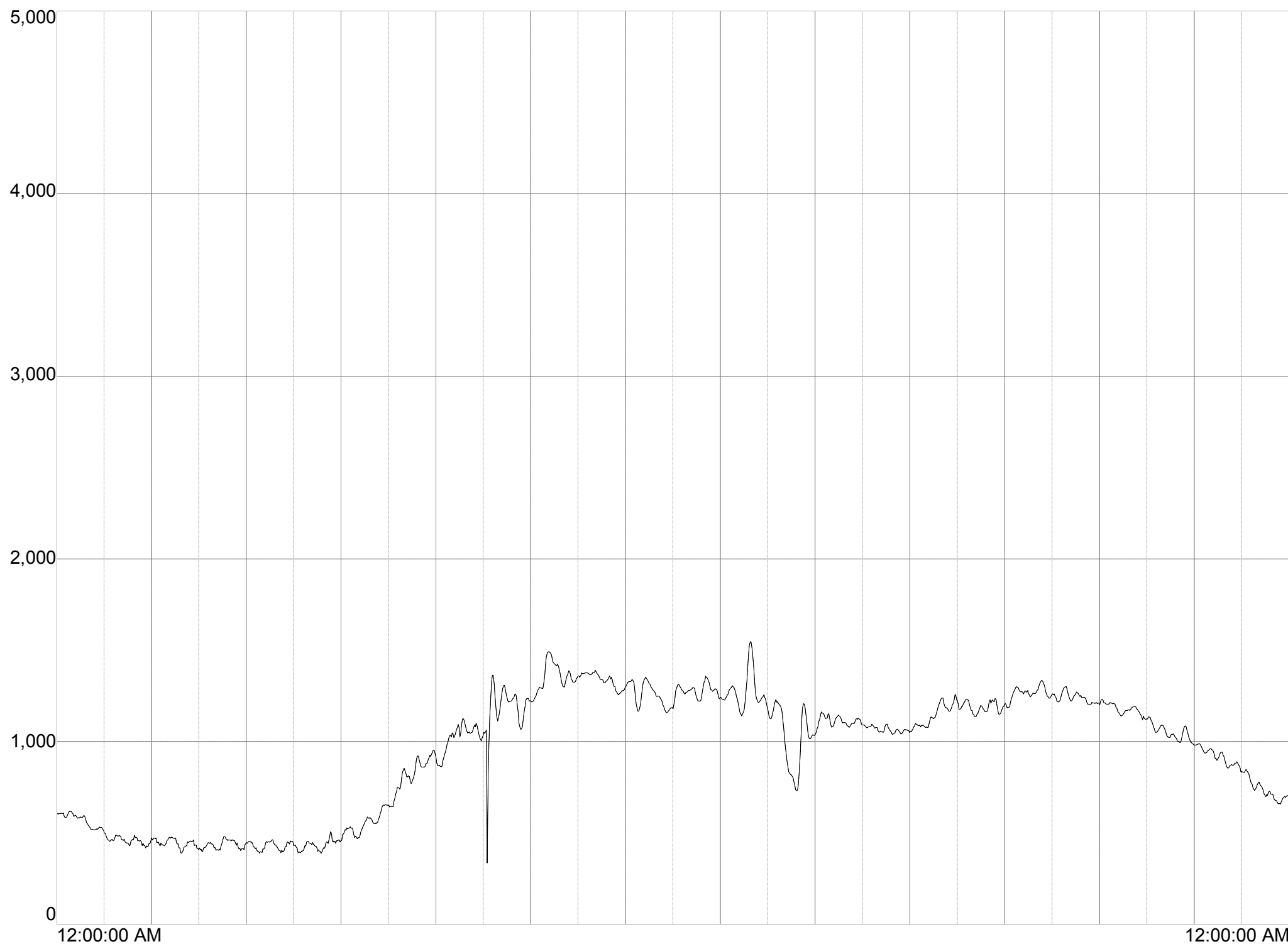
Flow 24 Hour Trend Monday, December 31, 2012 - Tuesday, January 01, 2013 - -



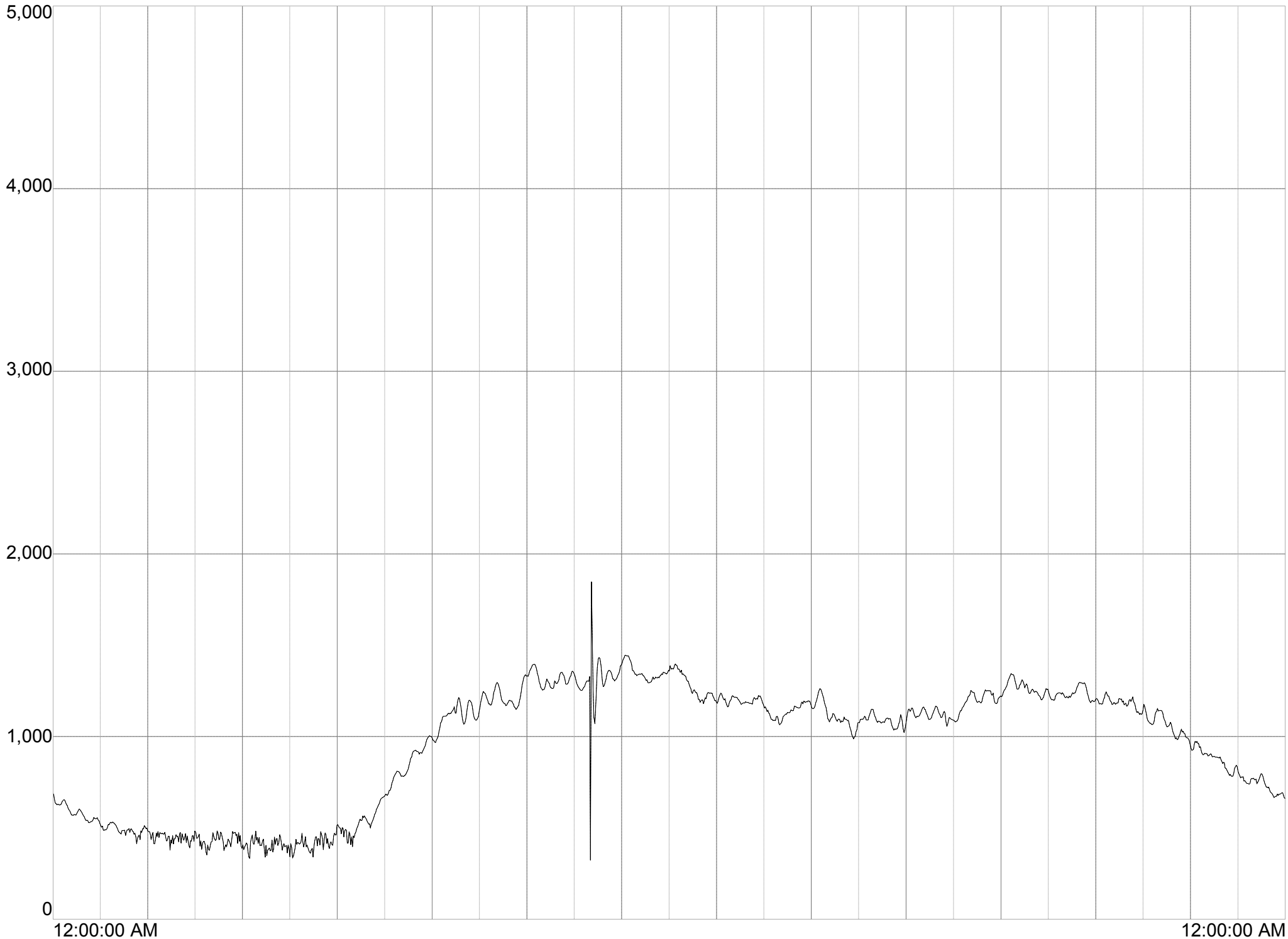
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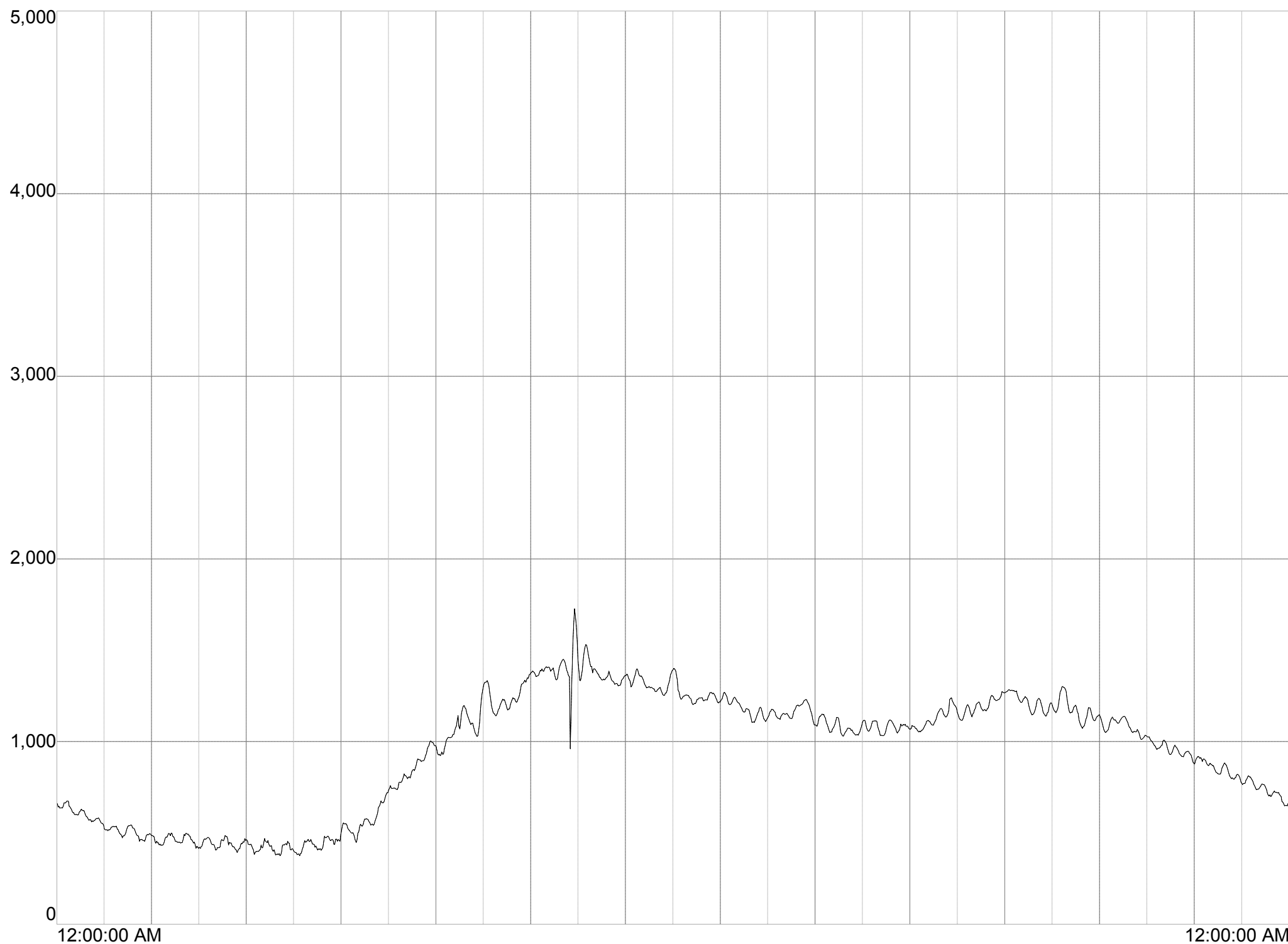


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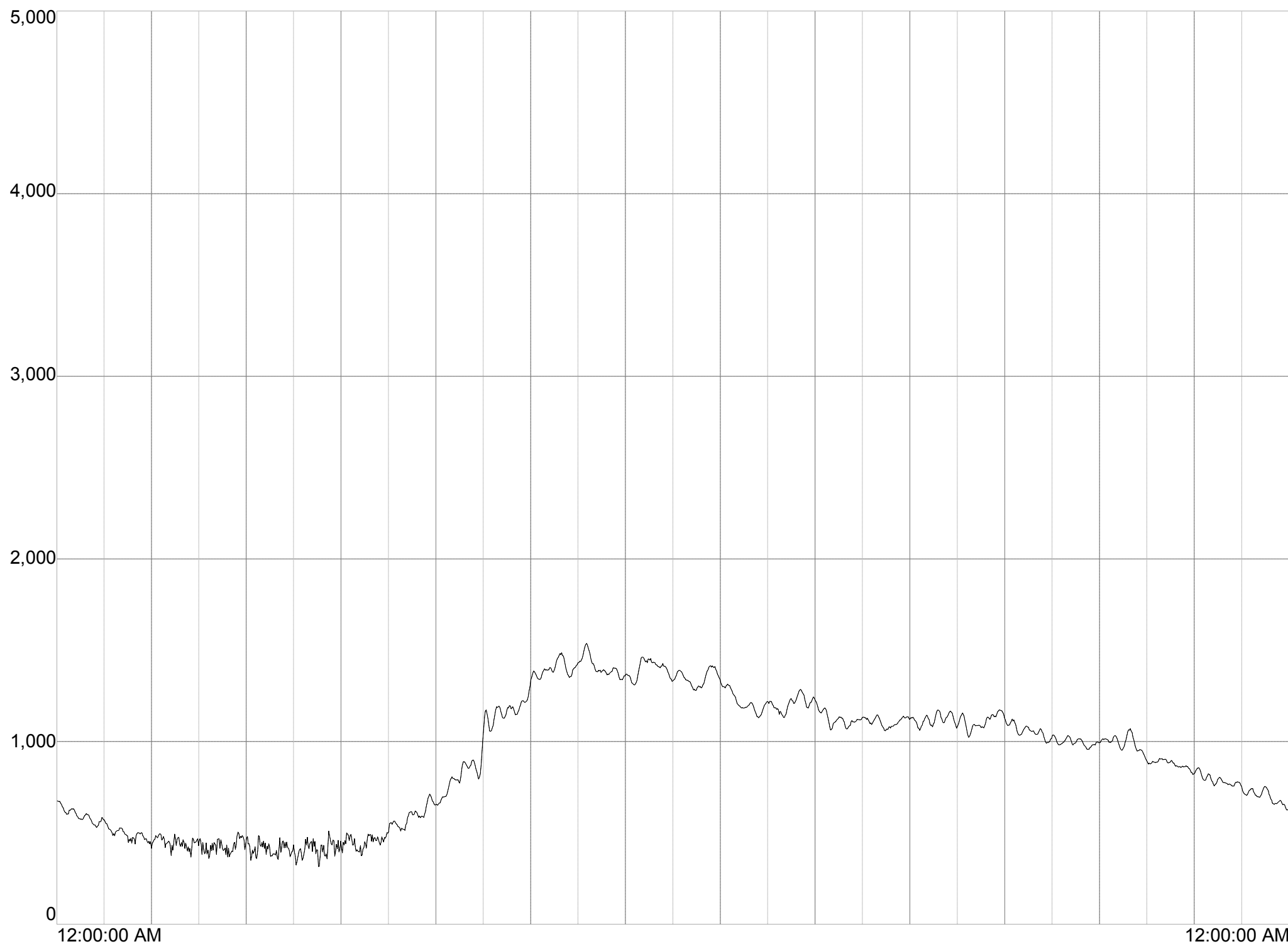


12:00:00 AM	12:00:00 AM										
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Caption	Value	Min	Max	Units							
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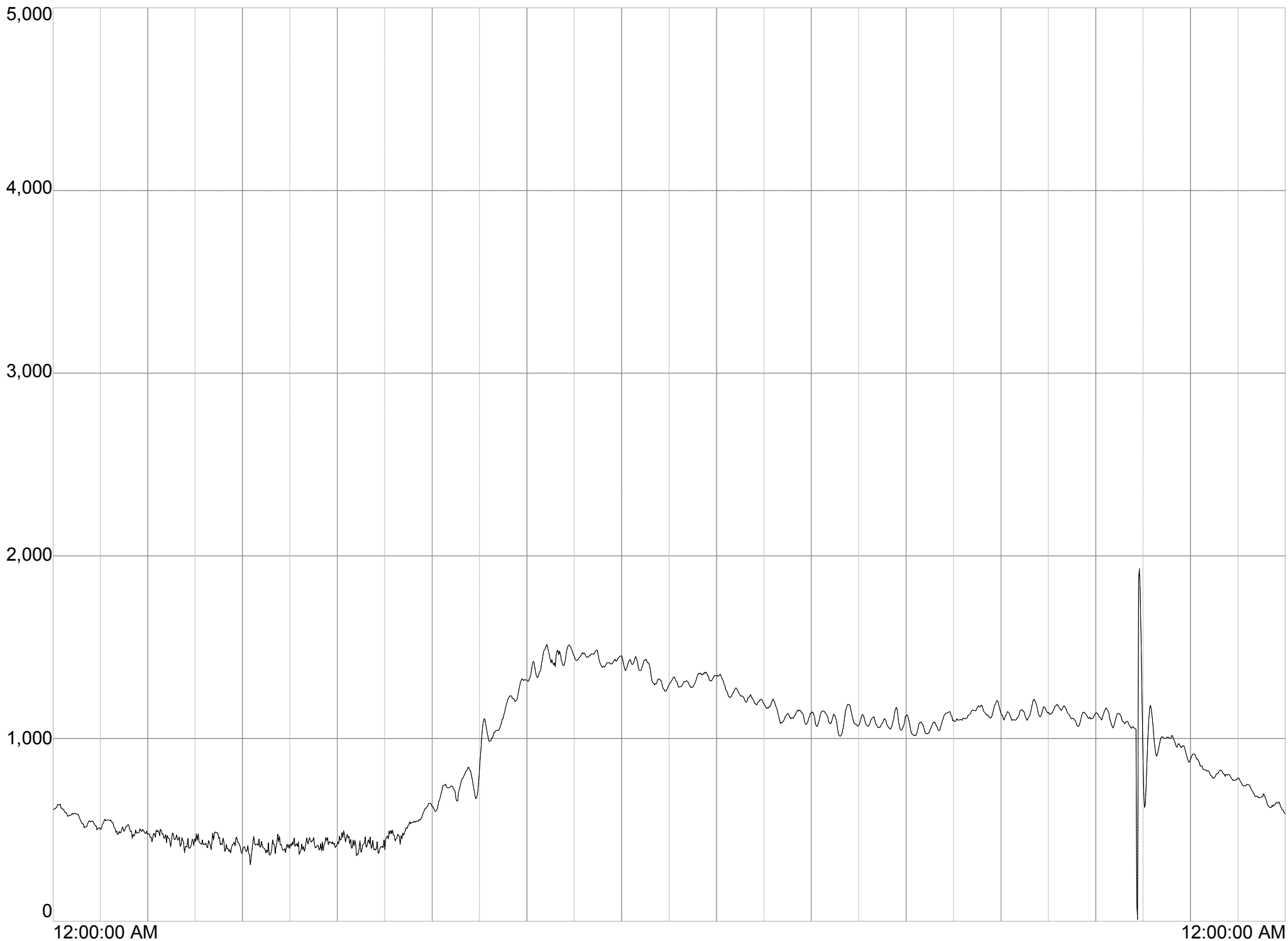




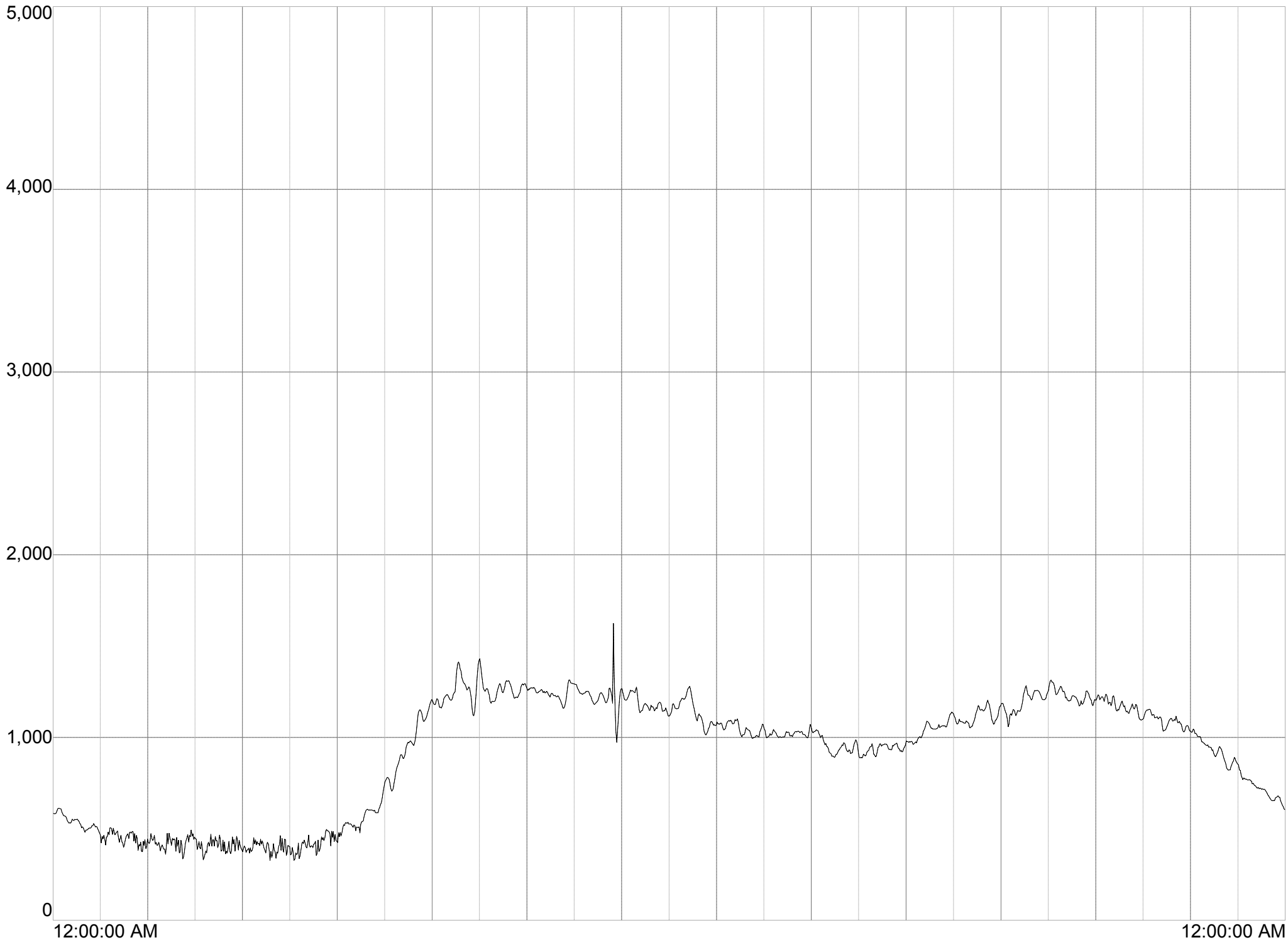
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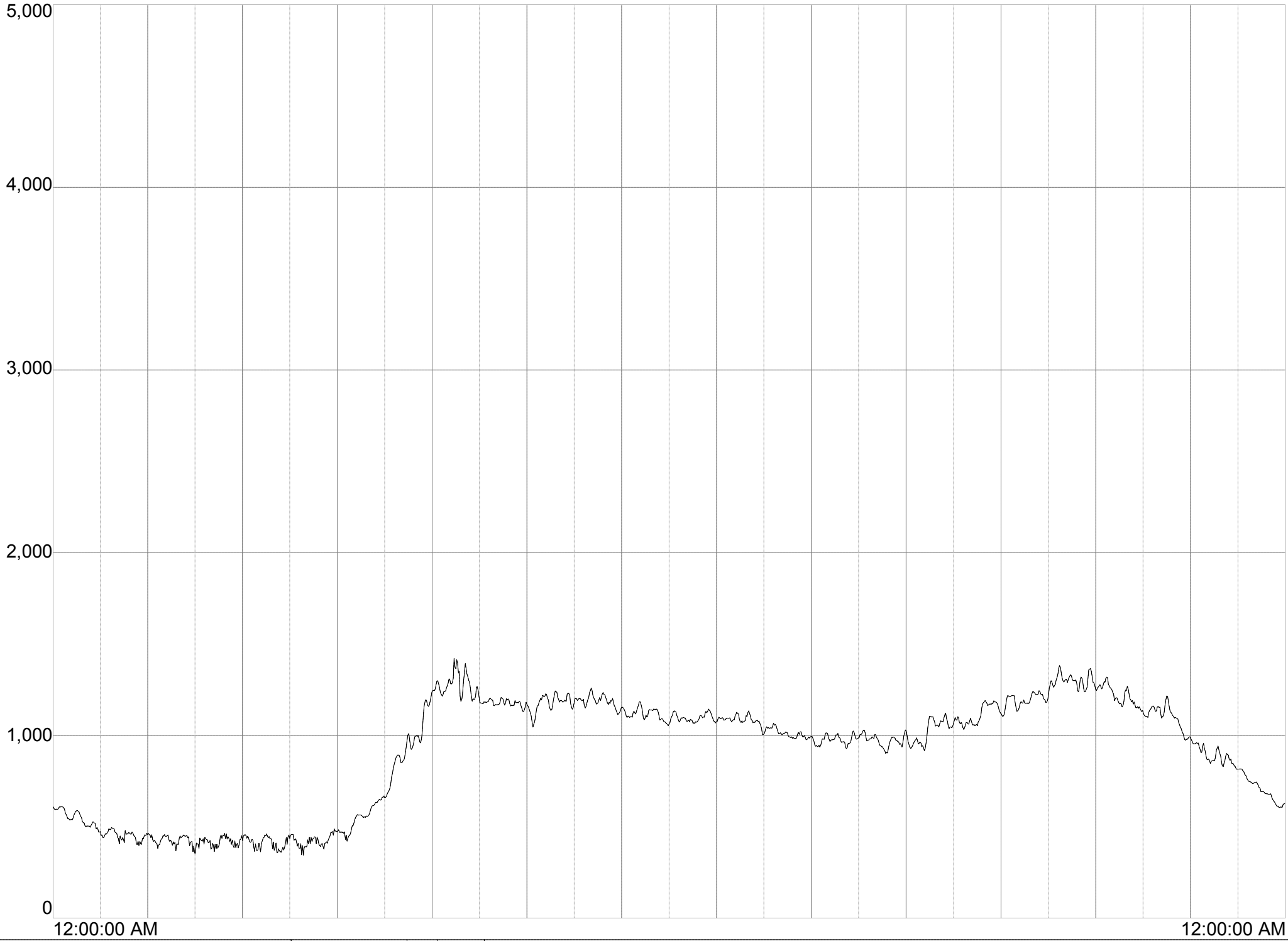
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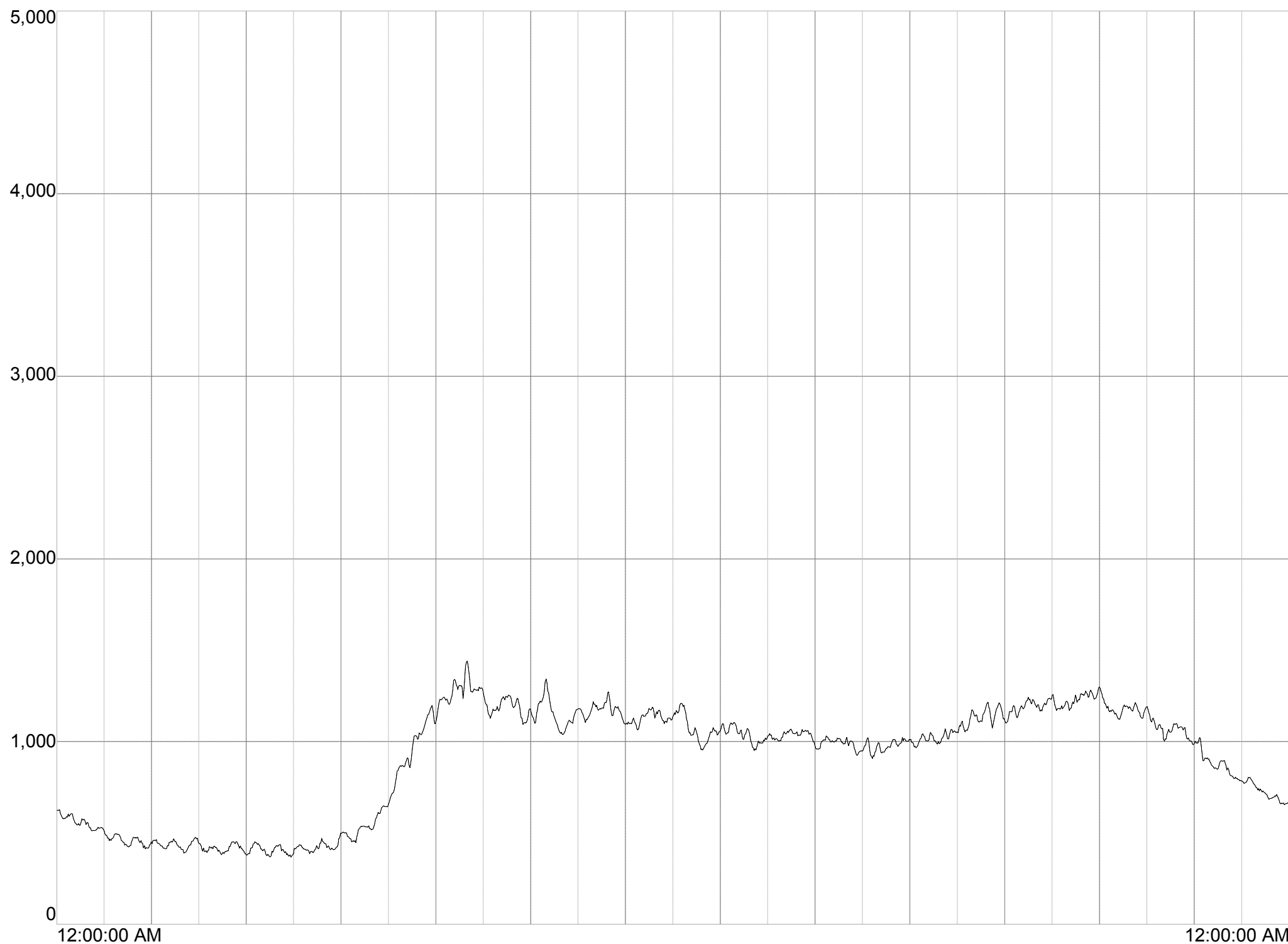
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Caption	Value	Min	Max	Units
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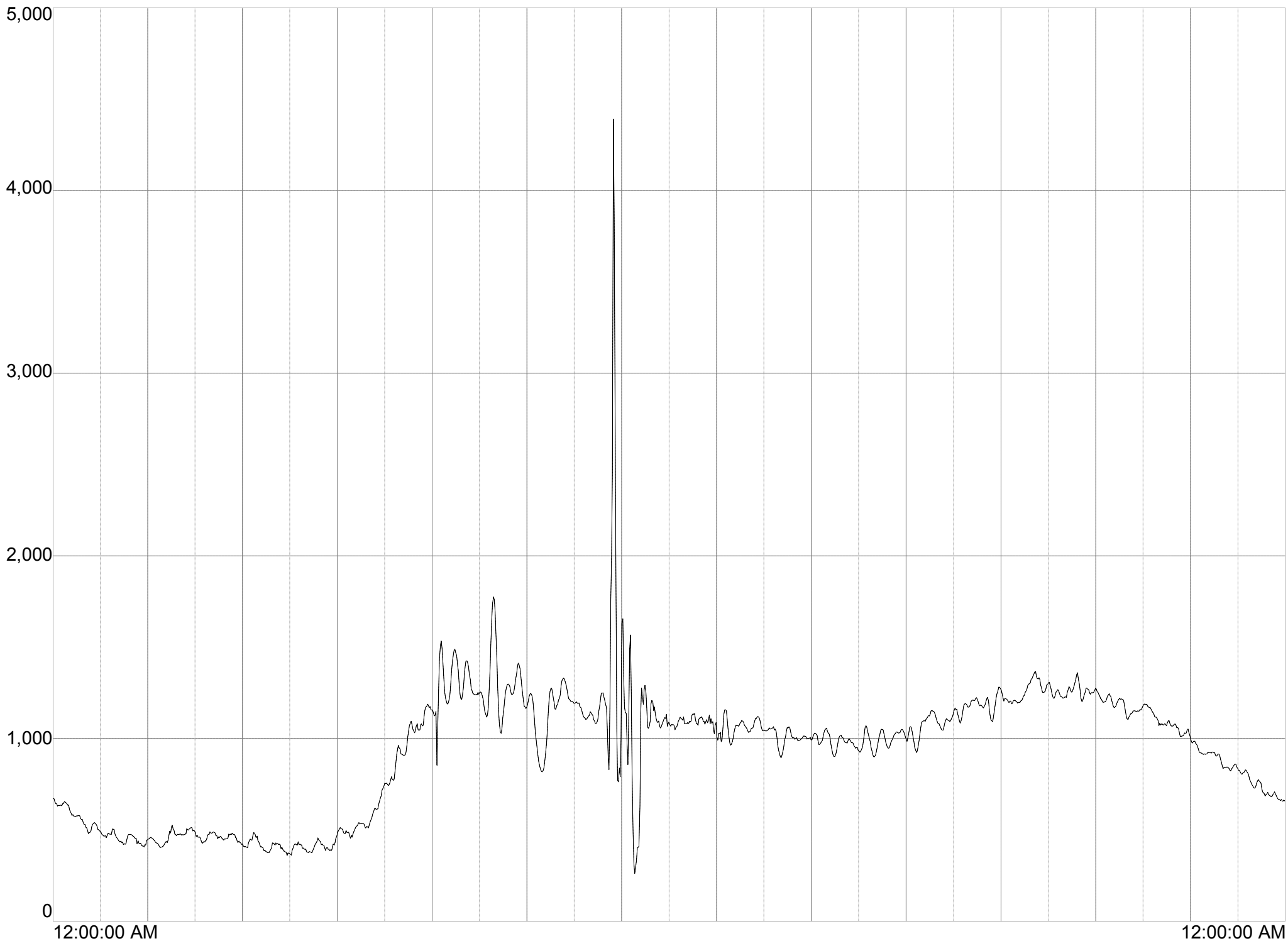


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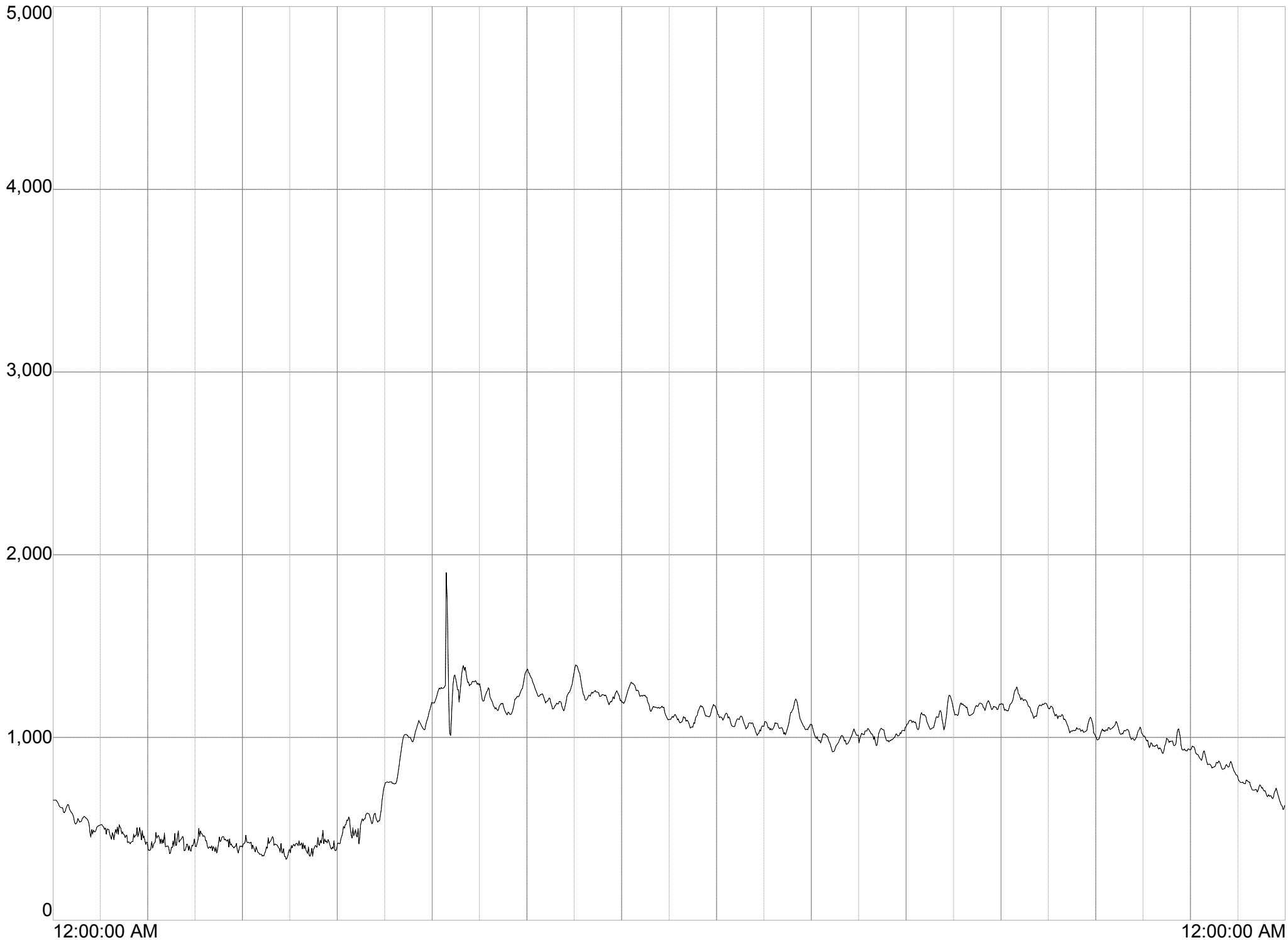


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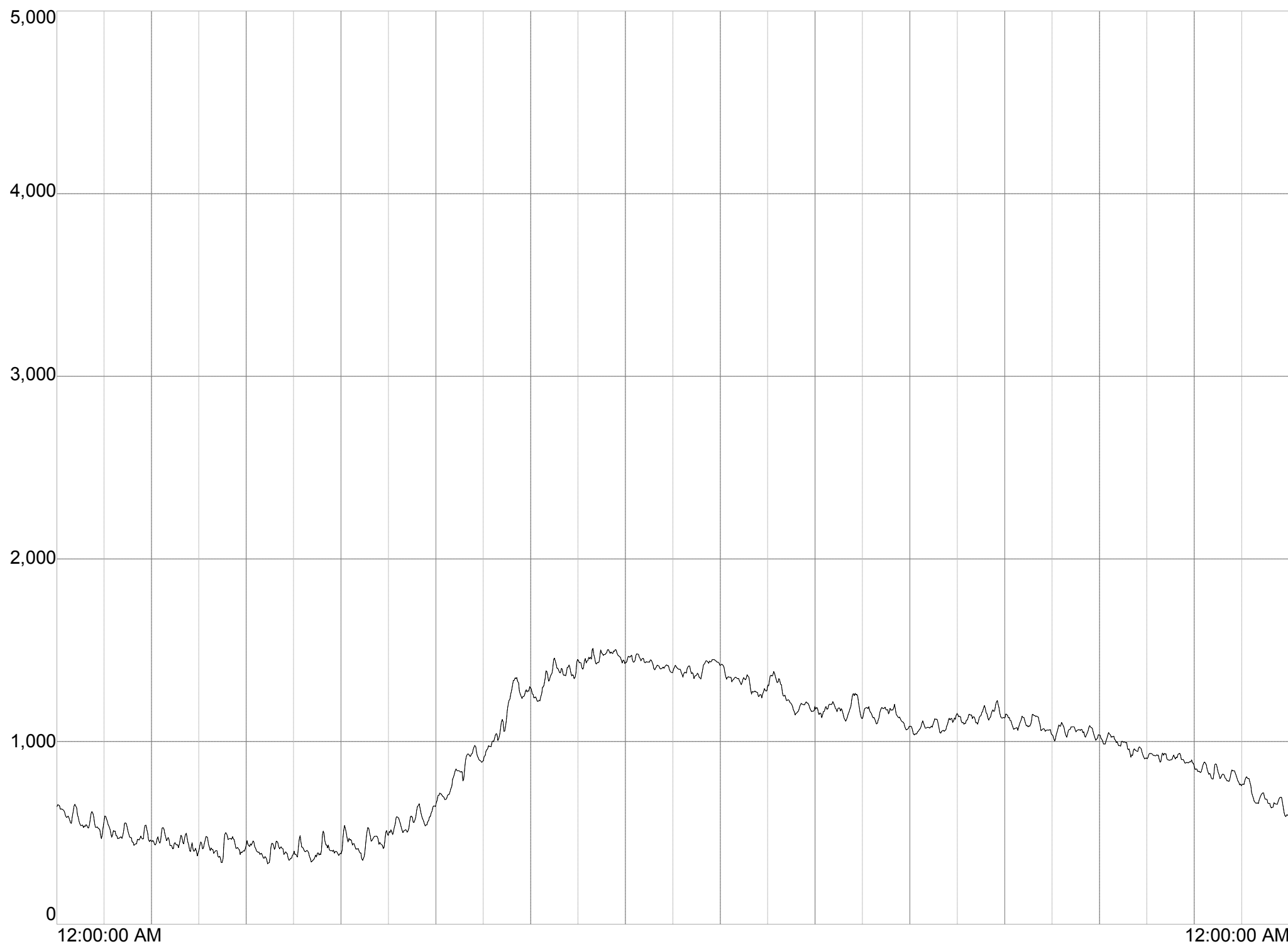




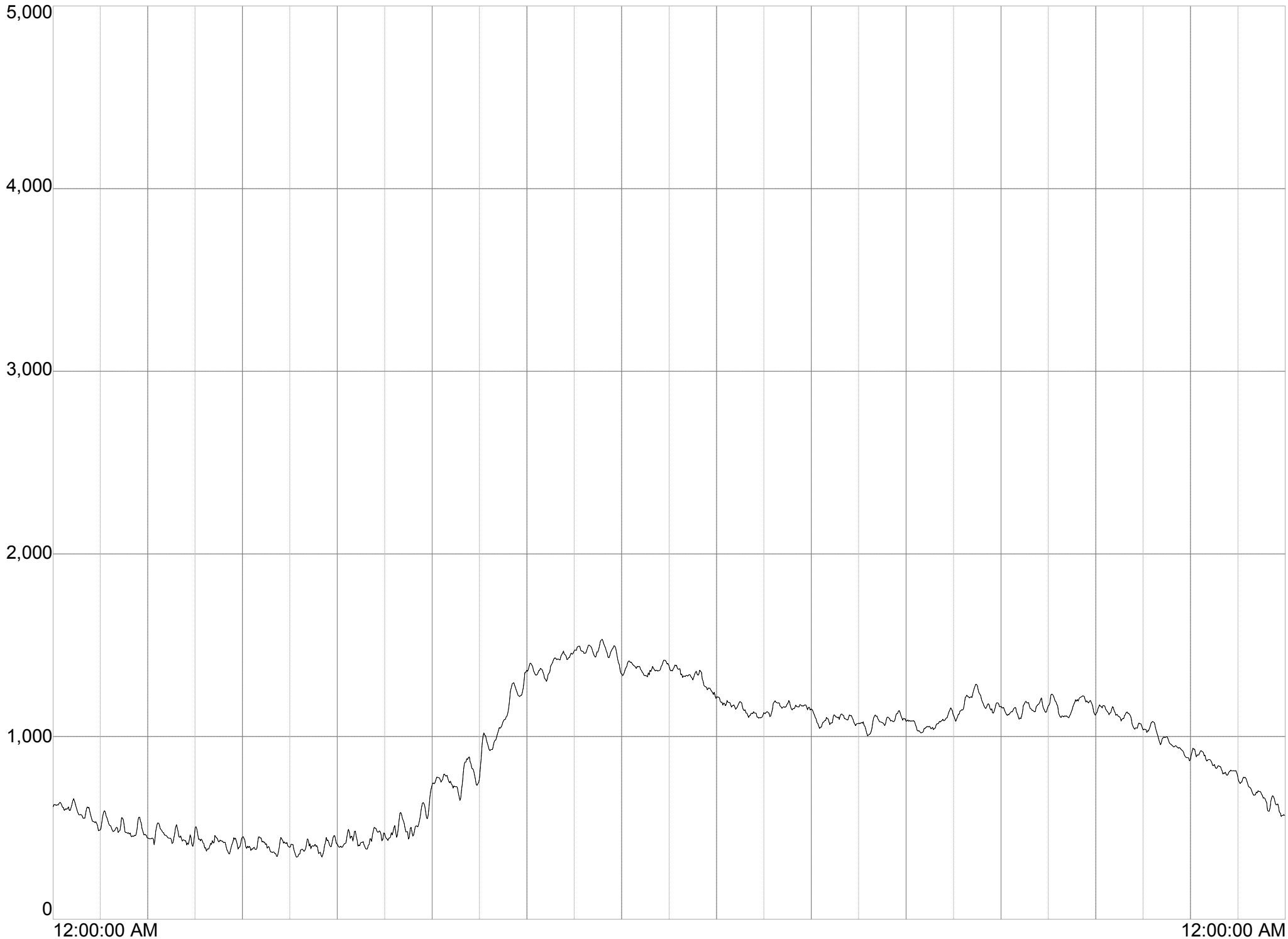
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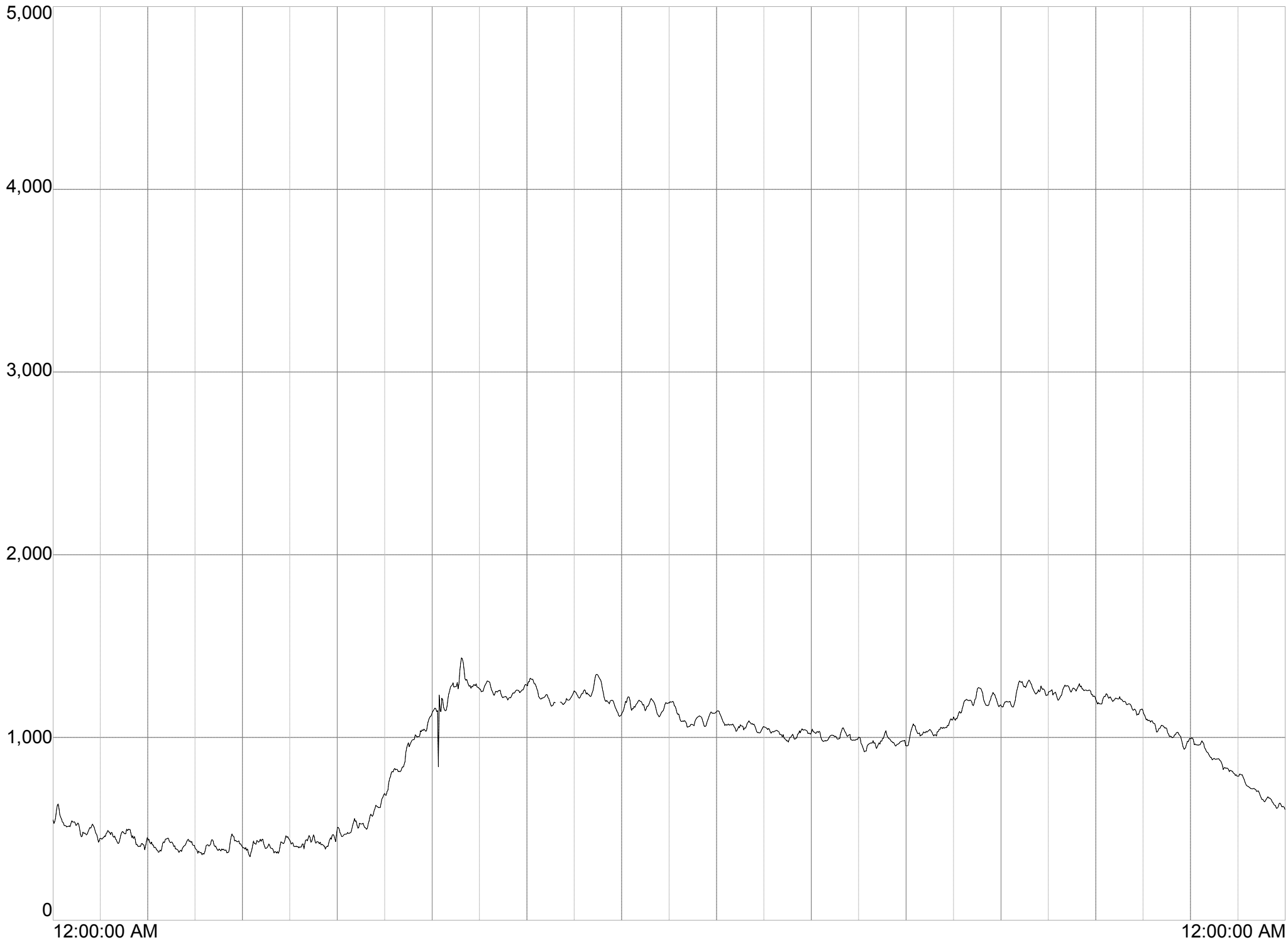
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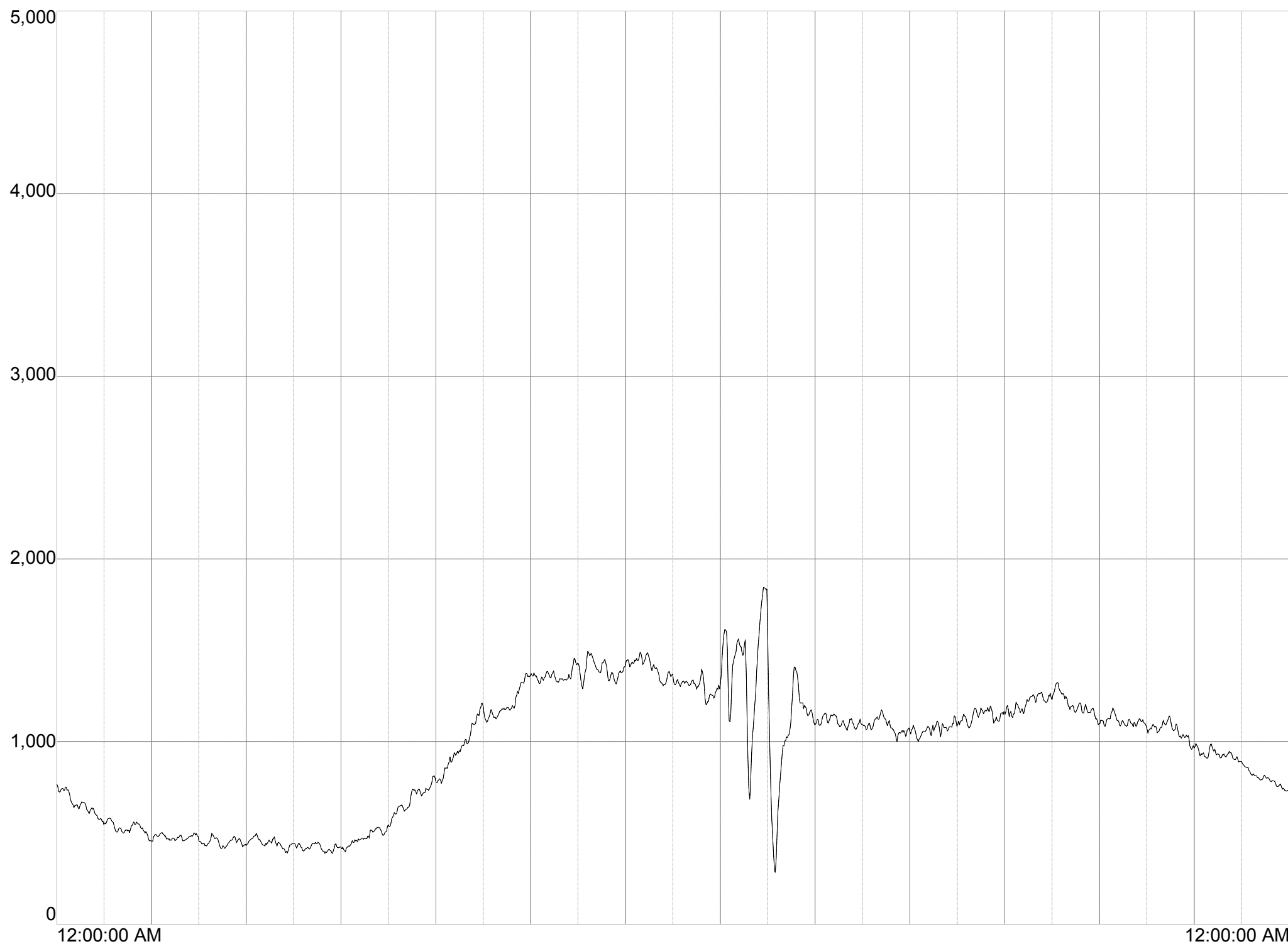
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Caption	Value	Min	Max	Units
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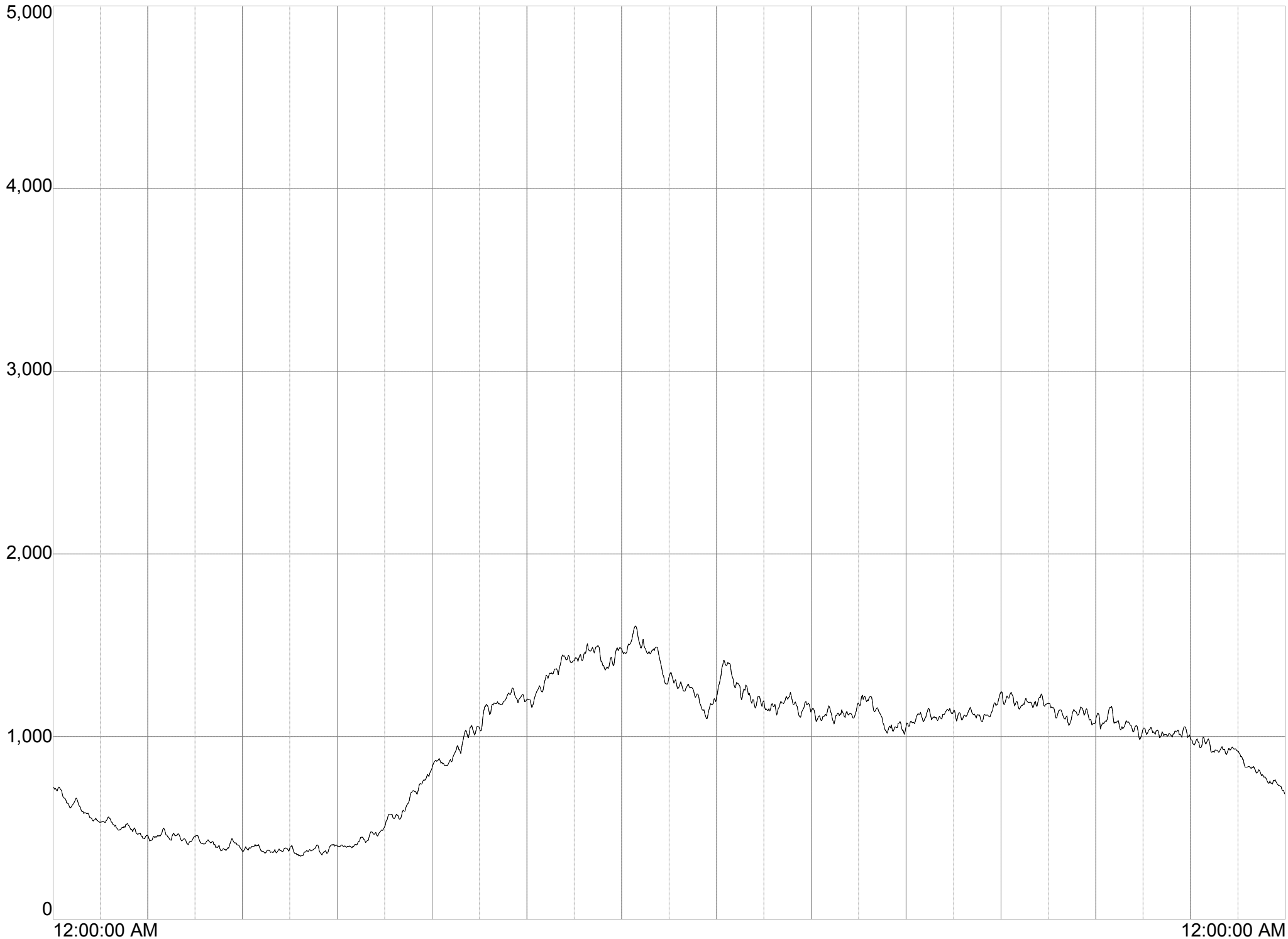


Caption	Value	Min	Max	Units
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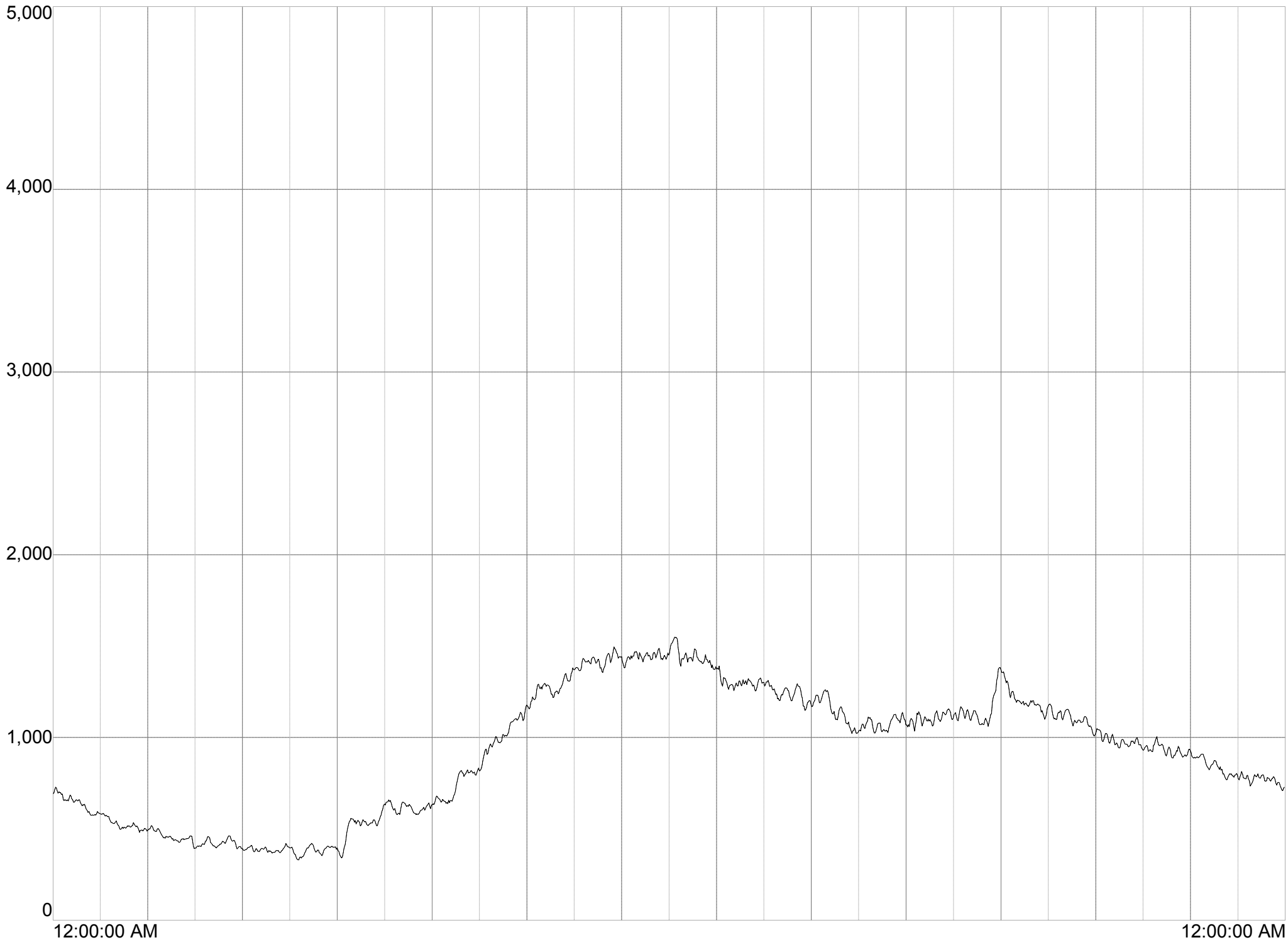


Caption		Value	Min	Max	Units
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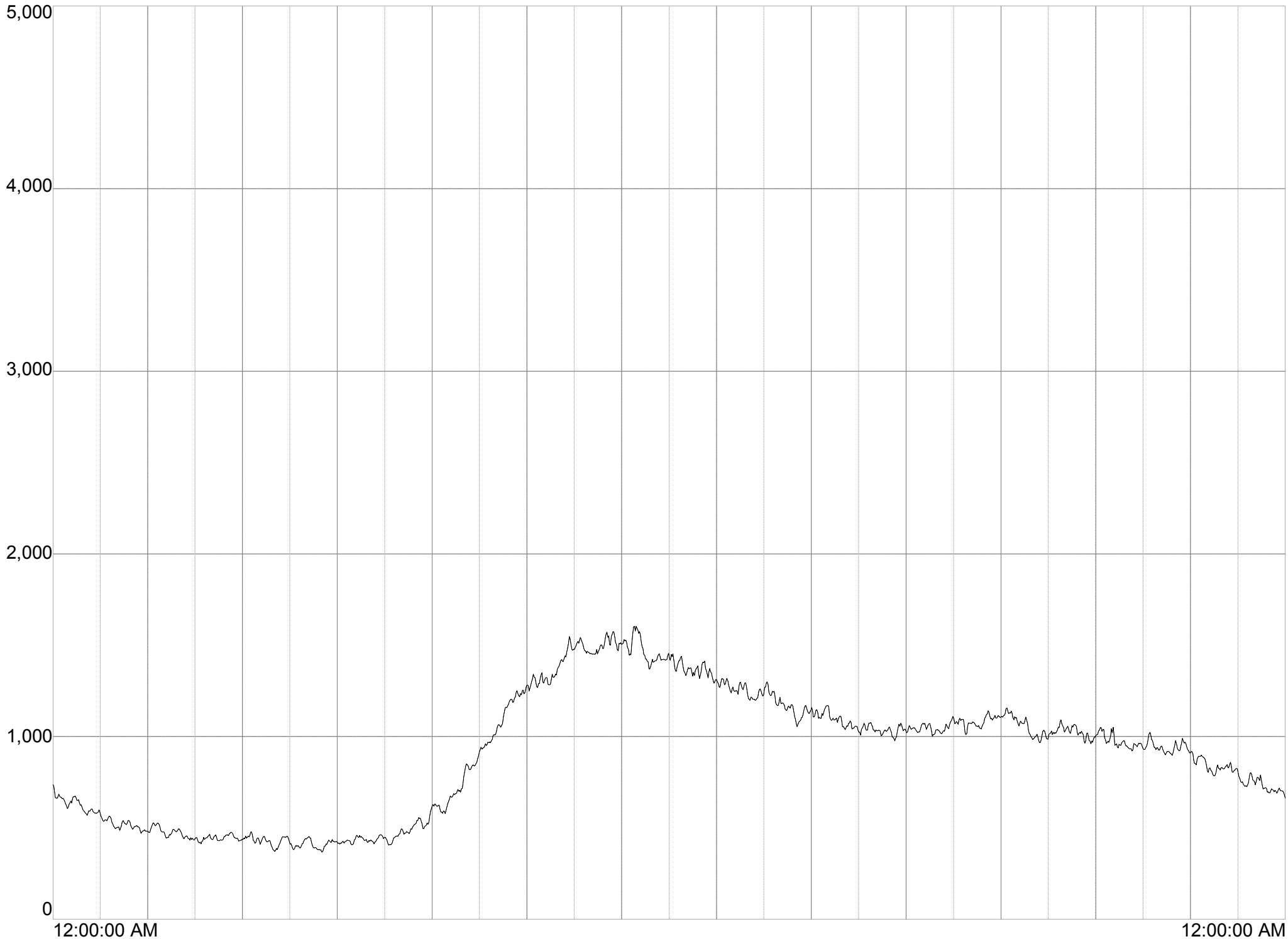




Caption	Value	Min	Max	Units
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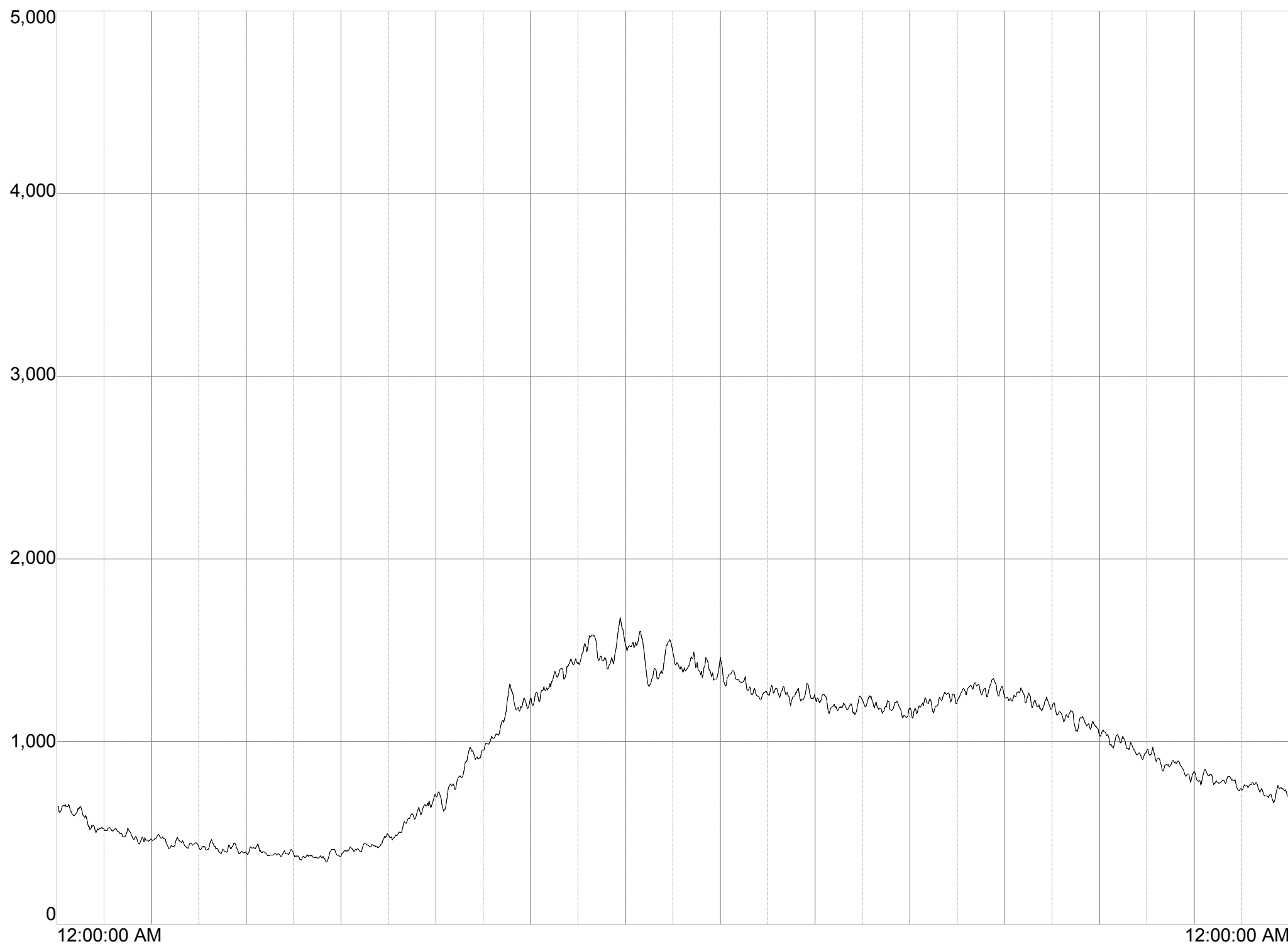


Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	

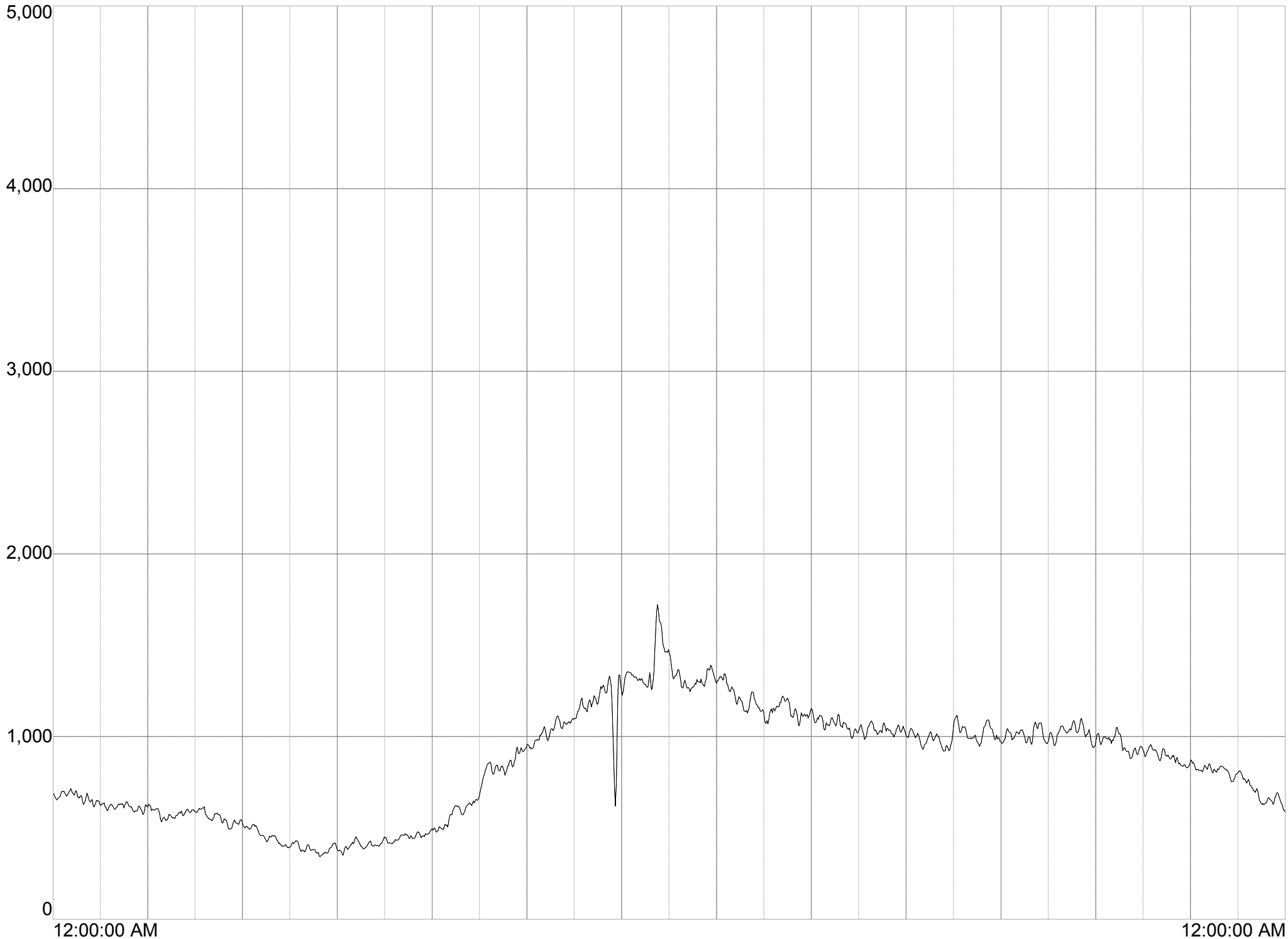


Caption	Value	Min	Max	Units
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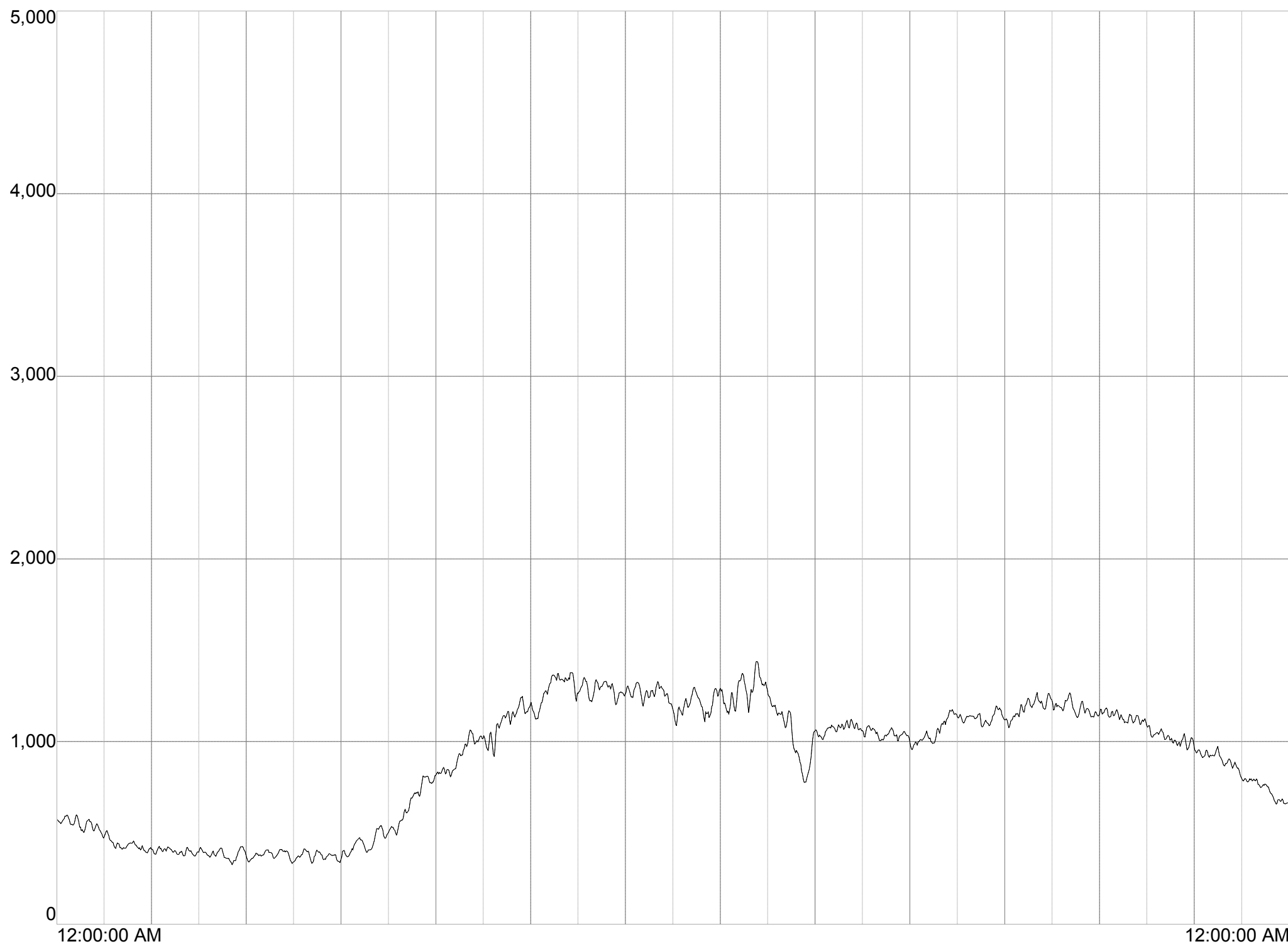
Flow 24 Hour Trend Monday, December 31, 2012 - Tuesday, January 01, 2013 - -



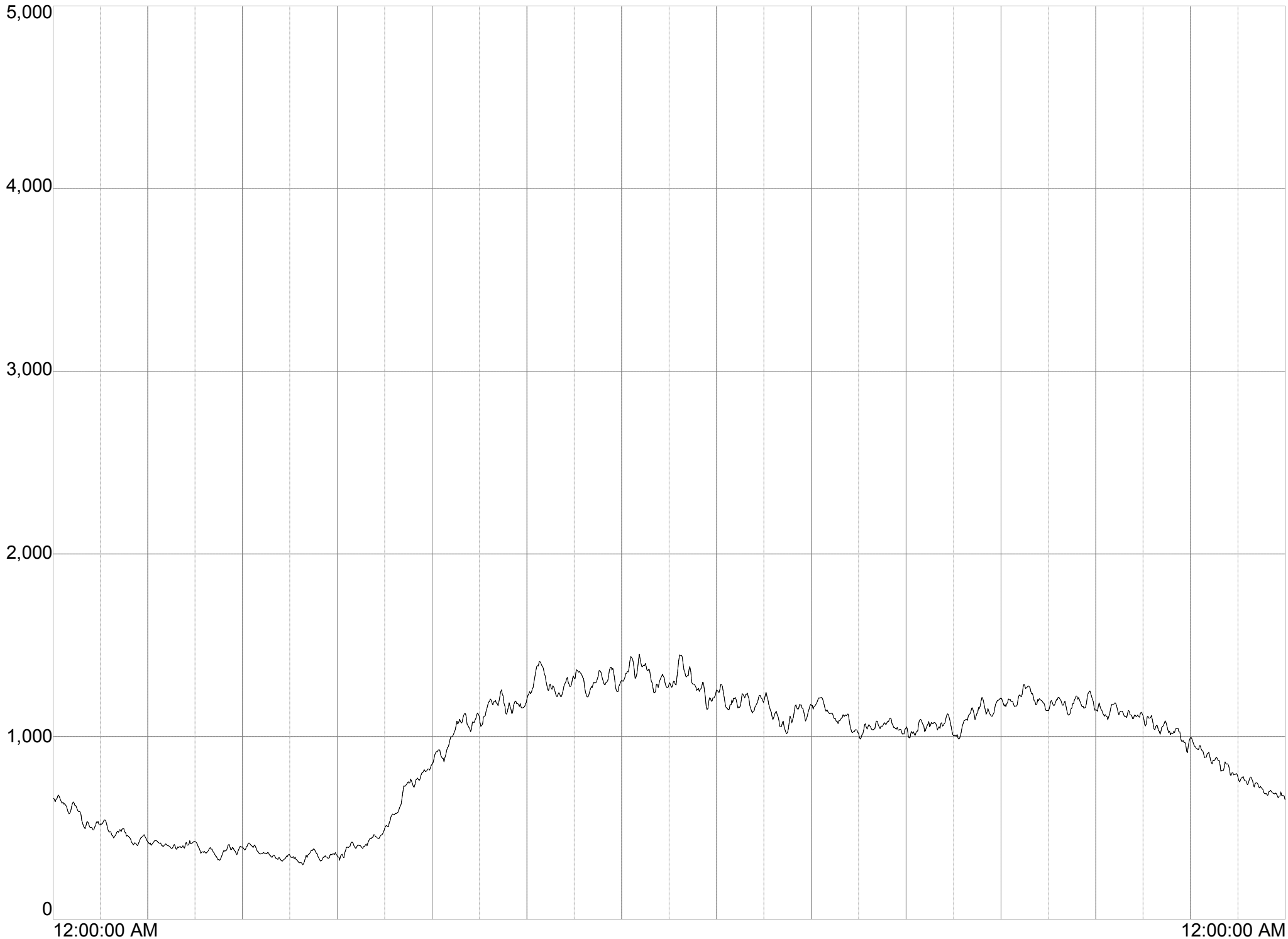
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Caption	Value	Min	Max	Units
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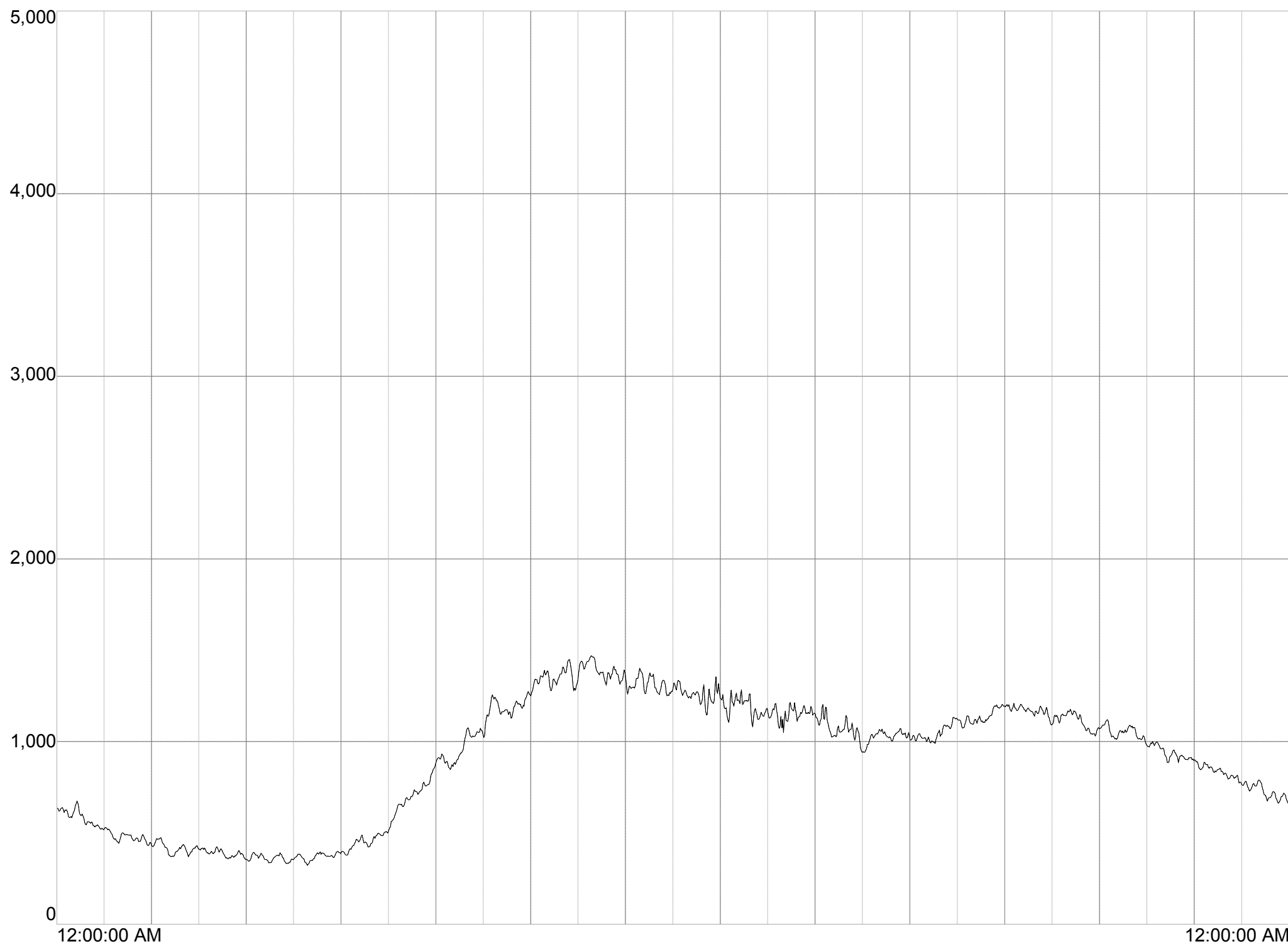


Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



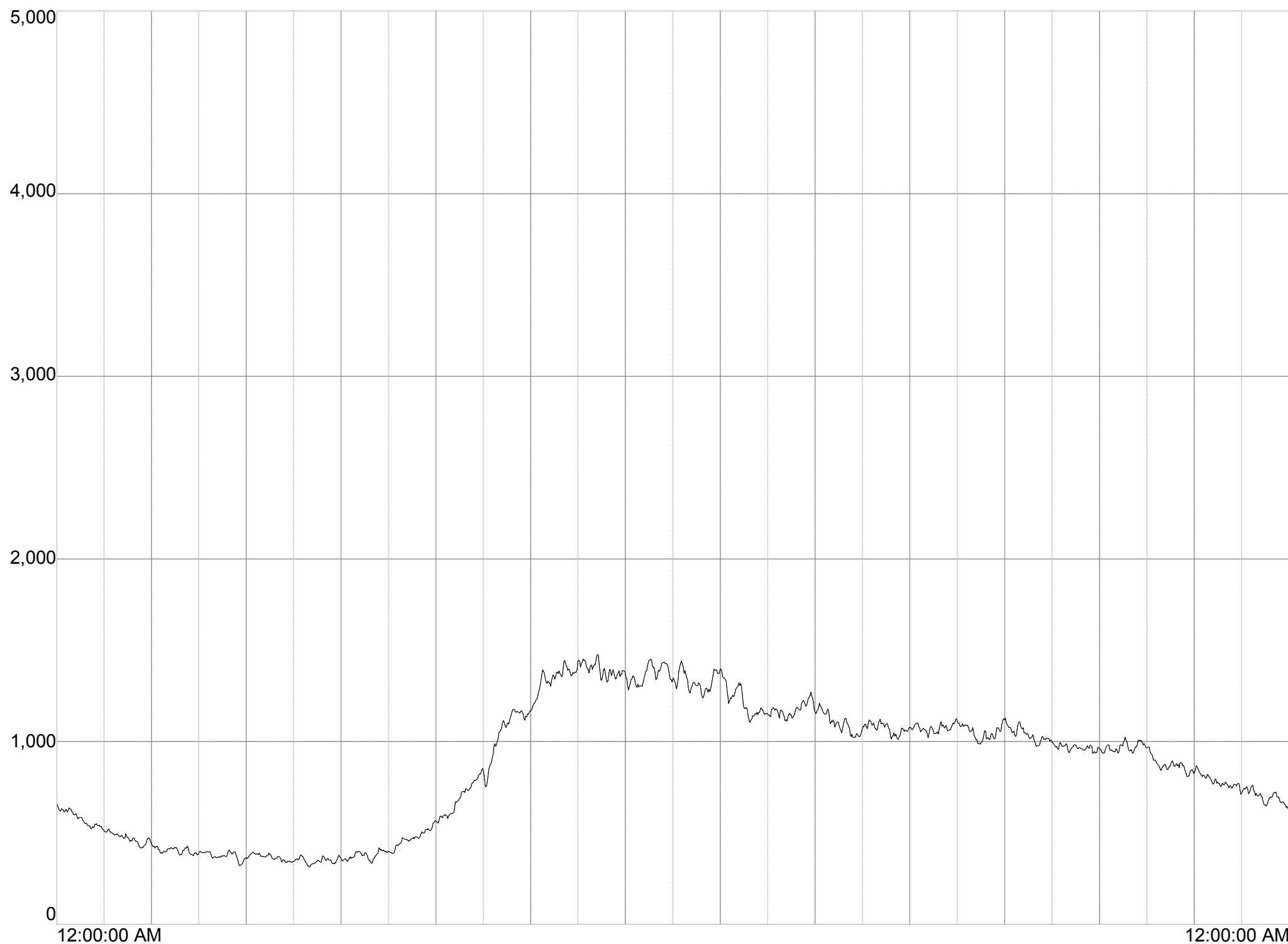
Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



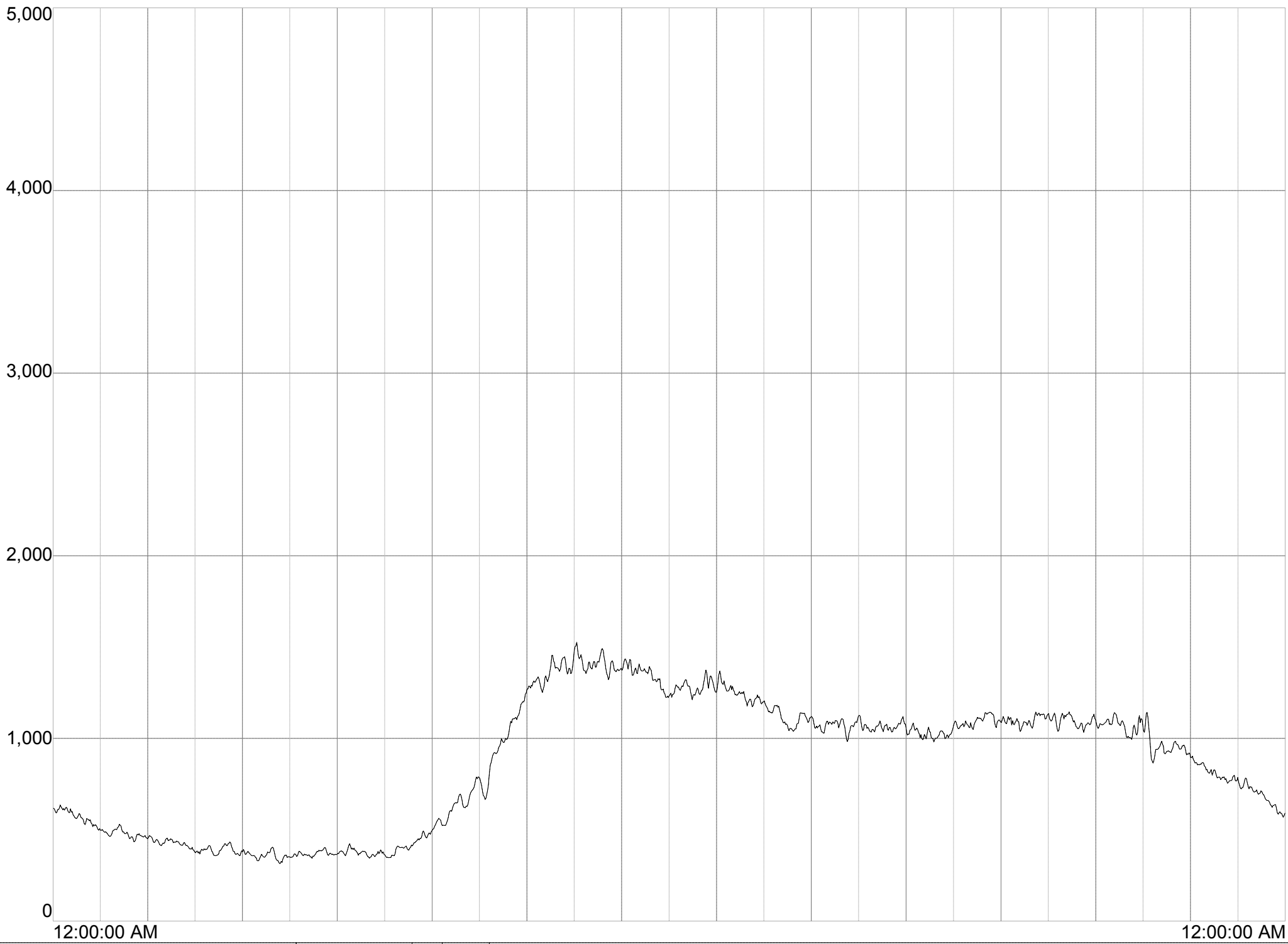


Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	

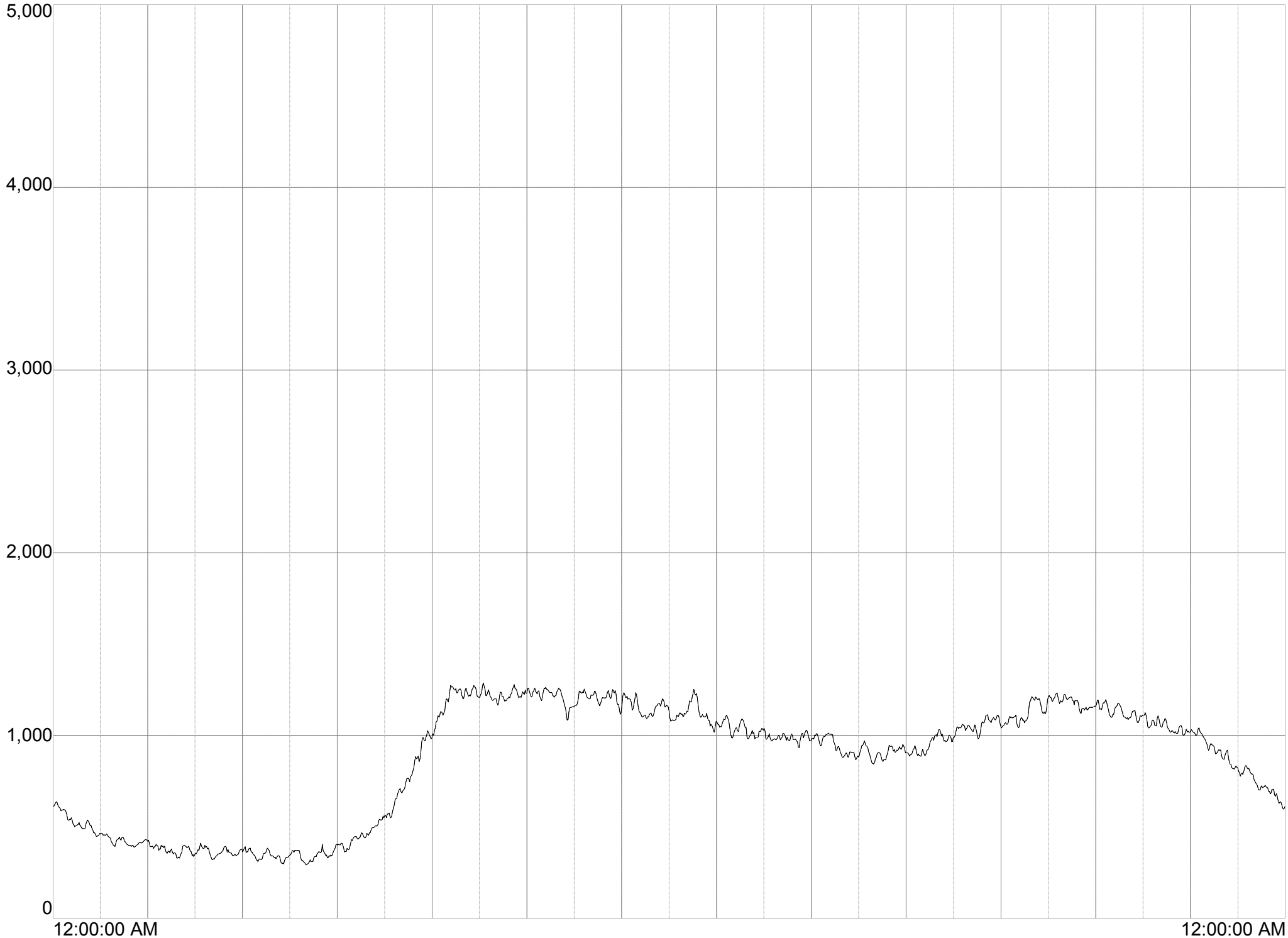
Flow 24 Hour Trend Saturday, January 05, 2013 - Sunday, January 06, 2013 - -



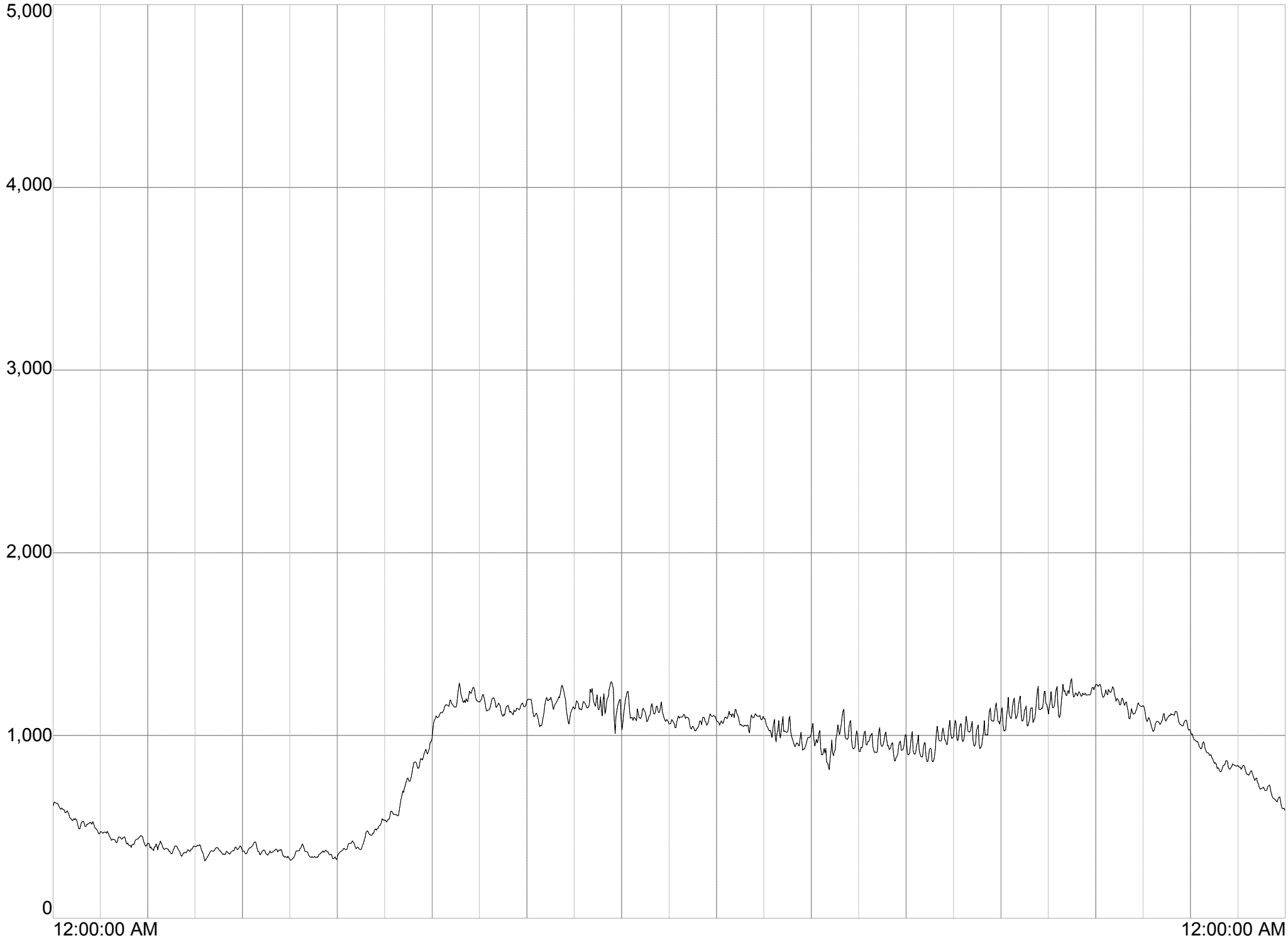
Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



Caption	Value	Min	Max	Units
[[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



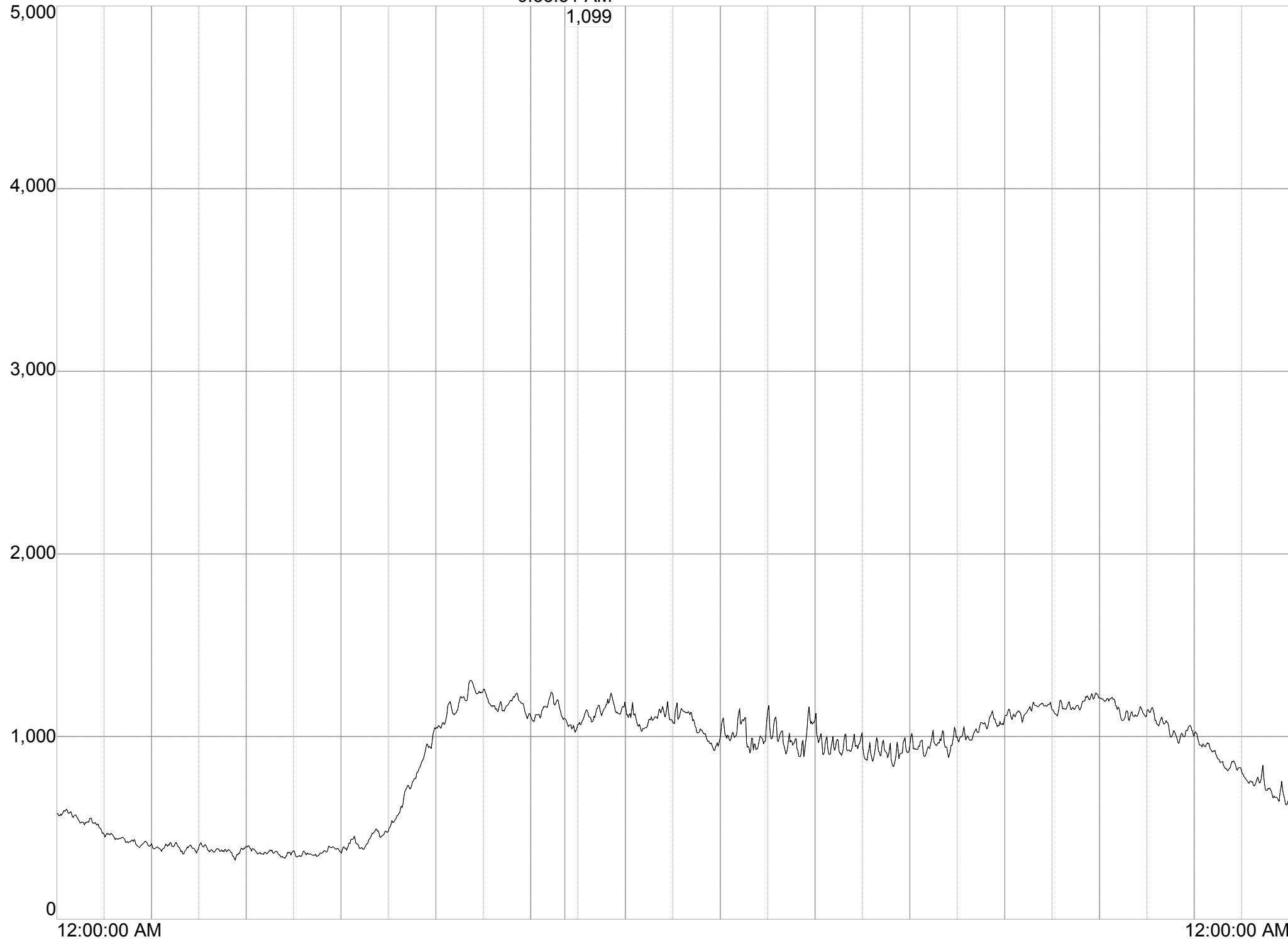
Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



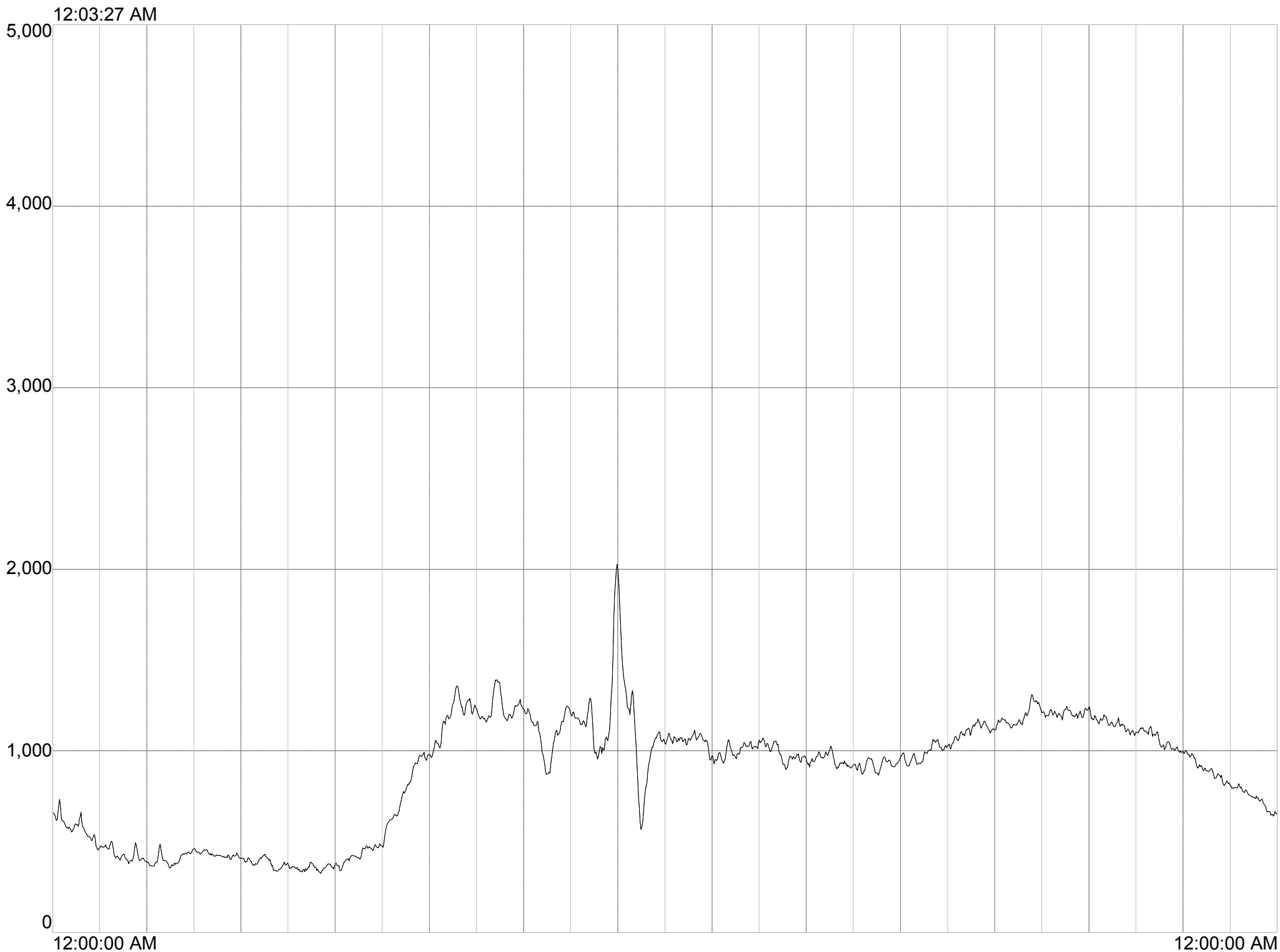
Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	

9:53:51 AM

1,099

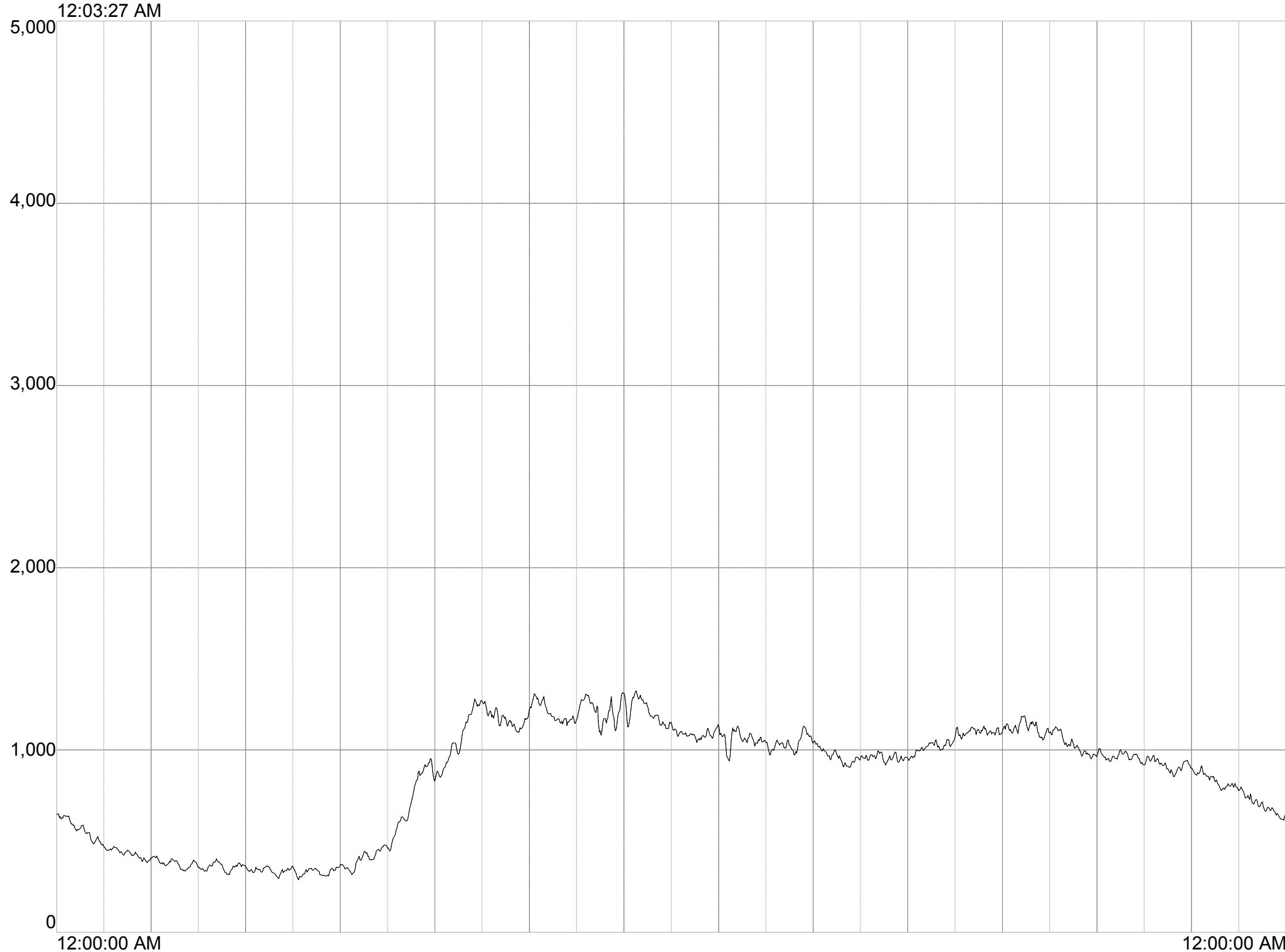


Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	

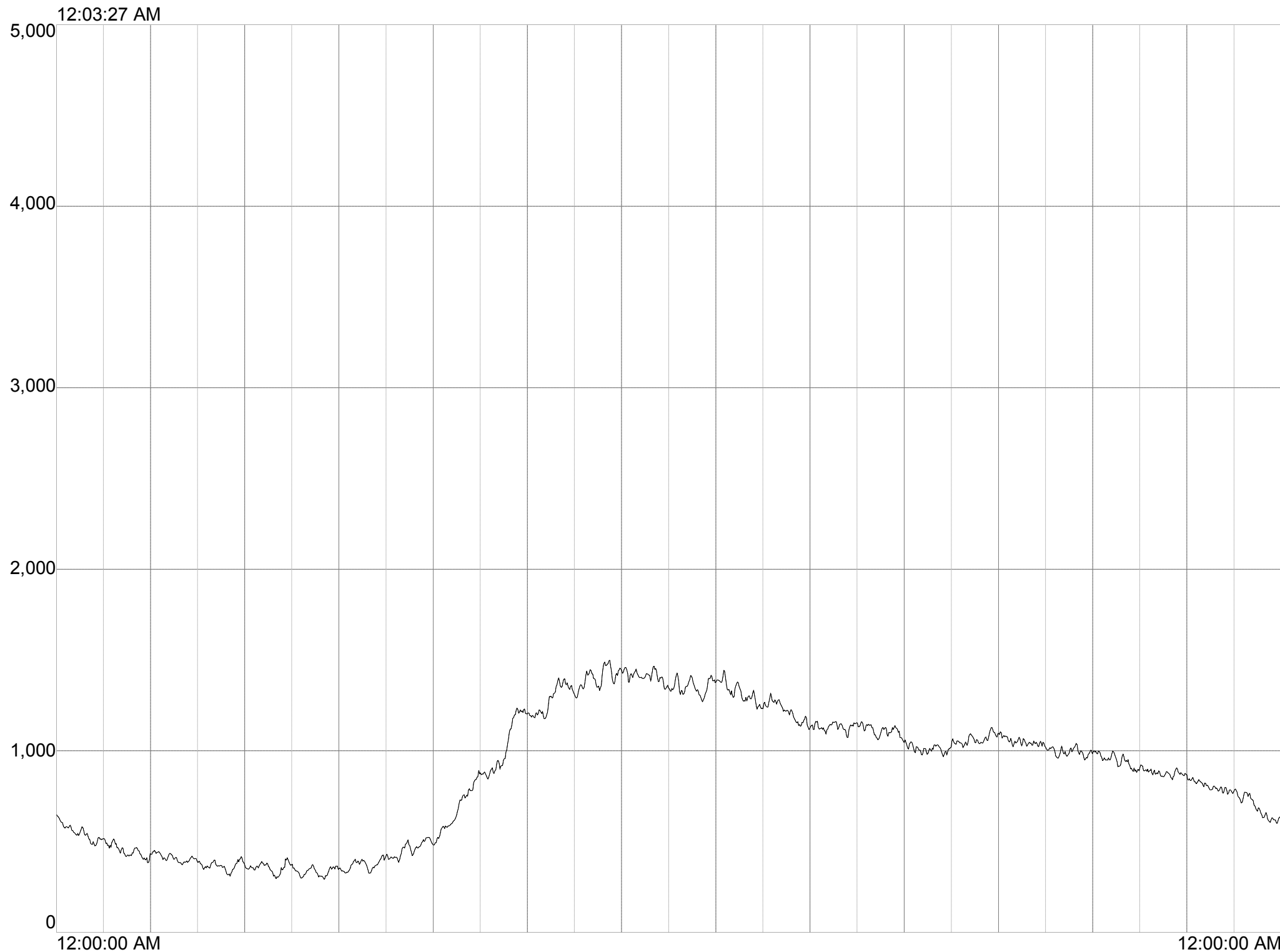


Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	

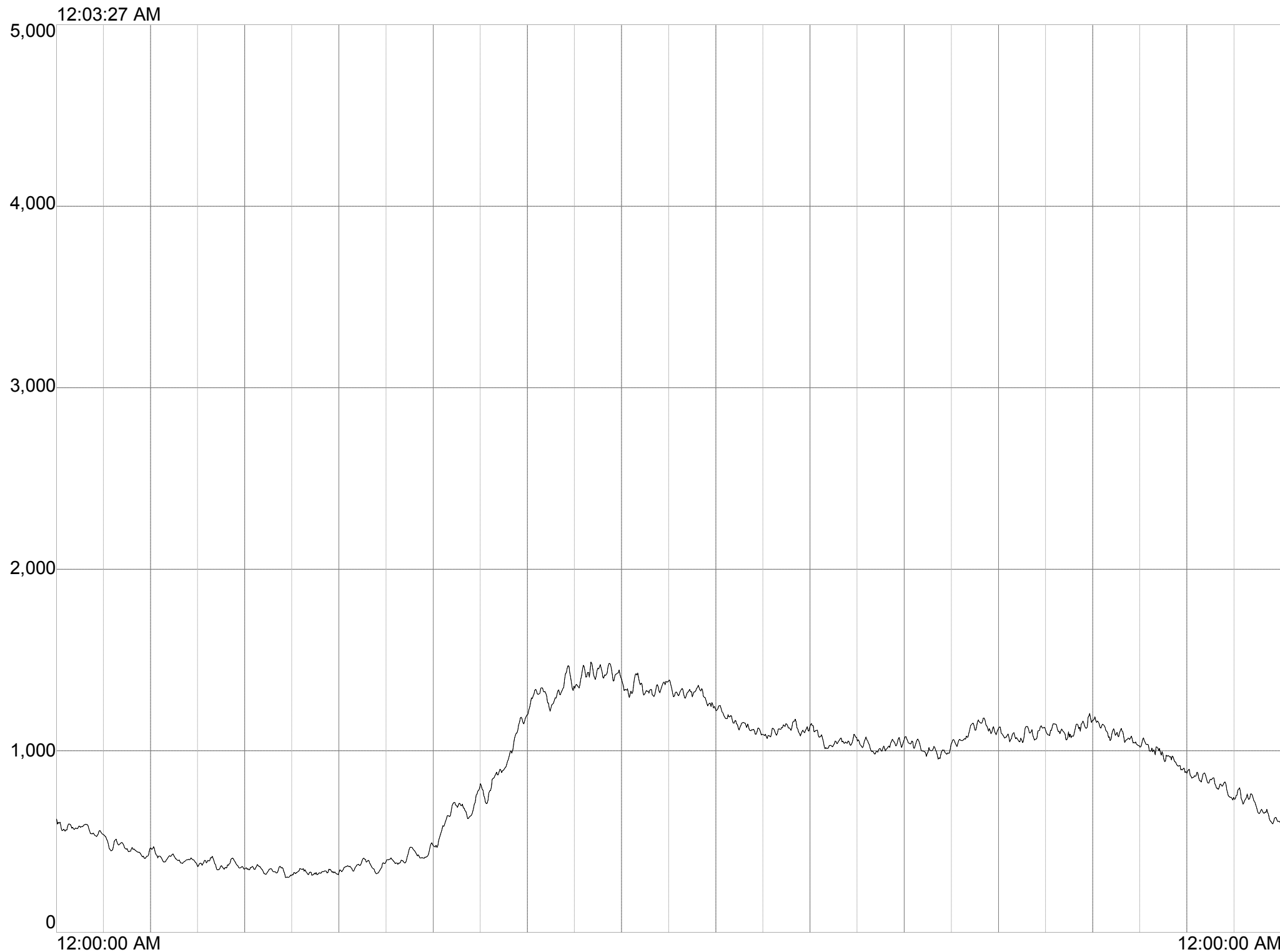




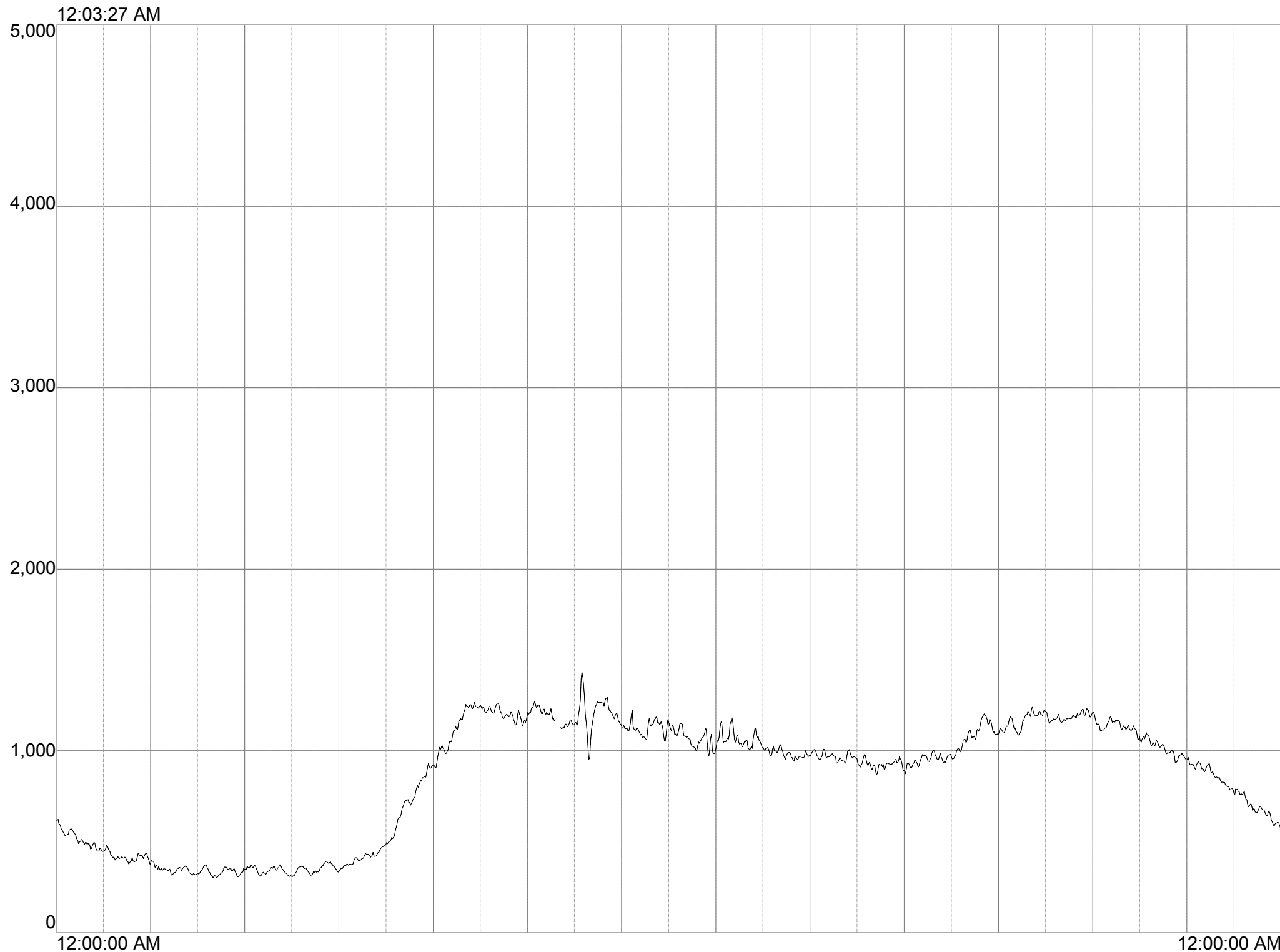
Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



Caption	Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}	05,000	???	???	



Caption		Value	Min	Max	Units
{[Main_PLC_Link]EFF_FLOW}		05,000	???	???	

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**SODIUM BISULFITE DELIVERY INFORMATION**



Monday

ORDER DATE	01/03/13
ORDER NUMBER	LA392637
CUST WHSE:SE SHIP WHSE:SE	
CUSTOMER P.O. NUMBER	01032013

SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPR, CA 90670  
800-597-7868

CUSTOMER NO: 6971AA 001

CURRENCY: USD  
CUSTOMER NO: 6971AA

**S**  
**H**  
**I**  
**P**  
**T**  
**O**

CARPINTERIA SANITARY DIST  
WASTEWATER T/P  
5351 SIXTH STREET  
  
CARPINTERIA, CA 93013  
805-684-7214

**B**  
**I**  
**L**  
**L**  
**T**  
**O**

CARPINTERIA SANITARY DIST  
5300 SIXTH STREET  
  
CARPINTERIA, CA 93013  
805-684-7214

SHIP DATE	SHIP VIA	FREIGHT TERMS	IN. SALES
01/07/13	IN TRANSIT MATERIAL	PREPAID (HDR FRT - NBH)	EEMA
F.O.B.		DELIVERY CONTACT	DELIVERY PHONE
DELIVERED		JOEY MENDOZA	805-684-7214
CREDIT TERMS		OUTSIDE SALES	TAX %
NET 30 DAYS		WER MUNI TEAM	DEPT 04

PRODUCT DESCRIPTION	QTY. SHIPPED	QUANTITY B/O
***** ORDER MESSAGES *****		
* PO# 01032013 *		
*****		
001 SODIUM BISULFITE 25% TECH SOLN BULK	344930 UNIVAR 50850 LB 1.0000 LB LB	0
***** SHIPPING/SITE INFO. (AS STATED IN BID) *****		
*SITE CONTACT: MARK ROGERS - (805) 687214 X18.		
*DELIVERY HOURS ARE 7:00 AM - 2:30 PM, MON. - FRI.		
*DELIVERIES MUST BE MADE WITHIN 48 HRS. A.R.O.		
*COFA, MSDS AND CERTIFIED WEIGHT SLIP REQUIRED W/ EACH DELIVERY.		
*DELIVERY TRUCKS MUST BE PNEUMATIC-TIRED.		
*STORAGE TANK CAPACITY IS 6,500 GLS. W/ A MIN. RESERVE OF 1,500 GLS.		
BILL IN GALLONS 5000 GALLONS		
002 UNV BULK DLVY CHG	644037 SPCL CHG 1.0000 EA EA	1 EA 0
*****	***** NA	

NO. OF PKGS = 23.4 TOT NET WT = 50850.00 TOT GRS WT = 50850.00

3

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DELIVERED BY	FREIGHT AMT.	TOTAL MDSE.	TOTAL QTY.	RECEIVED BY
				<i>Joe Mendosa</i>



**THIS MEMORANDUM**

is an acknowledgment that a Bill of Lading Has been issued, and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

CARRIER IN TRANSIT MATERIAL DATE 01/07/13

SHIPPER NO. CARRIER NO.

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, and except as provided herein.

LA392637

FROM



AT

SANTA FE SPRINGS  
12522 LOS NIETOS ROAD  
SANTA FE SPR, CA 90670  
800-507-7000

*Josy M*  
*Josy M*

CONSIGNEE TO:

597188  
CARPINTERIA SANITARY DIST  
WASTEWATER T/P  
5351 SIXTH STREET  
CARPINTERIA, CA 93013

ORDER # LA392637 PH # 805-684-7214  
CUST PO # 01032013

Subject to Section 7 of conditions of applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.  
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

BULK HOOK-UP  
OK'D

PLACARDS

PROVIDED BY CARRIER

YES  NO

PROVIDED BY SHIPPER

YES  NO

Univar

(Signature of Consignor)

COLLECT ON DELIVERY

DRIVER SIGNATURE

The property as described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and designated below. Notwithstanding the carrier's tariffs and the Uniform Straight Bill of Lading and its Terms and Conditions as reflected in the National Motor Freight Classification, carrier agrees to indemnify, defend and hold Univar USA Inc. ("Univar"), and its employees and agents harmless from all claims, penalties, losses, and defense costs of whatever nature (collectively "Losses") resulting from Carrier's negligence or while the goods are in Carrier's possession except to the extent the Losses are caused by Univar's negligence, and Univar agrees to indemnify, defend and hold carrier and its employees and agents harmless from all Losses resulting from Univar's negligence or while the goods are in Univar's possession except to the extent the Losses are caused by carrier's negligence. The carrier agrees to transport to the consigned destination listed above, and not to use another carrier for the shipment unless Univar provides prior written approval. If a broker or freight forwarder arranged for the shipment under this bill of lading, the carrier agrees that its only recourse for payment of the freight charges herein is from the broker or freight forwarder.

\$ 00 and remit to:  
Univar  
at above address

If charges are to be prepaid, write or stamp here. To be Prepaid.

PREPAID

\$ CHARGES ADVANCED

Received \$ \_\_\_\_\_ to apply in prepayment of the charges on the property described hereon. Agent or Cashier

C.O.D. Charge to be paid by { Shipper  Consignee

Per \_\_\_\_\_ The signature here acknowledges only the amount prepaid

CARRIER: SHORT FORM BILL OF LADING MUST ACCOMPANY YOUR INVOICE.

HAZARDOUS MATERIALS

IN CASE OF CHEMICAL EMERGENCY

CALL CHEMTREC: 1-800-424-9300 (subscription through Univar USA)

NO. OF UNITS	PKG/TYPE	NET WEIGHT (LBS)	X HM	DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	GROSS WEIGHT (LBS)
1	BULK	50850	X	RG, UN2693, BISULFITES, AQUEOUS SOLUTIONS, N.O.S., 8, PG III, (CONTAINS SODIUM BISULFITE) (1 CARGO TANK), (RG=005000), (ERG#154), (SOD BISULFITE 25%)  NMFC 60000, SUB 0, CLASS 70 FREEZE 50 F	50850

NO. OF PKGS = \_\_\_\_\_ TOT NET WT = 50850.00 TOT GRS WT = 50850.00

PAGE 1 OF 1

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Where the rates on any of the terms listed below are dependent on released value, the agreed or declared value of the property is hereby specifically stated by the shipper to be the released value per article or per distribution package that results in the lowest transportation charges unless otherwise specified hereon.

This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

ERG INFO VERIFIED BY

Shipper, Per \_\_\_\_\_



3



**Univar USA Inc**

43046

**Weighmaster Certificate**

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measure Standards of the California Department of Food and Agriculture.

Weighed at: **Univar USA Inc**  
12522 Los Nietos Road  
Santa Fe Springs, CA 90670

BOL No.: LA 392637

Weigh-In: ID#: 31  
28400 lb  
04:36 am 01/07/13

GROSS BY [Signature]  
DEPUTY

TARE BY [Signature]  
DEPUTY

WEIGHED FOR (SELLER) Univar

COMMODITY: SBS

Weigh-Out: ID#: 31  
05:30 am 01/07/13  
79080 lb Gross  
28400 lb Tare  
50680 lb Net

WEIGHED FOR (BUYER) Carpenter

CARRIER: Univar

TRACTOR LIC NO.: 9E60238

DRIVER: [Signature]

TRAILER LIC NO.: PVS31

TRAILER LIC NO.: \_\_\_\_\_

White - Driver

Canary - Customer

Pink - Office

Gold - Billing

CERTIFICATE OF ANALYSIS



31  
Soul

Univar USA Inc.  
12522 Los Nietos Road  
Santa Fe Springs, CA 90670  
PH. 562-944-7244  
FAX 562-903-0056  
[www.univarusa.com](http://www.univarusa.com)

DATE: 1/2/2013

PRODUCT: Sodium Bisulfite Solution, 25%


PRODUCT GRADE: Technical

UNIVAR PRODUCT CODE: 344930

UNIVAR LOT/PJO NUMBER: SE736214

<u>TEST</u>		<u>RESULTS</u>	<u>SPECIFICATIONS</u>
Titrate NaHSO <sub>3</sub>	%	23.40	23.0% - 27.0%
Specific Gravity @ 60°F		1.1775	1.183 - 1.202
pH		4.52	3.5 - 5.5

Univar USA Inc.

 (Signature)

George Gray (Print Name)

Dispatcher (Job Title)

**Notes:**

The assay of the product is based on a dilution ratio calculation using water and a higher concentration raw material.

Consult the MSDS for additional information.

All information is based on data obtained from the manufacturer or other recognized technical sources. The information is believed to be accurate. Univar USA Inc. ("Univar") makes no representation or warranty, express, or implied, concerning the accuracy or sufficiency of the information. Univar is not liable for any damages resulting from the use or non-use of the information. All transactions involving this Product are subject to Univar's standard Terms and Conditions, available at [www.univarusa.com](http://www.univarusa.com) or upon request. Univar makes no additional representations or warranties, express or implied, as to the Product.

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**SCADA ALARMS PRINTOUT**

**\*Disclaimer**

The following file contains alarm logs that were obtained from the District's supervisory control and data acquisition (SCADA) alarm software system. All alarms during this time period are recorded, and included herein. The inclusion of an alarm condition does not necessarily indicate an excursion from the Districts NPDES effluent limitations for total chlorine residual. The only alarm conditions that resulted in confirmed exceedances of final effluent limitations were the two noted within the report for January 3rd and January 7th (2013). Both instances were duly reported to the Regional Water Quality Control Board as indicated within the main body of this report.

**\*Disclaimer**

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/01 06:09:23 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/01 06:09:53 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 06:09:54 AM	Voice	Line 1: Offhook						Event	
	01/01 06:09:54 AM	Voice	Line 1: Dialing						Event	
	01/01 06:10:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/01 06:10:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/01 06:10:50 AM	Voice	No access entered						Event	
	01/01 06:10:54 AM	Voice	Hanging up phone						Event	
	01/01 06:10:54 AM	Voice	Line 1: Onhook						Event	
	01/01 06:11:26 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 06:11:26 AM	Voice	Line 1: Offhook						Event	
	01/01 06:11:26 AM	Voice	Line 1: Dialing						Event	
	01/01 06:11:51 AM	Voice	Access: Cell Phone #1						Event	
	01/01 06:12:06 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/01 06:12:06 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/01 06:12:06 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/01 06:12:12 AM	Voice	Hanging up phone						Event	
	01/01 06:12:12 AM	Voice	Line 1: Onhook						Event	
	01/01 06:30:31 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/01 06:31:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/01 06:31:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/01 08:57:52 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Wind
	01/01 10:47:27 AM	Win911 Emergency	Channel3.Radio.BLR-901Fail	Blower 901 Fail Alarm		OK			High	
	01/01 10:47:27 AM	Win911 Emergency	P602_OT_ALR	LIFT STATION 3 PUMP #2 OVERTEMP ALARM		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	ME520_FAIL	FINAL CLARIFIER #2 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	P851_FAIL	BELT PRESS BOOSTER PUMP FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	ME310_FAIL	PRIMARY CLARIFIER FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	ME510_FAIL	FINAL CLARIFIER #1 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	AC811_FAIL	PLANT AIR COMPRESSOR #1 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	ME831_FAIL	BELT PRESS CONVEYOR FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	P601_OT_ALR	LIFT STATION 3 PUMP #1 OVERTEMP ALARM		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	P603_OT_ALR	LIFT STATION 3 PUMP #3 OVERTEMP ALARM		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	AC812_FAIL	PLANT AIR COMPRESSOR #2 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	ME231_FAIL	GRIT CHAMBER DRIVE FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	ME211_FAIL	BAR SCREEN FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	ME251_FAIL	GRIT WASHER DRIVE FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	P702_FAIL	PLANT WATER PUMP #2 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	P701_FAIL	PLANT WATER PUMP #1 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	P241_FAIL	GRIT PUMP #1 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	P242_FAIL	GRIT PUMP #2 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	B412_FAIL	AERATION BLOWER #2 FAIL		*ALM*			High	
	01/01 10:47:27 AM	Win911 Emergency	B411_FAIL	AERATION BLOWER #1 FAIL		*ALM*			High	
	01/01 10:47:30 AM	Scan and Alarm	Event	Failed to update OPC item Channel3.Radio.Cl_Res_Max_Alm ...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN
	01/01 10:47:31 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN
	01/01 10:47:33 AM	Scan and Alarm	Event	Failed to update OPC item Channel3.Radio.Cl_Res_Delayed on...				*	Event	WIN
	01/01 10:47:33 AM	Scan and Alarm	Event	Failed to update OPC item Channel3.Radio.Cl_Res_Max on ser...				*	Event	WIN

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/01 10:47:38 AM	Win911 Emergency	MAINGEN_RUN	MAIN GENERATOR RUN		*ALM*			High	
	01/01 10:47:40 AM	Scan and Alarm	Event	Failed to update OPC item Channel3.Radio.BLR-901Fail on ser...				*	Event	WIN
	01/01 10:47:40 AM	Scan and Alarm	Event	Failed to update OPC item Channel3.Radio.LowChlorine on ser...				*	Event	WIN
	01/01 10:47:42 AM	Win911 Emergency	P851_FAIL	BELT PRESS BOOSTER PUMP FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	P602_OT_ALR	LIFT STATION 3 PUMP #2 OVERTEMP ALARM		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	ME520_FAIL	FINAL CLARIFIER #2 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		*ALM*			High	
	01/01 10:47:42 AM	Win911 Emergency	B411_FAIL	AERATION BLOWER #1 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	ME211_FAIL	BAR SCREEN FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	ME310_FAIL	PRIMARY CLARIFIER FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	P702_FAIL	PLANT WATER PUMP #2 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	ME831_FAIL	BELT PRESS CONVEYOR FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	P701_FAIL	PLANT WATER PUMP #1 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	P603_OT_ALR	LIFT STATION 3 PUMP #3 OVERTEMP ALARM		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	P241_FAIL	GRIT PUMP #1 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	ME251_FAIL	GRIT WASHER DRIVE FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	P601_OT_ALR	LIFT STATION 3 PUMP #1 OVERTEMP ALARM		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	AC812_FAIL	PLANT AIR COMPRESSOR #2 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	AC811_FAIL	PLANT AIR COMPRESSOR #1 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	P242_FAIL	GRIT PUMP #2 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	ME510_FAIL	FINAL CLARIFIER #1 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	B412_FAIL	AERATION BLOWER #2 FAIL		> ALM			High	
	01/01 10:47:42 AM	Win911 Emergency	ME231_FAIL	GRIT CHAMBER DRIVE FAIL		> ALM			High	
	01/01 10:47:43 AM	Win911 Emergency	P102_FAIL	INFLUENT PUMP #2 FAIL		*ALM*			High	
	01/01 10:47:44 AM	Win911 Emergency	Channel3.Radio.BLR-901Fail	Blower 901 Fail Alarm		*ALM*			High	
	01/01 10:47:51 AM	Win911 Emergency	T700_LO_PR	HYDRO TANK LOW PRESSURE		*ALM*			High	
	01/01 10:47:53 AM	Win911 Emergency	T700_LO_PR	HYDRO TANK LOW PRESSURE		> ALM			High	
	01/01 10:48:25 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 10:48:25 AM	Voice	Line 1: Offhook						Event	
	01/01 10:48:25 AM	Voice	Line 1: Dialing						Event	
	01/01 10:48:48 AM	Voice	Access: Cell Phone #1						Event	
	01/01 10:50:37 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/01 10:50:37 AM	Win911 Emergency	AC811_FAIL	PLANT AIR COMPRESSOR #1 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	AC812_FAIL	PLANT AIR COMPRESSOR #2 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	B411_FAIL	AERATION BLOWER #1 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	B412_FAIL	AERATION BLOWER #2 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		ALM			High	Call
	01/01 10:50:37 AM	Win911 Emergency	Channel3.Radio.BLR-901Fail	Blower 901 Fail Alarm		ALM			High	Call
	01/01 10:50:37 AM	Win911 Emergency	MAINGEN_RUN	MAIN GENERATOR RUN		ALM			High	Call
	01/01 10:50:37 AM	Win911 Emergency	ME211_FAIL	BAR SCREEN FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	ME231_FAIL	GRIT CHAMBER DRIVE FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	ME251_FAIL	GRIT WASHER DRIVE FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	ME310_FAIL	PRIMARY CLARIFIER FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	ME510_FAIL	FINAL CLARIFIER #1 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	ME520_FAIL	FINAL CLARIFIER #2 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	ME831_FAIL	BELT PRESS CONVEYOR FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P102_FAIL	INFLUENT PUMP #2 FAIL		ALM			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P241_FAIL	GRIT PUMP #1 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P242_FAIL	GRIT PUMP #2 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P601_OT_ALR	LIFT STATION 3 PUMP #1 OVERTEMP ALARM		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P602_OT_ALR	LIFT STATION 3 PUMP #2 OVERTEMP ALARM		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P603_OT_ALR	LIFT STATION 3 PUMP #3 OVERTEMP ALARM		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P701_FAIL	PLANT WATER PUMP #1 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P702_FAIL	PLANT WATER PUMP #2 FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	P851_FAIL	BELT PRESS BOOSTER PUMP FAIL		OK			High	Call
	01/01 10:50:37 AM	Win911 Emergency	T700_LO_PR	HYDRO TANK LOW PRESSURE		OK			High	Call
	01/01 10:50:43 AM	Voice	Hanging up phone						Event	
	01/01 10:50:43 AM	Voice	Line 1: Onhook						Event	
	01/01 10:53:03 AM	Win911 Emergency	MAINGEN_RUN	MAIN GENERATOR RUN		OK			High	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/01 11:36:20 AM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		OK			High	
	01/01 11:37:08 AM	Win911 Emergency	B411_HI_CRNT	AERATION BLOWER #1 HIGH CURRENT		*ALM*			High	
	01/01 11:37:10 AM	Win911 Emergency	B411_HI_CRNT	AERATION BLOWER #1 HIGH CURRENT		> ALM			High	
	01/01 11:37:42 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 11:37:42 AM	Voice	Line 1: Offhook						Event	
	01/01 11:37:42 AM	Voice	Line 1: Dialing						Event	
	01/01 11:38:21 AM	Voice	No access entered						Event	
	01/01 11:38:25 AM	Voice	Hanging up phone						Event	
	01/01 11:38:25 AM	Voice	Line 1: Onhook						Event	
	01/01 11:38:46 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 11:38:46 AM	Voice	Line 1: Offhook						Event	
	01/01 11:38:46 AM	Voice	Line 1: Dialing						Event	
	01/01 11:39:25 AM	Voice	No access entered						Event	
	01/01 11:39:29 AM	Voice	Hanging up phone						Event	
	01/01 11:39:29 AM	Voice	Line 1: Onhook						Event	
	01/01 11:40:02 AM	Win911 Emergency	B411_HI_CRNT	AERATION BLOWER #1 HIGH CURRENT		*ALM*			High	
	01/01 11:40:05 AM	Win911 Emergency	B411_HI_CRNT	AERATION BLOWER #1 HIGH CURRENT		> ALM			High	
	01/01 11:40:36 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 11:40:37 AM	Voice	Line 1: Offhook						Event	
	01/01 11:40:37 AM	Voice	Line 1: Dialing						Event	
	01/01 11:41:18 AM	Voice	No access entered						Event	
	01/01 11:41:22 AM	Voice	Hanging up phone						Event	
	01/01 11:41:22 AM	Voice	Line 1: Onhook						Event	
	01/01 11:41:42 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 11:41:43 AM	Voice	Line 1: Offhook						Event	
	01/01 11:41:43 AM	Voice	Line 1: Dialing						Event	
	01/01 11:42:23 AM	Voice	No access entered						Event	
	01/01 11:42:27 AM	Voice	Hanging up phone						Event	
	01/01 11:42:27 AM	Voice	Line 1: Onhook						Event	
	01/01 11:43:28 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/01 11:43:28 AM	Voice	Line 1: Offhook						Event	
	01/01 11:43:28 AM	Voice	Line 1: Dialing						Event	
	01/01 11:43:42 AM	Win911 Emergency	P102_FAIL	INFLUENT PUMP #2 FAIL		OK			High	
	01/01 11:43:54 AM	Voice	Access: Cell Phone #1						Event	
	01/01 11:44:10 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/01 11:44:10 AM	Win911 Emergency	B411_HI_CRNT	AERATION BLOWER #1 HIGH CURRENT		OK			High	Call
	01/01 11:44:16 AM	Voice	Hanging up phone						Event	
	01/01 11:44:16 AM	Voice	Line 1: Onhook						Event	
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN
	01/01 01:56:19 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN
	01/02 04:37:37 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/02 04:38:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/02 04:38:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/02 04:38:35 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/02 04:38:35 AM	Voice	Line 1: Offhook						Event	
	01/02 04:38:35 AM	Voice	Line 1: Dialing						Event	
	01/02 04:39:13 AM	Voice	No access entered						Event	



Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/02 04:39:17 AM	Voice	Hanging up phone						Event	
	01/02 04:39:17 AM	Voice	Line 1: Onhook						Event	
	01/02 04:39:38 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/02 04:39:38 AM	Voice	Line 1: Offhook						Event	
	01/02 04:39:38 AM	Voice	Line 1: Dialing						Event	
	01/02 04:40:01 AM	Voice	Access: Cell Phone #1						Event	
	01/02 04:40:18 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/02 04:40:18 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/02 04:40:18 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/02 04:40:23 AM	Voice	Hanging up phone						Event	
	01/02 04:40:23 AM	Voice	Line 1: Onhook						Event	
	01/02 04:53:35 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/02 04:54:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/02 04:54:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/02 06:00:11 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Win
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-BLOF o...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-CPF on ...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-DPF on ...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P1F on s...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P1OT o...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P2F on s...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P2OT o...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-WWHL...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-WWLL...				*	Event	WIN
	01/02 12:43:39 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-WWLSF...				*	Event	WIN
	01/02 01:20:19 PM	Win911 LiftStation	Channel4.LiftStation2.LS2-WWLLA	WW Level Low Alarm		*ALM*			High	
	01/02 01:20:21 PM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/02 01:20:21 PM	Voice	Line 1: Offhook						Event	
	01/02 01:20:21 PM	Voice	Line 1: Dialing						Event	
	01/02 01:20:54 PM	Voice	Access: Cell Phone #1						Event	
	01/02 01:21:06 PM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/02 01:21:06 PM	Win911 LiftStation	Channel4.LiftStation2.LS2-WWLLA	WW Level Low Alarm		ALM			High	Call
	01/02 01:21:13 PM	Voice	Hanging up phone						Event	
	01/02 01:21:13 PM	Voice	Line 1: Onhook						Event	
	01/02 02:00:58 PM	Win911 LiftStation	Channel4.LiftStation2.LS2-WWLLA	WW Level Low Alarm		OK			High	
	01/03 04:13:46 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/03 04:14:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/03 04:14:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/03 04:14:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 04:14:33 AM	Voice	Line 1: Offhook						Event	
	01/03 04:14:33 AM	Voice	Line 1: Dialing						Event	
	01/03 04:15:13 AM	Voice	No access entered						Event	
	01/03 04:15:17 AM	Voice	Hanging up phone						Event	
	01/03 04:15:17 AM	Voice	Line 1: Onhook						Event	
	01/03 04:15:38 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 04:15:38 AM	Voice	Line 1: Offhook						Event	
	01/03 04:15:38 AM	Voice	Line 1: Dialing						Event	
	01/03 04:16:03 AM	Voice	Access: Cell Phone #1						Event	
	01/03 04:16:23 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 04:16:23 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/03 04:16:23 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/03 04:16:29 AM	Voice	Hanging up phone						Event	
	01/03 04:16:29 AM	Voice	Line 1: Onhook						Event	
	01/03 05:21:00 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/03 05:21:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/03 05:21:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/03 05:40:20 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/03 05:40:51 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 05:40:51 AM	Voice	Line 1: Offhook						Event	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/03 05:40:51 AM	Voice	Line 1: Dialing						Event	
	01/03 05:41:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/03 05:41:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/03 05:41:15 AM	Voice	Access: Cell Phone #1						Event	
	01/03 05:41:26 AM	Voice	Invalid acknowledge code						Event	
	01/03 05:41:32 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 05:41:32 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/03 05:41:38 AM	Voice	Hanging up phone						Event	
	01/03 05:41:38 AM	Voice	Line 1: Onhook						Event	
	01/03 05:42:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/03 05:42:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/03 05:42:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/03 05:42:35 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 05:42:35 AM	Voice	Line 1: Offhook						Event	
	01/03 05:42:35 AM	Voice	Line 1: Dialing						Event	
	01/03 05:43:02 AM	Voice	Access: Cell Phone #1						Event	
	01/03 05:43:14 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 05:43:14 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/03 05:43:19 AM	Voice	Hanging up phone						Event	
	01/03 05:43:19 AM	Voice	Line 1: Onhook						Event	
	01/03 05:51:54 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/03 05:52:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/03 05:52:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/03 05:52:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 05:52:34 AM	Voice	Line 1: Offhook						Event	
	01/03 05:52:34 AM	Voice	Line 1: Dialing						Event	
	01/03 05:53:08 AM	Voice	Hanging up phone						Event	
	01/03 05:53:08 AM	Voice	Line 1: Onhook						Event	
	01/03 05:53:29 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 05:53:29 AM	Voice	Line 1: Offhook						Event	
	01/03 05:53:29 AM	Voice	Line 1: Dialing						Event	
	01/03 05:53:51 AM	Voice	Access: Cell Phone #1						Event	
	01/03 05:54:12 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 05:54:12 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/03 05:54:12 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/03 05:54:19 AM	Voice	Hanging up phone						Event	
	01/03 05:54:19 AM	Voice	Line 1: Onhook						Event	
	01/03 06:02:30 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/03 06:03:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/03 06:03:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/03 06:12:16 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Wind
	01/03 08:26:45 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/03 08:27:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/03 08:27:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/03 08:27:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 08:27:34 AM	Voice	Line 1: Offhook						Event	
	01/03 08:27:34 AM	Voice	Line 1: Dialing						Event	
	01/03 08:28:10 AM	Voice	Access: Cell Phone #1						Event	
	01/03 08:28:26 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 08:28:26 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/03 08:28:26 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/03 08:28:32 AM	Voice	Hanging up phone						Event	
	01/03 08:28:32 AM	Voice	Line 1: Onhook						Event	
	01/03 08:30:33 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/03 08:31:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/03 08:31:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/03 08:31:30 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/03 08:32:01 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 08:32:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/03 08:32:02 AM	Voice	Line 1: Offhook						Event	
	01/03 08:32:02 AM	Voice	Line 1: Dialing						Event	
	01/03 08:32:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/03 08:32:23 AM	Voice	Access: Cell Phone #1						Event	
	01/03 08:32:34 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 08:32:34 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/03 08:32:37 AM	Voice	Hanging up phone						Event	
	01/03 08:32:37 AM	Voice	Line 1: Onhook						Event	
	01/03 08:33:10 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 08:33:10 AM	Voice	Line 1: Offhook						Event	
	01/03 08:33:10 AM	Voice	Line 1: Dialing						Event	
	01/03 08:33:50 AM	Voice	No access entered						Event	
	01/03 08:33:54 AM	Voice	Hanging up phone						Event	
	01/03 08:33:54 AM	Voice	Line 1: Onhook						Event	
	01/03 08:34:15 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 08:34:15 AM	Voice	Line 1: Offhook						Event	
	01/03 08:34:15 AM	Voice	Line 1: Dialing						Event	
	01/03 08:34:51 AM	Voice	Access: Cell Phone #1						Event	
	01/03 08:35:03 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 08:35:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/03 08:35:09 AM	Voice	Hanging up phone						Event	
	01/03 08:35:09 AM	Voice	Line 1: Onhook						Event	
	01/03 08:39:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/03 08:39:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/03 08:39:08 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/03 08:45:44 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Wind
	01/03 11:10:37 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/03 11:11:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/03 11:11:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/03 11:11:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/03 11:11:34 AM	Voice	Line 1: Offhook						Event	
	01/03 11:11:34 AM	Voice	Line 1: Dialing						Event	
	01/03 11:11:36 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/03 11:12:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		> ALM			High	
	01/03 11:12:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/03 11:12:16 AM	Voice	Access: Cell Phone #1						Event	
	01/03 11:12:31 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/03 11:12:31 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	Call
	01/03 11:12:31 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/03 11:12:37 AM	Voice	Hanging up phone						Event	
	01/03 11:12:37 AM	Voice	Line 1: Onhook						Event	
	01/04 01:02:52 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/04 01:03:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/04 01:03:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/04 01:03:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/04 01:03:35 AM	Voice	Line 1: Offhook						Event	
	01/04 01:03:35 AM	Voice	Line 1: Dialing						Event	
	01/04 01:03:41 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/04 01:04:01 AM	Voice	Access: Cell Phone #1						Event	
	01/04 01:04:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		> ALM			High	
	01/04 01:04:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/04 01:04:22 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/04 01:04:22 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	Call
	01/04 01:04:22 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/04 01:04:28 AM	Voice	Hanging up phone						Event	
	01/04 01:04:28 AM	Voice	Line 1: Onhook						Event	
	01/04 01:44:35 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Wind
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-CPF on ...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-INT on s...				*	Event	WIN

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P1F on s...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P1OT o...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P1PF on...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P1SF on...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P2F on s...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P2OT o...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P2PF on...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-P2SF on...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-WWHL...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-WWLL...				*	Event	WIN
	01/04 03:01:14 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation4.LS4-WWLSF...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN
	01/04 03:49:28 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN
	01/04 05:43:09 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/04 05:43:39 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/04 05:43:40 AM	Voice	Line 1: Offhook						Event	
	01/04 05:43:40 AM	Voice	Line 1: Dialing						Event	
	01/04 05:44:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/04 05:44:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/04 05:44:17 AM	Voice	Access: Cell Phone #1						Event	
	01/04 05:44:44 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/04 05:44:44 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/04 05:44:44 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/04 05:44:50 AM	Voice	Hanging up phone						Event	
	01/04 05:44:50 AM	Voice	Line 1: Onhook						Event	
	01/04 05:44:57 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/04 05:45:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/04 05:45:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/04 06:43:23 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Wind
	01/04 11:11:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/04 11:11:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/04 11:11:34 AM	Voice	Line 1: Offhook						Event	
	01/04 11:11:34 AM	Voice	Line 1: Dialing						Event	
	01/04 11:11:46 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/04 11:11:54 AM	Voice	Access: Cell Phone #1						Event	
	01/04 11:12:13 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/04 11:12:13 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/04 11:12:19 AM	Voice	Hanging up phone						Event	
	01/04 11:12:19 AM	Voice	Line 1: Onhook						Event	
	01/05 03:12:37 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 03:13:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/05 03:13:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/05 03:13:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 03:13:34 AM	Voice	Line 1: Offhook						Event	
	01/05 03:13:34 AM	Voice	Line 1: Dialing						Event	
	01/05 03:14:00 AM	Voice	Access: Cell Phone #1						Event	
	01/05 03:14:19 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/05 03:14:19 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/05 03:14:19 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/05 03:14:23 AM	Voice	Hanging up phone							Event
	01/05 03:14:25 AM	Voice	Line 1: Onhook							Event
	01/05 03:29:08 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	ALM			High	
	01/05 03:54:51 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/05 03:55:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/05 03:55:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/05 04:45:37 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 04:46:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/05 04:46:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/05 04:46:34 AM	Voice	Calling Cell Phone #1 at 451-7801							Event
	01/05 04:46:35 AM	Voice	Line 1: Offhook							Event
	01/05 04:46:35 AM	Voice	Line 1: Dialing							Event
	01/05 04:46:53 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/05 04:47:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		> ALM			High	
	01/05 04:47:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/05 04:47:14 AM	Voice	No access entered							Event
	01/05 04:47:17 AM	Voice	Hanging up phone							Event
	01/05 04:47:17 AM	Voice	Line 1: Onhook							Event
	01/05 04:47:49 AM	Voice	Calling Cell Phone #1 at 451-7801							Event
	01/05 04:47:49 AM	Voice	Line 1: Offhook							Event
	01/05 04:47:49 AM	Voice	Line 1: Dialing							Event
	01/05 04:48:06 AM	Voice	Access: Cell Phone #1							Event
	01/05 04:48:27 AM	Voice	Alarms Acknowledged by Cell Phone #1							Event
	01/05 04:48:27 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	Call
	01/05 04:48:27 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/05 04:48:32 AM	Voice	Hanging up phone							Event
	01/05 04:48:32 AM	Voice	Line 1: Onhook							Event
	01/05 04:58:21 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 04:58:52 AM	Voice	Calling Cell Phone #1 at 451-7801							Event
	01/05 04:58:52 AM	Voice	Line 1: Offhook							Event
	01/05 04:58:52 AM	Voice	Line 1: Dialing							Event
	01/05 04:59:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/05 04:59:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/05 04:59:21 AM	Voice	Access: Cell Phone #1							Event
	01/05 04:59:40 AM	Voice	Alarms Acknowledged by Cell Phone #1							Event
	01/05 04:59:40 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/05 04:59:40 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/05 04:59:46 AM	Voice	Hanging up phone							Event
	01/05 04:59:46 AM	Voice	Line 1: Onhook							Event
	01/05 05:07:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/05 05:07:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/05 05:07:08 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/05 05:29:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN
	01/05 07:03:37 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/05 07:15:45 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 07:16:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/05 07:16:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/05 07:16:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 07:16:34 AM	Voice	Line 1: Offhook						Event	
	01/05 07:16:34 AM	Voice	Line 1: Dialing						Event	
	01/05 07:17:01 AM	Voice	Access: Cell Phone #1						Event	
	01/05 07:17:30 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/05 07:17:30 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/05 07:17:30 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/05 07:17:35 AM	Voice	Hanging up phone						Event	
	01/05 07:17:35 AM	Voice	Line 1: Onhook						Event	
	01/05 07:28:14 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/05 07:29:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/05 07:29:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/05 07:31:51 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 07:32:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/05 07:32:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/05 07:32:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 07:32:34 AM	Voice	Line 1: Offhook						Event	
	01/05 07:32:34 AM	Voice	Line 1: Dialing						Event	
	01/05 07:33:12 AM	Voice	No access entered						Event	
	01/05 07:33:16 AM	Voice	Hanging up phone						Event	
	01/05 07:33:16 AM	Voice	Line 1: Onhook						Event	
	01/05 07:33:37 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 07:33:37 AM	Voice	Line 1: Offhook						Event	
	01/05 07:33:37 AM	Voice	Line 1: Dialing						Event	
	01/05 07:34:15 AM	Voice	Access: Cell Phone #1						Event	
	01/05 07:34:41 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/05 07:34:41 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/05 07:34:41 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/05 07:34:47 AM	Voice	Hanging up phone						Event	
	01/05 07:34:47 AM	Voice	Line 1: Onhook						Event	
	01/05 07:37:26 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/05 07:38:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/05 07:38:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/05 07:53:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 07:53:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/05 07:53:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/05 07:53:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 07:53:34 AM	Voice	Line 1: Offhook						Event	
	01/05 07:53:34 AM	Voice	Line 1: Dialing						Event	
	01/05 07:53:58 AM	Voice	Access: Cell Phone #1						Event	
	01/05 07:54:11 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/05 07:54:11 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/05 07:54:17 AM	Voice	Hanging up phone						Event	
	01/05 07:54:17 AM	Voice	Line 1: Onhook						Event	
	01/05 07:55:17 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 07:55:18 AM	Voice	Line 1: Offhook						Event	
	01/05 07:55:18 AM	Voice	Line 1: Dialing						Event	
	01/05 07:55:42 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/05 07:56:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/05 07:56:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/05 07:56:04 AM	Voice	No access entered						Event	
	01/05 07:56:06 AM	Voice	Hanging up phone						Event	
	01/05 07:56:09 AM	Voice	Line 1: Onhook						Event	
	01/05 07:56:41 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 07:56:41 AM	Voice	Line 1: Offhook						Event	
	01/05 07:56:41 AM	Voice	Line 1: Dialing						Event	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/05 07:57:05 AM	Voice	Access: Cell Phone #1						Event	
	01/05 07:57:25 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/05 07:57:25 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/05 07:57:31 AM	Voice	Hanging up phone						Event	
	01/05 07:57:31 AM	Voice	Line 1: Onhook						Event	
	01/05 08:22:52 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Wind
	01/05 10:56:35 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 10:56:51 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/05 10:57:22 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 10:57:22 AM	Voice	Line 1: Offhook						Event	
	01/05 10:57:22 AM	Voice	Line 1: Dialing						Event	
	01/05 10:58:05 AM	Voice	Access: Cell Phone #1						Event	
	01/05 10:58:19 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/05 10:58:19 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/05 10:58:25 AM	Voice	Hanging up phone						Event	
	01/05 10:58:25 AM	Voice	Line 1: Onhook						Event	
	01/05 11:08:19 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/05 11:08:51 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 11:08:51 AM	Voice	Line 1: Offhook						Event	
	01/05 11:08:51 AM	Voice	Line 1: Dialing						Event	
	01/05 11:09:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/05 11:09:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/05 11:09:21 AM	Voice	No access entered						Event	
	01/05 11:09:25 AM	Voice	Hanging up phone						Event	
	01/05 11:09:25 AM	Voice	Line 1: Onhook						Event	
	01/05 11:09:27 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/05 11:09:59 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/05 11:09:59 AM	Voice	Line 1: Offhook						Event	
	01/05 11:09:59 AM	Voice	Line 1: Dialing						Event	
	01/05 11:10:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		> ALM			High	
	01/05 11:10:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/05 11:10:24 AM	Voice	Access: Cell Phone #1						Event	
	01/05 11:10:43 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/05 11:10:43 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	Call
	01/05 11:10:43 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/05 11:10:49 AM	Voice	Hanging up phone						Event	
	01/05 11:10:49 AM	Voice	Line 1: Onhook						Event	
	01/05 12:03:05 PM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/06 12:49:17 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/06 12:49:49 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 12:49:49 AM	Voice	Line 1: Offhook						Event	
	01/06 12:49:49 AM	Voice	Line 1: Dialing						Event	
	01/06 12:50:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/06 12:50:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/06 12:50:15 AM	Voice	Access: Cell Phone #1						Event	
	01/06 12:50:32 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/06 12:50:32 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/06 12:50:32 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/06 12:50:37 AM	Voice	Hanging up phone						Event	
	01/06 12:50:37 AM	Voice	Line 1: Onhook						Event	
	01/06 01:09:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/06 01:09:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/06 01:09:09 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/06 01:56:58 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/06 03:30:48 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/06 03:31:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/06 03:31:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/06 03:31:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 03:31:33 AM	Voice	Line 1: Offhook						Event	



Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/06 03:31:33 AM	Voice	Line 1: Dialing						Event	
	01/06 03:32:11 AM	Voice	Access: Cell Phone #1						Event	
	01/06 03:32:32 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/06 03:32:32 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/06 03:32:32 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/06 03:32:38 AM	Voice	Hanging up phone						Event	
	01/06 03:32:38 AM	Voice	Line 1: Onhook						Event	
	01/06 03:41:20 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/06 03:42:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/06 03:42:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/06 04:05:40 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/06 05:43:10 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/06 05:43:41 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 05:43:41 AM	Voice	Line 1: Offhook						Event	
	01/06 05:43:41 AM	Voice	Line 1: Dialing						Event	
	01/06 05:44:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/06 05:44:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/06 05:44:09 AM	Voice	Access: Cell Phone #1						Event	
	01/06 05:44:23 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/06 05:44:23 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/06 05:44:23 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/06 05:44:29 AM	Voice	Hanging up phone						Event	
	01/06 05:44:29 AM	Voice	Line 1: Onhook						Event	
	01/06 05:58:49 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/06 05:59:04 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/06 05:59:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/06 06:34:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/06 07:44:04 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/06 07:44:35 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 07:44:35 AM	Voice	Line 1: Offhook						Event	
	01/06 07:44:35 AM	Voice	Line 1: Dialing						Event	
	01/06 07:45:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/06 07:45:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/06 07:45:18 AM	Voice	No access entered						Event	
	01/06 07:45:22 AM	Voice	Hanging up phone						Event	
	01/06 07:45:22 AM	Voice	Line 1: Onhook						Event	
	01/06 07:45:54 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 07:45:54 AM	Voice	Line 1: Offhook						Event	
	01/06 07:45:54 AM	Voice	Line 1: Dialing						Event	
	01/06 07:46:16 AM	Voice	Access: Cell Phone #1						Event	
	01/06 07:46:33 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/06 07:46:33 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/06 07:46:33 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/06 07:46:39 AM	Voice	Hanging up phone						Event	
	01/06 07:46:39 AM	Voice	Line 1: Onhook						Event	
	01/06 07:55:38 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/06 07:56:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/06 07:56:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/06 08:22:40 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/06 11:04:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/06 11:04:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 11:04:33 AM	Voice	Line 1: Offhook						Event	
	01/06 11:04:33 AM	Voice	Line 1: Dialing						Event	
	01/06 11:04:56 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/06 11:04:57 AM	Voice	Access: Cell Phone #1						Event	
	01/06 11:05:15 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/06 11:05:15 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/06 11:05:21 AM	Voice	Hanging up phone						Event	
	01/06 11:05:21 AM	Voice	Line 1: Onhook						Event	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/06 11:22:59 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/06 11:23:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/06 11:23:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/06 11:23:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 11:23:35 AM	Voice	Line 1: Offhook						Event	
	01/06 11:23:35 AM	Voice	Line 1: Dialing						Event	
	01/06 11:24:02 AM	Voice	Access: Cell Phone #1						Event	
	01/06 11:24:24 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/06 11:24:24 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/06 11:24:24 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/06 11:24:30 AM	Voice	Hanging up phone						Event	
	01/06 11:24:30 AM	Voice	Line 1: Onhook						Event	
	01/06 11:26:26 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/06 11:27:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/06 11:27:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/06 12:05:04 PM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN
	01/06 03:40:09 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN
	01/06 09:06:09 PM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		*ALM*			High	
	01/06 09:06:19 PM	Win911 LiftStation	Channel4.LiftStation4.LS4-P1PF	Pump 1 Phase Fail		*ALM*			High	
	01/06 09:06:19 PM	Win911 LiftStation	Channel4.LiftStation4.LS4-P2PF	Pump 2 Phase Fail		*ALM*			High	
	01/06 09:06:21 PM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/06 09:06:21 PM	Voice	Line 1: Offhook						Event	
	01/06 09:06:21 PM	Voice	Line 1: Dialing						Event	
	01/06 09:06:32 PM	Win911 LiftStation	Channel4.LiftStation4.LS4-P1PF	Pump 1 Phase Fail		> ALM			High	
	01/06 09:06:32 PM	Win911 LiftStation	Channel4.LiftStation4.LS4-P2PF	Pump 2 Phase Fail		> ALM			High	
	01/06 09:06:44 PM	Voice	Access: Cell Phone #1						Event	
	01/06 09:07:11 PM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/06 09:07:11 PM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		ALM			High	Call
	01/06 09:07:11 PM	Win911 LiftStation	Channel4.LiftStation4.LS4-P1PF	Pump 1 Phase Fail		OK			High	Call
	01/06 09:07:11 PM	Win911 LiftStation	Channel4.LiftStation4.LS4-P2PF	Pump 2 Phase Fail		OK			High	Call
	01/06 09:07:17 PM	Voice	Hanging up phone						Event	
	01/06 09:07:17 PM	Voice	Line 1: Onhook						Event	
	01/06 09:22:35 PM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		OK			High	
	01/07 03:52:56 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/07 03:53:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/07 03:53:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/07 03:53:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/07 03:53:34 AM	Voice	Line 1: Offhook						Event	
	01/07 03:53:34 AM	Voice	Line 1: Dialing						Event	
	01/07 03:53:59 AM	Voice	Access: Cell Phone #1						Event	
	01/07 03:54:20 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/07 03:54:20 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/07 03:54:20 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/07 03:54:26 AM	Voice	Hanging up phone						Event	
	01/07 03:54:26 AM	Voice	Line 1: Onhook						Event	
	01/07 04:45:48 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	01/07 04:46:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/07 04:46:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/07 05:09:55 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/07 05:10:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/07 05:10:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	01/07 05:10:34 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/07 05:10:35 AM	Voice	Line 1: Offhook						Event	
	01/07 05:10:35 AM	Voice	Line 1: Dialing						Event	
	01/07 05:11:16 AM	Voice	No access entered						Event	
	01/07 05:11:19 AM	Voice	Hanging up phone						Event	
	01/07 05:11:19 AM	Voice	Line 1: Onhook						Event	
	01/07 05:11:39 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/07 05:11:40 AM	Voice	Line 1: Offhook						Event	
	01/07 05:11:40 AM	Voice	Line 1: Dialing						Event	
	01/07 05:12:04 AM	Voice	Access: Cell Phone #1						Event	
	01/07 05:12:25 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/07 05:12:25 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	01/07 05:12:25 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	01/07 05:12:31 AM	Voice	Hanging up phone						Event	
	01/07 05:12:31 AM	Voice	Line 1: Onhook						Event	
	01/07 05:50:37 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	01/07 05:51:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	01/07 05:51:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	01/07 05:55:20 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/07 05:55:50 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	01/07 05:55:51 AM	Voice	Line 1: Offhook						Event	
	01/07 05:55:51 AM	Voice	Line 1: Dialing						Event	
	01/07 05:56:04 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	01/07 05:56:20 AM	Voice	Access: Cell Phone #1						Event	
	01/07 05:56:36 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	01/07 05:56:36 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	01/07 05:56:42 AM	Voice	Hanging up phone						Event	
	01/07 05:56:42 AM	Voice	Line 1: Onhook						Event	
	01/07 06:24:57 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	01/07 06:25:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	01/07 06:25:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	12/27 09:59:33 AM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		*ALM*			High	
	12/27 10:00:05 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/27 10:00:05 AM	Voice	Line 1: Offhook						Event	
	12/27 10:00:05 AM	Voice	Line 1: Dialing						Event	
	12/27 10:00:39 AM	Voice	Access: Cell Phone #1						Event	
	12/27 10:00:50 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/27 10:00:50 AM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		ALM			High	Call
	12/27 10:00:56 AM	Voice	Hanging up phone						Event	
	12/27 10:00:56 AM	Voice	Line 1: Onhook						Event	
	12/27 10:15:25 AM	Win911 Emergency	B413_FAIL	AERATION BLOWER #3 FAIL		OK			High	
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	12/28 03:43:53 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN
	12/28 03:53:08 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN
	12/28 08:58:37 AM	Voice	Line 1: Answering incoming call.						Event	
	12/28 08:58:38 AM	Voice	Line 1: Offhook						Event	
	12/28 08:59:05 AM	Voice	No access entered						Event	
	12/28 08:59:05 AM	Voice	Hanging up phone						Event	
	12/28 08:59:05 AM	Voice	Line 1: Onhook						Event	
	12/28 09:42:08 AM	Voice	Line 1: Answering incoming call.						Event	
	12/28 09:42:08 AM	Voice	Line 1: Offhook						Event	
	12/28 09:42:38 AM	Voice	No access entered						Event	
	12/28 09:42:38 AM	Voice	Hanging up phone						Event	
	12/28 09:42:38 AM	Voice	Line 1: Onhook						Event	
	12/28 11:12:55 AM	Win911 Emergency	LS3_LO_ALR	LIFT STATION #3 LOW LEVEL ALARM					*ALM*	High
	12/28 11:13:26 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/28 11:13:27 AM	Voice	Line 1: Offhook						Event	
	12/28 11:13:27 AM	Voice	Line 1: Dialing						Event	
	12/28 11:13:53 AM	Voice	Access: Cell Phone #1						Event	
	12/28 11:14:07 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/28 11:14:07 AM	Win911 Emergency	LS3_LO_ALR	LIFT STATION #3 LOW LEVEL ALARM					ALM	High
	12/28 11:14:13 AM	Voice	Hanging up phone						Event	
	12/28 11:14:13 AM	Voice	Line 1: Onhook						Event	
	12/28 12:28:19 PM	Win911 Emergency	LS3_LO_ALR	LIFT STATION #3 LOW LEVEL ALARM					OK	High
	12/29 09:27:47 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm					*ALM*	High
	12/29 09:28:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On				*ALM*	High
	12/29 09:28:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max					*ALM*	High
	12/29 09:28:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 09:28:33 AM	Voice	Line 1: Offhook						Event	
	12/29 09:28:33 AM	Voice	Line 1: Dialing						Event	
	12/29 09:28:35 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm					> ALM	High
	12/29 09:29:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max					> ALM	High
	12/29 09:29:03 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off				> ALM	High
	12/29 09:29:13 AM	Voice	No access entered						Event	
	12/29 09:29:17 AM	Voice	Hanging up phone						Event	
	12/29 09:29:17 AM	Voice	Line 1: Onhook						Event	
	12/29 09:29:49 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 09:29:49 AM	Voice	Line 1: Offhook						Event	
	12/29 09:29:49 AM	Voice	Line 1: Dialing						Event	
	12/29 09:30:25 AM	Voice	Access: Cell Phone #1						Event	
	12/29 09:30:40 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/29 09:30:40 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max					OK	High
	12/29 09:30:40 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm					OK	High
	12/29 09:30:46 AM	Voice	Hanging up phone						Event	
	12/29 09:30:46 AM	Voice	Line 1: Onhook						Event	
	12/29 09:31:19 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off				OK	High
	12/29 09:55:40 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm					*ALM*	High
	12/29 09:56:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On				*ALM*	High

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	12/29 09:56:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	12/29 09:56:33 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 09:56:34 AM	Voice	Line 1: Offhook						Event	
	12/29 09:56:34 AM	Voice	Line 1: Dialing						Event	
	12/29 09:56:54 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	12/29 09:56:59 AM	Voice	Access: Cell Phone #1						Event	
	12/29 09:57:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		> ALM			High	
	12/29 09:57:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	12/29 09:57:36 AM	Voice	Hanging up phone						Event	
	12/29 09:57:36 AM	Voice	Line 1: Onhook						Event	
	12/29 09:58:08 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 09:58:09 AM	Voice	Line 1: Offhook						Event	
	12/29 09:58:09 AM	Voice	Line 1: Dialing						Event	
	12/29 09:58:31 AM	Voice	Access: Cell Phone #1						Event	
	12/29 09:58:56 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/29 09:58:56 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	Call
	12/29 09:58:56 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	12/29 09:59:02 AM	Voice	Hanging up phone						Event	
	12/29 09:59:02 AM	Voice	Line 1: Onhook						Event	
	12/29 10:22:29 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	12/29 10:23:00 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 10:23:00 AM	Voice	Line 1: Offhook						Event	
	12/29 10:23:00 AM	Voice	Line 1: Dialing						Event	
	12/29 10:23:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	12/29 10:23:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	12/29 10:23:24 AM	Voice	Access: Cell Phone #1						Event	
	12/29 10:23:44 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/29 10:23:44 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	12/29 10:23:44 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	12/29 10:23:50 AM	Voice	Hanging up phone						Event	
	12/29 10:23:50 AM	Voice	Line 1: Onhook						Event	
	12/29 10:39:50 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	12/29 10:40:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	12/29 10:40:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	12/29 08:51:36 PM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	12/29 08:51:50 PM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	12/29 08:52:22 PM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 08:52:22 PM	Voice	Line 1: Offhook						Event	
	12/29 08:52:22 PM	Voice	Line 1: Dialing						Event	
	12/29 08:53:02 PM	Voice	No access entered						Event	
	12/29 08:53:06 PM	Voice	Hanging up phone						Event	
	12/29 08:53:06 PM	Voice	Line 1: Onhook						Event	
	12/29 08:53:27 PM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 08:53:27 PM	Voice	Line 1: Offhook						Event	
	12/29 08:53:27 PM	Voice	Line 1: Dialing						Event	
	12/29 08:54:10 PM	Voice	No access entered						Event	
	12/29 08:54:14 PM	Voice	Hanging up phone						Event	
	12/29 08:54:14 PM	Voice	Line 1: Onhook						Event	
	12/29 08:55:15 PM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/29 08:55:15 PM	Voice	Line 1: Offhook						Event	
	12/29 08:55:15 PM	Voice	Line 1: Dialing						Event	
	12/29 08:55:46 PM	Voice	Access: Cell Phone #1						Event	
	12/29 08:55:56 PM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/29 08:55:56 PM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	12/29 08:56:00 PM	Voice	Hanging up phone						Event	
	12/29 08:56:02 PM	Voice	Line 1: Onhook						Event	
	12/29 09:40:26 PM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	OK			High	Win
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-BLOF o...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-CPF on ...				*	Event	WIN

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-DPF on ...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1F on s...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1OT o...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P1SF on...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2F on s...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2OT o...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-P2SF on...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD1F ...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-VFD2F ...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWHL...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLL...				*	Event	WIN
	12/30 12:13:20 AM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation1.LS1-WWLSF...				*	Event	WIN
	12/30 10:08:23 AM	Win911 LiftStation	Channel4.LiftStation2.LS2-P1F	Pump 1 Failed to Run		*ALM*			High	
	12/30 10:08:25 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/30 10:08:25 AM	Voice	Line 1: Offhook						Event	
	12/30 10:08:25 AM	Voice	Line 1: Dialing						Event	
	12/30 10:09:05 AM	Voice	No access entered						Event	
	12/30 10:09:09 AM	Voice	Hanging up phone						Event	
	12/30 10:09:09 AM	Voice	Line 1: Onhook						Event	
	12/30 10:09:30 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/30 10:09:30 AM	Voice	Line 1: Offhook						Event	
	12/30 10:09:30 AM	Voice	Line 1: Dialing						Event	
	12/30 10:09:51 AM	Voice	Access: Cell Phone #1						Event	
	12/30 10:10:18 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/30 10:10:18 AM	Win911 LiftStation	Channel4.LiftStation2.LS2-P1F	Pump 1 Failed to Run		ALM			High	Call
	12/30 10:10:24 AM	Voice	Hanging up phone						Event	
	12/30 10:10:24 AM	Voice	Line 1: Onhook						Event	
	12/30 10:56:36 AM	Win911 LiftStation	Channel4.LiftStation2.LS2-P1F	Pump 1 Failed to Run		OK			High	
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-BLOF o...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-CPF on ...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-DPF on ...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P1F on s...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P1OT o...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P2F on s...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-P2OT o...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-WWHL...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-WWLL...				*	Event	WIN
	12/30 02:55:29 PM	Scan and Alarm	Event	Failed to update OPC item Channel4.LiftStation2.LS2-WWLSF...				*	Event	WIN
	12/31 07:08:09 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	12/31 07:08:40 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 07:08:41 AM	Voice	Line 1: Offhook						Event	
	12/31 07:08:41 AM	Voice	Line 1: Dialing						Event	
	12/31 07:09:02 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		*ALM*			High	
	12/31 07:09:02 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	On	*ALM*			High	
	12/31 07:09:19 AM	Voice	Access: Cell Phone #1						Event	
	12/31 07:09:44 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/31 07:09:44 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		ALM			High	Call
	12/31 07:09:44 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		ALM			High	Call
	12/31 07:09:48 AM	Voice	Hanging up phone						Event	
	12/31 07:09:49 AM	Voice	Line 1: Onhook						Event	
	12/31 07:11:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max	Cl Res Max		OK			High	
	12/31 07:11:04 AM	RSView Import Group	Cl_Res_Max	Chlorine Res Max Alarm	Off	> ALM			High	
	12/31 07:11:09 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	
	12/31 07:31:10 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		*ALM*			High	
	12/31 07:31:35 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		> ALM			High	
	12/31 07:32:06 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 07:32:07 AM	Voice	Line 1: Offhook						Event	
	12/31 07:32:07 AM	Voice	Line 1: Dialing						Event	
	12/31 07:32:54 AM	Voice	No access entered						Event	

Notes	Date\Time	Group	Tagname	Description	Value	Event	Units	Limit	Priority	Ack
	12/31 07:32:58 AM	Voice	Hanging up phone						Event	
	12/31 07:32:58 AM	Voice	Line 1: Onhook						Event	
	12/31 07:33:18 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 07:33:19 AM	Voice	Line 1: Offhook						Event	
	12/31 07:33:19 AM	Voice	Line 1: Dialing						Event	
	12/31 07:33:47 AM	Voice	Access: Cell Phone #1						Event	
	12/31 07:34:01 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/31 07:34:01 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		OK			High	Call
	12/31 07:34:07 AM	Voice	Hanging up phone						Event	
	12/31 07:34:07 AM	Voice	Line 1: Onhook						Event	
	12/31 07:36:04 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		*ALM*			High	
	12/31 07:36:36 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 07:36:36 AM	Voice	Line 1: Offhook						Event	
	12/31 07:36:36 AM	Voice	Line 1: Dialing						Event	
	12/31 07:37:17 AM	Voice	No access entered						Event	
	12/31 07:37:17 AM	Voice	Hanging up phone						Event	
	12/31 07:37:17 AM	Voice	Line 1: Onhook						Event	
	12/31 07:37:32 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		> ALM			High	
	12/31 07:38:04 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 07:38:04 AM	Voice	Line 1: Offhook						Event	
	12/31 07:38:04 AM	Voice	Line 1: Dialing						Event	
	12/31 07:38:35 AM	Voice	Access: Cell Phone #1						Event	
	12/31 07:38:54 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/31 07:38:54 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		OK			High	Call
	12/31 07:39:00 AM	Voice	Hanging up phone						Event	
	12/31 07:39:00 AM	Voice	Line 1: Onhook						Event	
	12/31 07:41:15 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		*ALM*			High	
	12/31 07:41:47 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 07:41:47 AM	Voice	Line 1: Offhook						Event	
	12/31 07:41:47 AM	Voice	Line 1: Dialing						Event	
	12/31 07:42:20 AM	Voice	Access: Cell Phone #1						Event	
	12/31 07:42:32 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/31 07:42:32 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		ALM			High	Call
	12/31 07:42:38 AM	Voice	Hanging up phone						Event	
	12/31 07:42:38 AM	Voice	Line 1: Onhook						Event	
	12/31 07:44:02 AM	Win911 Emergency	ME822_FAIL	SCREW PRESS DISTURBANCE		OK			High	
	12/31 07:54:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		*ALM*			High	
	12/31 07:54:35 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 07:54:35 AM	Voice	Line 1: Offhook						Event	
	12/31 07:54:35 AM	Voice	Line 1: Dialing						Event	
	12/31 07:55:03 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		> ALM			High	
	12/31 07:55:10 AM	Voice	Access: Cell Phone #1						Event	
	12/31 07:55:31 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/31 07:55:31 AM	Win911 Emergency	Channel3.Radio.Cl_Res_Max_Alm	Cl Res Max Alarm		OK			High	Call
	12/31 07:55:36 AM	Voice	Hanging up phone						Event	
	12/31 07:55:36 AM	Voice	Line 1: Onhook						Event	
	12/31 10:00:50 AM	Win911 Emergency	P602_OT_ALR	LIFT STATION 3 PUMP #2 OVERTEMP ALARM		*ALM*			High	
	12/31 10:01:23 AM	Voice	Calling Cell Phone #1 at 451-7801						Event	
	12/31 10:01:23 AM	Voice	Line 1: Offhook						Event	
	12/31 10:01:23 AM	Voice	Line 1: Dialing						Event	
	12/31 10:01:47 AM	Voice	Access: Cell Phone #1						Event	
	12/31 10:01:58 AM	Voice	Alarms Acknowledged by Cell Phone #1						Event	
	12/31 10:01:58 AM	Win911 Emergency	P602_OT_ALR	LIFT STATION 3 PUMP #2 OVERTEMP ALARM		ALM			High	Call
	12/31 10:02:02 AM	Voice	Hanging up phone						Event	
	12/31 10:02:02 AM	Voice	Line 1: Onhook						Event	
	12/31 10:02:33 AM	Win911 Emergency	P602_OT_ALR	LIFT STATION 3 PUMP #2 OVERTEMP ALARM		OK			High	



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**ALARMS AND POUNDS CHLORINE DISCHARGED (JAN 3 & 7)**

**\*Disclaimer**

The following file contains alarm logs that were obtained from the District's supervisory control and data acquisition (SCADA) alarm software system. All alarms during this time period are recorded, and included herein. The inclusion of an alarm condition does not necessarily indicate an excursion from the Districts NPDES effluent limitations for total chlorine residual. The only alarm conditions that resulted in confirmed exceedances of final effluent limitations were the two noted within the report for January 3rd and January 7th (2013). Both instances were duly reported to the Regional Water Quality Control Board as indicated within the main body of this report.

**\*Disclaimer**

Date	Alarm On	Alarm Off	Duration Minutes	Event Avg Q GPM	Total Q	Avg Res above Limit	Limit	Total lbs Discharged	Lbs Discharged above Limit	Reported Results Time	Reported Results mg/l
12/28/2012	none	none	1440	943	1358000	0	5.6	0.113	0.000	10:00 AM	0.01
12/29/2012	9:28 AM	9:30 AM	2	990	1980	5.8	5.6	0.096	0.003	10:00 AM	0.02
12/29/2012	9:57 AM	9:58 AM	1	1000	1000	6.2	5.6	0.052	0.005	10:00 AM	0.01
12/29/2012	10:23 AM	10:38 AM	15	1415	21225	10	5.6	1.770	0.779	*	
12/29/2012	8:51 PM	8:55 PM	4	970	3880	10	5.6	0.324	0.142	9:30 PM	0.02
*None reported, Paul recalls doing the test but not written down.											
12/30/2012	none	none	1440	910	1311000	0	5.6	0.109	0.000	10:00 AM	0.01
12/31/2012	7:08 AM	7:09 AM	1	650	650	10	5.6	0.054	0.024	7:30 AM	0.03
12/31/2012	7:54 AM	7:55 AM	1	825	825	6.2	5.6	0.043	0.004	8:25 AM	0.01
1/1/2013	6:09 AM	6:30 AM	21	400	8400	9.7	5.6	0.680	0.287	**6:15:00 AM	0.01
1/1/2013	none	none	1440	860	1239000	0	5.6	0.109	0.000	7:45 AM	0.01
**Time difference between SCADA and Lab 8 minutes											
1/2/2013	4:37 AM	4:53 AM	16	370	5920	10	5.6	0.494	0.217	6:15 AM	0.02
1/2/2013	none	none	1440	943	1239000	0	5.6	0.109	0.000	7:45 AM	0.01
1/3/2013	4:14 AM	5:21 AM	107	370	39590	10	5.6	3.302	1.453	5:25 AM	0.02
1/3/2013	5:40 AM	5:42 AM	2	380	560	6.7	5.6	0.031	0.005	5:25 AM	0.02
1/3/2013	5:51 AM	6:02 AM	11	400	4400	6.5	5.6	0.239	0.033	**5:55:00 AM	0.01
1/3/2013	8:26 AM	8:45 AM	19	1190	22610	10.4	5.6	1.961	0.905	8:40 AM	10.4
**Time difference between SCADA and Lab 8 minutes										8:40 AM	10.2
1/3/2013										8:45 AM	0.03
1/3/2013	none	none	1440	920	1325000	0	5.6	0.000	0.000	9:00 AM	0.00
1/3/2013	11:10 AM	11:12 AM	2	1370	2740	6.3	5.6	0.144	0.016	11:35 AM	0.01
1/4/2013	1:02 AM	1:04 AM	2	508	1016	5.9	5.6	0.050	0.003	1:45 AM	0.00
1/4/2013	5:43 AM	5:45 AM	2	385	770	7.5	5.6	0.048	0.012	6:00 AM	0.01
1/4/2013	none	none	1440	913	1315000	0	5.6	0.000	0.000	10:30 AM	0.00
1/4/2013	11:11 AM	11:12 AM	1	1300	1300	6	5.6	0.065	0.004	11:20 AM	0.00

1/5/2013	3:12 AM	3:52 AM	40	370	14800	10	5.6	1.234	0.543	3:30 AM	3.01
1/5/2013	4:46 AM	4:48 AM	2	360	720	5.9	5.6	0.035	0.002	5:00 AM	0.02
1/5/2013	4:58 AM	5:07 AM	9	335	3015	10	5.6	0.251	0.111	7:25 AM	0.00
1/5/2013	7:17 AM	7:28 AM	5	530	2650	10	5.6	0.221	0.097	7:40 AM	0.08
1/5/2013	7:32 AM	7:37 AM	2	595	1190	7.3	5.6	0.072	0.017	8:00 AM	0.00
1/5/2013	11:08 AM	11:10 AM	2	1285	2570	5.7	5.6	0.122	0.002	11:10 AM	0.06

1/6/2013	12:49 AM	1:09 AM	20	500	10000	10	5.6	0.834	0.367	1:05 AM	0.08
1/6/2013	3:30 AM	3:42 AM	8	385	3080	5.9	5.6	0.152	0.008	4:00 AM	0.00
1/6/2013	5:43 AM	5:58 AM	15	400	6000	10	5.6	0.500	0.220	6:10 AM	0.00
1/6/2013	none	none	1440	876	1262000	0	5.6	0.000	0.000	7:05 AM	0.00
1/6/2013	7:44 AM	7:55 AM	11	600	6600	10	5.6	0.550	0.242	8:00 AM	0.01
1/6/2013	11:04 AM	11:05 AM	1	1385	1385	6	5.6	0.069	0.005	11:15 AM	0.00
1/6/2013	11:23 AM	11:26 AM	3	1356	4068	7.8	5.6	0.265	0.075	11:35 AM	0.00

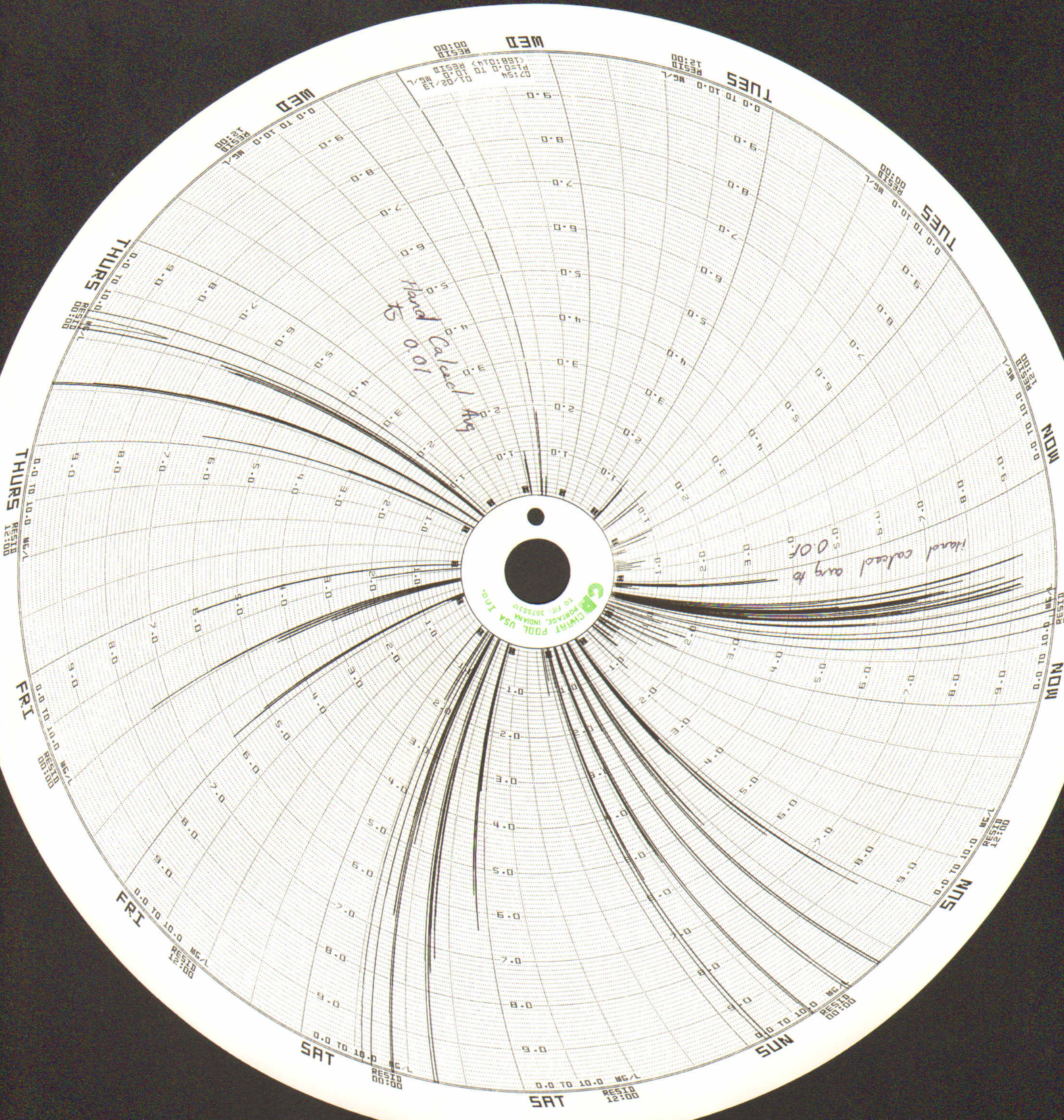
1/7/2013	3:53 AM	4:45 AM	52	370	19240	10	5.6	1.605	0.706	4:15 AM	2.10
1/7/2013	5:09 AM	5:51 AM	42	360	15120	10	5.6	1.261	0.555	5:30 AM	0.01
1/7/2013	5:55 AM	5:56 AM	1	435	435	5.6	5.6	0.020	0.000	6:10 AM	0.00
1/7/2013	6:24 AM	6:30 AM	6	545	3270	6.2	5.6	0.169	0.016	6:50 AM	0.00
1/7/2013	6:35 AM	6:39 AM	4	585	2340	9.1	5.6	0.178	0.068	8:00 AM	0.01
1/7/2013	6:51 AM	6:58 AM	7	765	5355	8.9	5.6	0.397	0.147	7:00 AM	0.00
1/7/2013	7:09 AM	7:11 AM	2	900	1800	8.6	5.6	0.129	0.045	Operator was running test	
1/7/2013	7:17 AM	7:19 AM	2	1030	2060	7.1	5.6	0.129	0.026	7:20 AM	0.08
1/7/2013	7:25 AM	7:27 AM	2	1045	2090	7.8	5.6	0.136	0.038	7:30 AM	7.80
1/7/2013	7:49 AM	7:51 AM	2	1235	2470	6.3	5.6	0.130	0.014	8:00 AM	0.09
1/7/2013	none	none	1440	877	1263000	0	5.6	0.000	0.000	8:25 AM	0.00



CHART POOL USA Inc.  
PORTAGE, INDIANA  
TO FIT: 3075337

*Hand Colored Avg*  
*0.01*

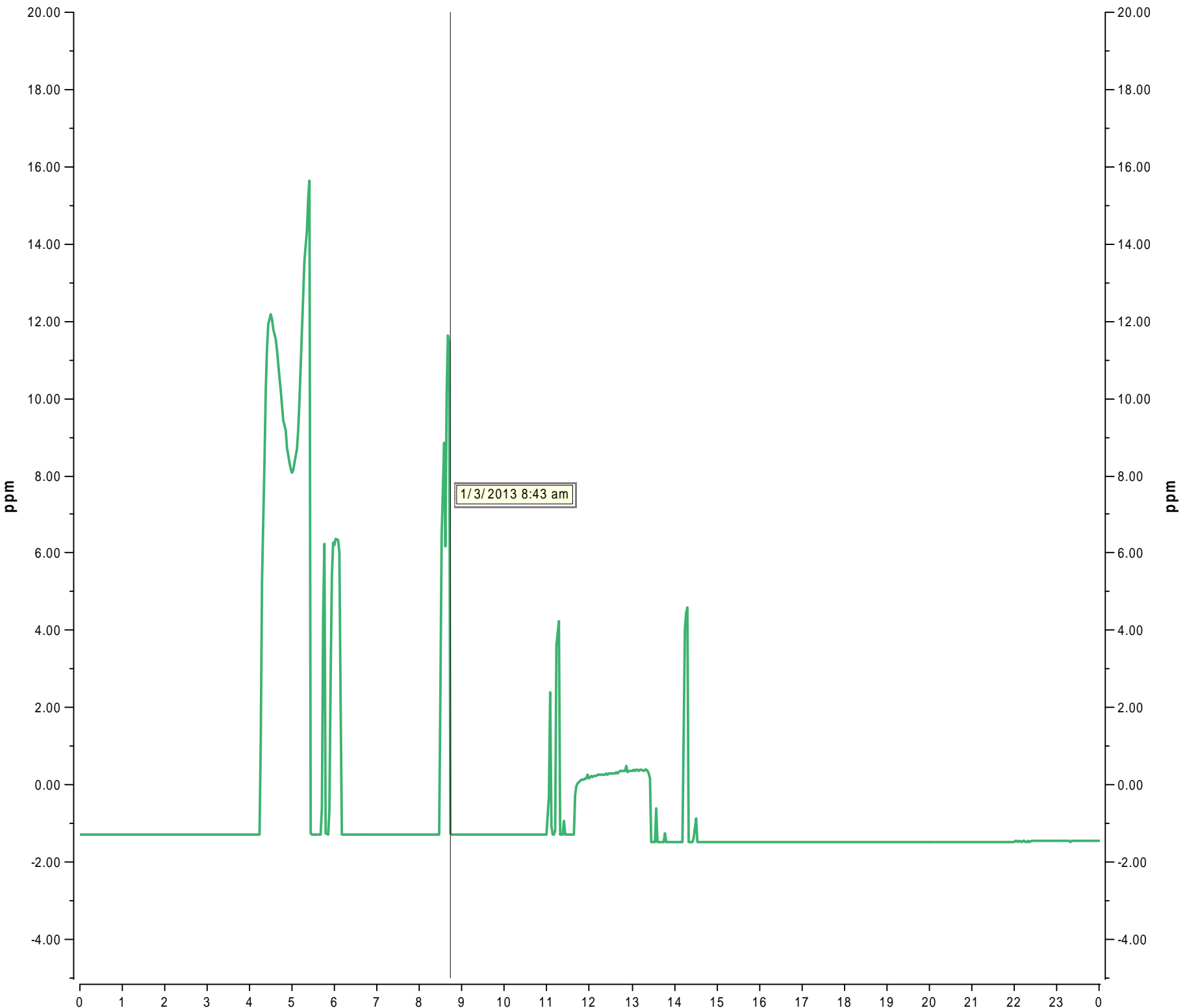
*Hand colored avg to 0.01*



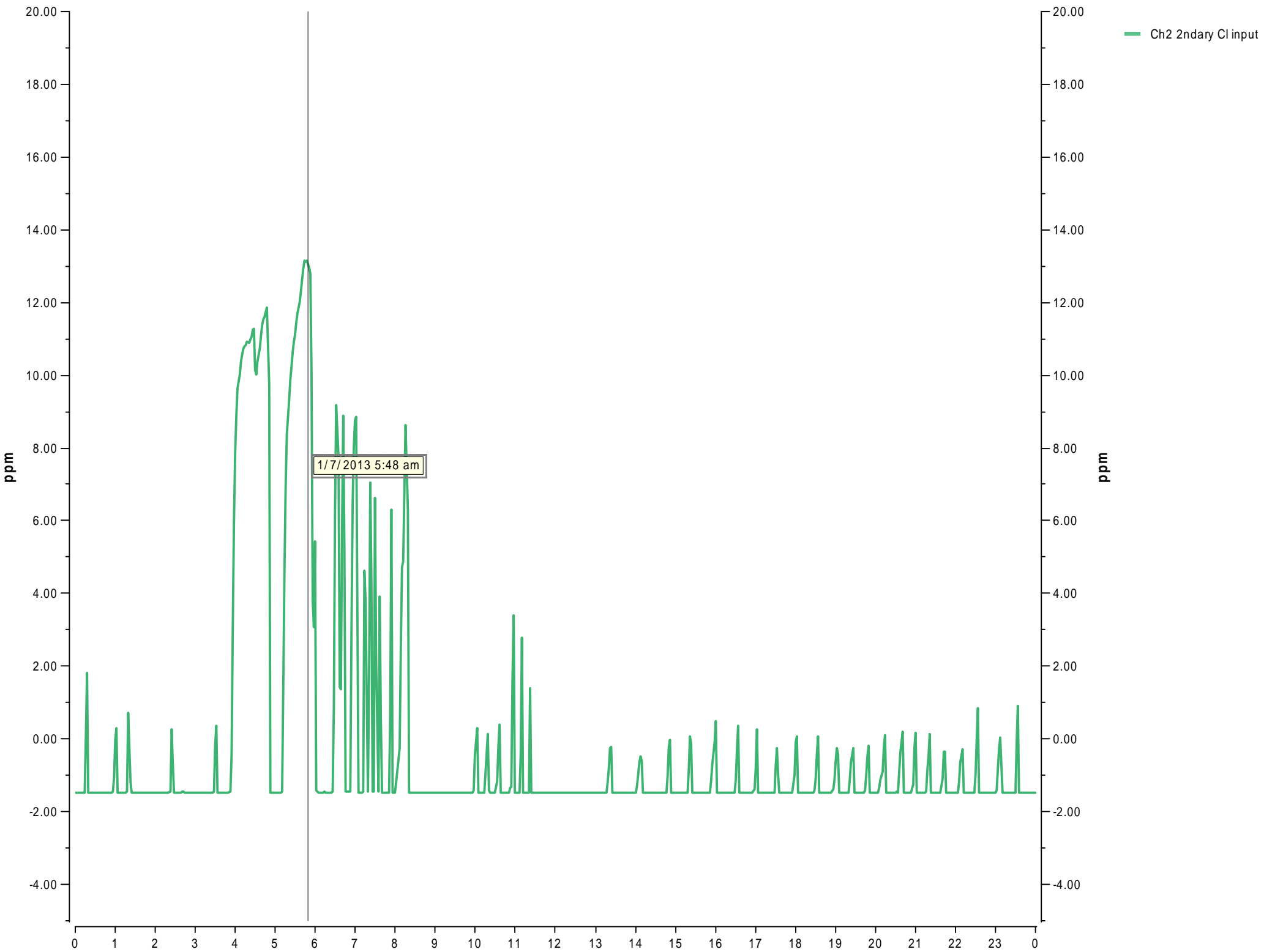


2013: 01/03/2013

Ch2 2ndary CI input



2013: 01/07/2013





DATE: 12-18-10 DAY: FR

OPERATOR: Ja

6-DAY

Weather: Clear cold

**INF - 001:**

Flow MGD 1.446  
Peak MG 2.678  
TSS mg/L 305  
pH 7.65

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L 100  
Primary Sludge Depth Ft. 0.0  
Primary Sludge TS mg/L 21556  
Primary Sludge TVS mg/L 18883

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			2262
#1 TVSS mg/L	FOAM		1922
#2 TSS mg/L	2310	2214	2262
#2 TVSS mg/L	1964	1880	1922
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			320

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. 0.0  
Final #2 Sludge Depth Ft. 0.0  
RAS TSS mg/L 6740

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 283  
Bisulfite Lbs. 537  
EFF. Chlorine Residual mg/L 10

**EFF - 001:**

Flow MGD 1.385 Time Collected Analyzed  
Peak Flow MG 2.659 Collected By By  
TSS mg/L 11  
Effluent Settleable Solids mL 0.1 10:00 Ja Ja  
Chlorine Residual Avg mg/L 0.00  
Chlorine Residual Max mg/L 0.66  
CL2 Res. After DeChlor mg/L 0.01 10:00 Ja Ja  
pH 7.02 10:00 Ja Ja  
Turbidity NTU 3.43  
Effluent Temperature(6-day)

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L 15182  
Digester Sludge TVS mg/L 10964  
Digester D.O. mg/L \_\_\_\_\_  
Temperature F \_\_\_\_\_  
Digester Freeboard/Foam 11.0  
Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	0.18	0.20
PRIMARY	1.7	
WAS	-56	
RAS %	24%	

**SLUDGE DEWATERING:**

Screw Press Flow MGD 0.0266  
Belt Press Flow MGD \_\_\_\_\_  
Press Feed mg/l 15182  
Press Filtrate mg/l 216  
Press Cake mg/l 162059

Notes: Continual foam in aeration tanks.  
Increased filaments.

### Determination of Chlorine Residual Carpinteria Sanitary District

Date:	12-28-12	Analyst:	JL
Reagent #	R-256, R-320		

Spec Standard Check

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.22	0.92	1.62
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mLs)	Final Result (mg/L)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10	0.01	
EFF - 001	10:00	10:10	10	0.01	P
EFF-001 Dup.(≤ 30% RPD)			10	0.01	
BOD Eff. (6-Day Only)			10		

All test done by "Standard Method" (20th Ed.) SM4500Cl G

$$\frac{(\text{Result 1} - \text{Result 2})}{(\text{Result 1} + \text{Result 2})/2} \times 100 = \text{RPD}$$



DATE: 12-29-12 DAY: SATURDAY OPERATOR: PS 6-DAY  Weather: RAIN

**INF - 001:**

Flow MGD 1.428  
 Peak MG 2.841  
 TSS mg/L \_\_\_\_\_  
 pH \_\_\_\_\_

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L \_\_\_\_\_  
 Primary Sludge Depth Ft. \_\_\_\_\_  
 Primary Sludge TS mg/L \_\_\_\_\_  
 Primary Sludge TVS mg/L \_\_\_\_\_

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			
#1 TVSS mg/L			
#2 TSS mg/L			
#2 TVSS mg/L			
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			<u>320</u>

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. \_\_\_\_\_  
 Final #2 Sludge Depth Ft. \_\_\_\_\_  
 RAS TSS mg/L \_\_\_\_\_

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 273  
 Bisulfite Lbs. 318  
 EFF. Chlorine Residual mg/L 0.0 +

**EFF - 001:**

Flow MGD 1.359 Time Collected Analyzed  
 Peak Flow MG 2.316 Collected By By  
 TSS mg/L \_\_\_\_\_  
 Effluent Settleable Solids mL 0.1 7:35 PS PS  
 Chlorine Residual Avg mg/L 0.00  
 Chlorine Residual Max mg/L 0.90  
 CL2 Res.After DeChlor mg/L 0.02 7:35 PS PS  
 pH 7.24 7:35 PS PS  
 Turbidity NTU 283 7:35 PS PS  
 Effluent Temperature(6-day) \_\_\_\_\_

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L \_\_\_\_\_  
 Digester Sludge TVS mg/L \_\_\_\_\_  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 11.6 ✓  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500
F/M	<u>0.18</u>
PRIMARY	<u>0.5</u>
WAS	<u>25</u>
RAS %	<u>24</u> <u>30</u>

**SLUDGE DEWATERING:**

Screw Press Flow MGD \_\_\_\_\_  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l \_\_\_\_\_  
 Press Filtrate mg/l \_\_\_\_\_  
 Press Cake mg/l \_\_\_\_\_

Notes: Called for CL2 Max Alarm @ 9:30am 0.02mg/L  
GRAB, 10:00am 0.01 mg/L GRAB, 8:55pm 0.02 mg/L  
GRAB.

## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	12-29-12	Analyst:	PS
Reagent #	R-256, R-320		

Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.23	0.90	1.62
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10			0.01	
EFF - 001	0735	0745	10			0.02	
EFF-001 Dup.(≤ 30% RPD)			10			0.02	Pass
BOD Eff. (6-Day Only)			10				
EFF - 001	10:00 AM	10:05	10			0.01	(Result 1 + Result 2) / 2
EFF - 001	9:30 PM	9:35 PM	10			0.02	
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				

X 100 = RPD



# STANDBY/OVERTIME REPORT FORM

DATE: 12/29/12

Equipment Description: \_\_\_\_\_

Name: P. Swearingen

Time in: 10:00 AM Time Out: 11:45 AM

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_


Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL2 Residual MAX ALARM

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: FLUSHED BISULFITE LINE TO MAZE WITH WATER. MONITORED 960 ANALYZER. TOOK GRAB SAMPLE OF CL2 RESIDUAL. TEST RESULTS WERE 0.01 MG/L.

Mileage: 70

Signature of person filling out form: 

# STANDBY/OVERTIME REPORT FORM

DATE: 12/29/12

Equipment Description: \_\_\_\_\_

Name: P. Sweningsen

Time in: 8:55pm Time Out: 10:30pm

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL<sub>2</sub> RESIDUAL MAX.

Other problems encountered during callout/overtime: NONE

Corrective action taken: MONITORED 960 ANALYZER UNIT. TOOK GRAB CL<sub>2</sub> SAMPLE & TESTED. TEST RESULTS WERE 0.02 MG/L.

Mileage: 35

Signature of person filling out form:





DATE: 12-30-12 DAY: SUNDAY OPERATOR: PS 6-DAY  Weather: SUNNY, Clear

**INF - 001:**

Flow MGD 1.392  
 Peak MG 2.348  
 TSS mg/L \_\_\_\_\_  
 pH \_\_\_\_\_

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L \_\_\_\_\_  
 Primary Sludge Depth Ft. \_\_\_\_\_  
 Primary Sludge TS mg/L \_\_\_\_\_  
 Primary Sludge TVS mg/L \_\_\_\_\_

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			
#1 TVSS mg/L			
#2 TSS mg/L			
#2 TVSS mg/L			
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			<u>320</u>

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. \_\_\_\_\_  
 Final #2 Sludge Depth Ft. \_\_\_\_\_  
 RAS TSS mg/L \_\_\_\_\_

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 400  
 Bisulfite Lbs. 378  
 EFF. Chlorine Residual mg/L 10.0 +

**EFF - 001:**

Flow MGD 1.339 Time Collected Analyzed  
 Peak Flow MG 2.236 Collected By By  
 TSS mg/L \_\_\_\_\_  
 Effluent Settleable Solids mL 0.01 0725 PS PS  
 Chlorine Residual Avg mg/L 0.16  
 Chlorine Residual Max mg/L 1.30  
 CL2 Res.After DeChlor mg/L 0.02 0725 PS PS  
 pH 7.05 0725 PS PS  
 Turbidity NTU 1.98 0725 PS PS  
 Effluent Temperature(6-day) \_\_\_\_\_

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L \_\_\_\_\_  
 Digester Sludge TVS mg/L \_\_\_\_\_  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 14.5 ✓  
 Rain Fall 0.24

**SET POINTS:**

	Computer UCP-500
F/M	<u>0.18</u>
PRIMARY	<u>0.5</u>
WAS	<u>25</u>
RAS %	<u>24</u> <u>30</u>

**SLUDGE DEWATERING:**

Screw Press Flow MGD \_\_\_\_\_  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l \_\_\_\_\_  
 Press Filtrate mg/l \_\_\_\_\_  
 Press Cake mg/l \_\_\_\_\_

Notes: Checked



### Determination of Chlorine Residual Carpinteria Sanitary District

Date:	17-30-12	Analyst:	PS
Reagent #	R-256, R-320		

Spec Standard Check

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.23	0.91	1.61
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mLs)	Final Result (mg/L)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10	0.01	
EFF - 001	0725	0735	10	0.02	FAIL
EFF-001 Dup.(≤ 30% RPD)			10	0.01	
BOD Eff. (6-Day Only)			10		

All test done by "Standard Method" (20th Ed.) SM4500CI G

$$\frac{(\text{Result 1} - \text{Result 2})}{(\text{Result 1} + \text{Result 2})/2} \times 100 = \text{RPD}$$

DATE: 12-31-12 DAY: Mon. OPERATOR: FZ 6-DAY  Weather: Clear Cold!

**INF - 001:**

Flow MGD 1.373  
 Peak MG 2.449  
 TSS mg/L 354  
 pH 7.68

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L 104  
 Primary Sludge Depth Ft. 0.0  
 Primary Sludge TS mg/L 23700  
 Primary Sludge TVS mg/L 20003

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			2364
#1 TVSS mg/L	FOAM		2018
#2 TSS mg/L	2328	2400	2364
#2 TVSS mg/L	1984	2052	2018
#1 D.O. mg/L	0.59	1.32	0.96
#2 D.O. mg/L	2.44	3.51	2.98
30 Minute Settleable Solids mL			320

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. 0.4  
 Final #2 Sludge Depth Ft. 0.5  
 RAS TSS mg/L 5012

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 293  
 Bisulfite Lbs. 338  
 EFF. Chlorine Residual mg/L 10

**EFF - 001:**

Flow MGD 1.311 Time Collected Analyzed  
 Peak Flow MG 2.314 Collected By By  
 TSS mg/L 7  
 Effluent Settleable Solids mL 0.1 8:35 FZ FZ  
 Chlorine Residual Avg mg/L 0.01  
 Chlorine Residual Max mg/L 1.88  
 CL2 Res. After DeChlor mg/L 0.01 8:15 FZ FZ  
 pH 6.97 8:15 FZ FZ  
 Turbidity NTU 2.33  
 Effluent Temperature(6-day)

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L 16032  
 Digester Sludge TVS mg/L 11871  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 17.6  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	0.18	0.18
PRIMARY	1.8	
WAS	-13	
RAS %	24%	

**SLUDGE DEWATERING:**

Screw Press Flow MGD 0.0292  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l 16032  
 Press Filtrate mg/l 392  
 Press Cake mg/l 155,462

Notes: Controlled foam & filaments in aeration tanks.

### Determination of Chlorine Residual Carpinteria Sanitary District

Date:	12-31-12	Analyst:	Ja
Reagent #	R-256, R-320		

Spec Standard Check

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.92	0.92	1.61
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mLs)	Final Result (mg/L)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10	0.01	
EFF - 001	8:15	8:25	10	0.01	P
EFF-001 Dup.(≤ 30% RPD)			10	0.01	
BOD Eff. (6-Day Only)			10		
EFF-001	7:15	7:30	10	0.03	
<del>EFF-001</del>	<del>8:15</del>				

All test done by "Standard Method" (20th Ed.) SM4500CI G

$$\frac{(\text{Result 1} - \text{Result 2})}{(\text{Result 1} + \text{Result 2})/2} \times 100 = \text{RPD}$$



DATE: 1-11 DAY: TUESDAY OPERATOR: [Signature] 6-DAY  Weather: Overcast

**INF - 001:**

Flow MGD 1.436  
 Peak MG 2.737  
 TSS mg/L \_\_\_\_\_  
 pH \_\_\_\_\_

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L \_\_\_\_\_  
 Primary Sludge Depth Ft. \_\_\_\_\_  
 Primary Sludge TS mg/L \_\_\_\_\_  
 Primary Sludge TVS mg/L \_\_\_\_\_

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			
#1 TVSS mg/L			
#2 TSS mg/L			
#2 TVSS mg/L			
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			<u>320</u>

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. \_\_\_\_\_  
 Final #2 Sludge Depth Ft. \_\_\_\_\_  
 RAS TSS mg/L \_\_\_\_\_

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 283  
 Bisulfite Lbs. 398  
 EFF. Chlorine Residual mg/L 10.0+

**EFF - 001:**

Flow MGD 1.365 Time Collected Analyzed  
 Peak Flow MG 2.422 Collected By By  
 TSS mg/L \_\_\_\_\_  
 Effluent Settleable Solids mL 0.1 0745 PS PS  
 Chlorine Residual Avg mg/L 0.04  
 Chlorine Residual Max mg/L 1.2  
 CL2 Res.After DeChlor mg/L 0.00 745 PS PS  
 pH 7.04 745 PS PS  
 Turbidity NTU 1.59 745 PS PS  
 Effluent Temperature(6-day) \_\_\_\_\_

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L \_\_\_\_\_  
 Digester Sludge TVS mg/L \_\_\_\_\_  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 10.1 ✓  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500
F/M	<u>0.18</u>
PRIMARY	<u>0.7</u>
WAS	<u>25</u>
RAS %	<u>24</u> <u>30</u>

**SLUDGE DEWATERING:**

Screw Press Flow MGD \_\_\_\_\_  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l \_\_\_\_\_  
 Press Filtrate mg/l \_\_\_\_\_  
 Press Cake mg/l \_\_\_\_\_

Notes: CL2 Max Alarm e 6:15am, GRAB SAMPLE WAS 0.01 mg/L.

## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	1-1-13	Analyst:	PS
Reagent #	R-256, R-320		

Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.24	0.92	1.62
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10			0.01	
EFF - 001	0745	0755	10			0.00	PASS
EFF-001 Dup.(≤ 30% RPD)			10			0.00	
BOD Eff. (6-Day Only)			10				
EFF - 001	6:15 AM	6:20 AM	10			0.01	(Result 1 + Result 2) / 2
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				

# STANDBY/OVERTIME REPORT FORM

DATE: 1-1-13

Equipment Description: \_\_\_\_\_

Name: P. Swenimsson

Time in: 6:10 AM Time Out: 9:30 AM

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL2 MAX & Alarm & Holiday LAB

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: Took GRAB SAMPLE for CL2 MAX ALARM. GRAB RESULTS were 0.01 mg/L.

Mileage: 0

Signature of person filling out form:





DATE: 1-12-13 DAY: Wed.

OPERATOR: Fl

6-DAY  Weather: Clear cold.

**INF - 001:**

Flow MGD 1.302  
 Peak MG 2.160  
 TSS mg/L 292  
 pH 7.73

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L 115  
 Primary Sludge Depth Ft. 0.0  
 Primary Sludge TS mg/L 22835  
 Primary Sludge TVS mg/L 19054

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			2420
#1 TVSS mg/L	FOAM		2077
#2 TSS mg/L	2438	2402	2420
#2 TVSS mg/L	2088	2066	2077
#1 D.O. mg/L	0.71	1.58	1.15
#2 D.O. mg/L	5.58	6.30	5.94
30 Minute Settleable Solids mL		310	

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. 0.0  
 Final #2 Sludge Depth Ft. 0.0  
 RAS TSS mg/L 6756

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 234  
 Bisulfite Lbs. 517  
 EFF. Chlorine Residual mg/L 10

**EFF - 001:**

Flow MGD 1.239 Time Collected Analyzed

Peak Flow MG 2.482 Collected By By

TSS mg/L	<u>4</u>	<u>7:45</u>	<u>Fl</u>	<u>Fl</u>
Effluent Settleable Solids mL	<u>0.1</u>	<u>10:00</u>	<u>Fl</u>	<u>Fl</u>
Chlorine Residual Avg mg/L	<u>0.13</u>			
Chlorine Residual Max mg/L	<u>1.20</u>			
CL2 Res.After DeChlor mg/L	<u>0.02</u>	<u>10:00</u>	<u>Fl</u>	<u>Fl</u>
pH	<u>7.22</u>	<u>10:00</u>	<u>Fl</u>	<u>Fl</u>
Turbidity NTU	<u>2.24</u>	<u>10:00</u>	<u>Fl</u>	<u>Fl</u>
Effluent Temperature(6-day)	<u>67</u>	<u>10:00</u>	<u>Fl</u>	<u>Fl</u>

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L 17043  
 Digester Sludge TVS mg/L 12563  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 19.6  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	<u>0.18</u>	<u>0.17</u>
PRIMARY	<u>1.2</u>	
WAS	<u>27</u>	
RAS %	<u>22%</u>	

**SLUDGE DEWATERING:**

Screw Press Flow MGD 0.0303  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l 17043  
 Press Filtrate mg/l 560  
 Press Cake mg/l 135,237

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	1-2-13	Analyst:	JH
Reagent #	R-256, R-320		

Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.23	0.92	1.62
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10			0.00	
EFF - 001	10:00 AM	10:10	10			0.02	P
EFF-001 Dup. (≤ 30% RPD)			10			0.02	
BOD Eff. (6-Day Only)	10:00 AM	2:30 PM	10			0.01	(Result 1 - Result 2) X 100 = RPD
EFF - 001	5:25 AM	5:30 AM	10			0.02	(Result 1 + Result 2) / 2
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				

# STANDBY/OVERTIME REPORT FORM

DATE: 1-2-13

Equipment Description: \_\_\_\_\_

Name: P. SWENINGSON

Time in: 4:40 A Time Out: 6:00 AM

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL2 RESIDUAL MAX ALARM.

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: INSPECTED UNIT. POILED CL2 GRAB SAMPLE TO TEST. TEST RESULTS WERE 0.02 MG/L.

Mileage: 0

Signature of person filling out form: [Signature]



DATE: 1-3-13 DAY: Tue OPERATOR: Jen 6-DAY  Weather: Clear Cold!

**NF - 001:**  
 Flow MGD 1.373  
 Peak MG 2.230  
 TSS mg/L 304  
 pH 7.75

**PRIMARY CLARIFIER:**  
 Primary Effluent TSS mg/L 111  
 Primary Sludge Depth Ft. 0.1  
 Primary Sludge TS mg/L \_\_\_\_\_  
 Primary Sludge TVS mg/L \_\_\_\_\_

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L	<u>Foam</u>		<u>2399</u>
#1 TVSS mg/L			<u>2047</u>
#2 TSS mg/L	<u>2446</u>	<u>2352</u>	<u>2399</u>
#2 TVSS mg/L	<u>2084</u>	<u>2010</u>	<u>2047</u>
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			<u>370</u>

**SECONDARY CLARIFIERS:**  
 Final #1 Sludge Depth Ft. 0.2  
 Final #2 Sludge Depth Ft. 1.0  
 RAS TSS mg/L 6516

**DISINFECTION (MAZE):**  
 Hypochlorite Lbs. 259 lbs.  
 Bisulfite Lbs. 537  
 EFF. Chlorine Residual mg/L 10

**EFF - 001:**  
 Flow MGD 1.305 Time Collected Analyzed  
 Peak Flow MG 2.096 Collected By By  
 TSS mg/L 7  
 Effluent Settleable Solids mL 0.1 9:00 Jen Jen  
 Chlorine Residual Avg mg/L 0.01  
 Chlorine Residual Max mg/L 1.88  
 CL2 Res. After DeChlor mg/L 0.00 9:00 Jen Jen  
 pH 7.22 9:00 Jen Jen  
 Turbidity NTU 267  
 Effluent Temperature (6-day) \_\_\_\_\_

**SLUDGE DIGESTION:**  
 Digester Sludge TS mg/L \_\_\_\_\_  
 Digester Sludge TVS mg/L \_\_\_\_\_  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam \_\_\_\_\_  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	<u>0.10</u>	<u>0.18</u>
PRIMARY		
WAS	<u>-2</u>	
RAS %	<u>29%</u>	

**SLUDGE DEWATERING:**  
 Screw Press Flow MGD 0.032072  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l 17043  
 Press Filtrate mg/l 316  
 Press Cake mg/l 154,523

Notes: Foam decreasing in aeration tank #1

## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	1-3-13	Analyst:	JM
Reagent #	R-256, R-320		

Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.23	0.93	1.62
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10			0.01	
EFF - 001	9:00 AM	9:10	10			0.00	P
EFF-001 Dup.(≤ 30% RPD)			10			0.00	
BOD Eff. (6-Day Only)			10				
EFF - 001	5:25 AM	5:30 AM	10			0.02	(Result 1 + Result 2) / 2
EFF - 001	5:45 AM	5:50 AM	10			0.00	
EFF - 001	5:55 AM	6:00 AM	10			0.01	
EFF - 001	8:40 AM	8:45	10	1.04	X10	10.4	
EFF - 001 Dup.	8:40 AM	8:45	10	1.02	X10	10.2	
EFF - 001	8:45 AM	8:55	10			0.03	
EFF - 001	11:35 AM	11:45	10			0.01	
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				



# STANDBY/OVERTIME REPORT FORM

DATE: 1-3-13

Equipment Description: \_\_\_\_\_

Name: PSweeneyson

Time in: 4:20 A Time Out: 6:00 A

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL2 Residual Max Alarm

Other problems encountered during callout/overtime: Bisulfite line to MAZE WAS PLUGGED.

Corrective action taken: flushed line's Monitored System. TOOK GRAB SAMPLE WITH RESULTS OF 0.02 MG/L.

Mileage: 0

Signature of person filling out form:



DATE: 1-4-13 DAY: Fri. OPERATOR: JYB 6-DAY  Weather: Clear Cold!

**NF - 001:**

Flow MGD 1.384  
 Peak MG 2.662  
 TSS mg/L 304  
 pH 7.60

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L 116  
 Primary Sludge Depth Ft. 0.0  
 Primary Sludge TS mg/L 25647  
 Primary Sludge TVS mg/L 21363

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L	<u>FOAM</u>		<u>2355</u>
#1 TVSS mg/L			<u>2021</u>
#2 TSS mg/L	<u>2444</u>	<u>2266</u>	<u>2355</u>
#2 TVSS mg/L	<u>2094</u>	<u>1948</u>	<u>2021</u>
#1 D.O. mg/L	<u>0.76</u>	<u>1.70</u>	<u>1.20</u>
#2 D.O. mg/L	<u>4.59</u>	<u>5.01</u>	<u>4.80</u>
30 Minute Settleable Solids mL			<u>340</u>

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. 0.6  
 Final #2 Sludge Depth Ft. 1.2  
 RAS TSS mg/L 7472

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 234  
 Bisulfite Lbs. 527  
 EFF. Chlorine Residual mg/L 10

**EFF - 001:**

	Time	Collected	Analyzed
Flow MGD		<u>1.325</u>	
Peak Flow MG		<u>2.093</u>	
TSS mg/L		<u>8</u>	
Effluent Settleable Solids mL	<u>0.1</u>	<u>10:30</u>	<u>JYB</u>
Chlorine Residual Avg mg/L		<u>0.36</u>	
Chlorine Residual Max mg/L		<u>10:4<sup>M</sup></u>	<u>3:10<sup>NR</sup></u>
CL2 Res. After DeChlor mg/L	<u>0.00</u>	<u>10:30</u>	<u>JYB</u>
pH	<u>7.06</u>	<u>10:30</u>	<u>JYB</u>
Turbidity NTU	<u>2.19</u>		
Effluent Temperature(6-day)			

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L 17469  
 Digester Sludge TVS mg/L 13229  
 Digester D.O. mg/L 1.02  
 Temperature F 106  
 Digester Freeboard/Foam 0.00  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	<u>0.18</u>	<u>0.18</u>
PRIMARY	<u>1.2</u>	
WAS	<u>-10</u>	
RAS %	<u>26%</u>	

**SLUDGE DEWATERING:**

Screw Press Flow MGD 0.031738  
 Belt Press Flow MGD             
 Press Feed mg/l 17469  
 Press Filtrate mg/l 940  
 Press Cake mg/l 176,262

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	1-4-13	Analyst:	PS
Reagent #	R-256, R-320		

Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.22	0.92	1.61
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10			0.00	7/12
EFF - 001			10			0.00	
EFF-001 Dup.(≤ 30% RPD)	10:30 AM	10:40 AM	10			0.00	P
BOD Eff. (6-Day Only)			10				(Result 1 - Result 2) X 100 = RPD
EFF - 001	1:45 AM	1:50 AM	10			0.00	(Result 1 + Result 2) / 2
EFF - 001	6:00 AM	6:05 AM	10			0.01	JM
EFF - 001	11:20 AM	11:25 AM	10			0.00	
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				

# STANDBY/OVERTIME REPORT FORM

DATE: 1-4-13

Equipment Description: \_\_\_\_\_

Name: PSwenninsson

Time in: 1:10 AM Time Out: 2:40 AM

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_


Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CLZ RESIDUAL MAX ALARM.

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: ALARM WAS CLEAR UPON ARRIVAL. FLUSHED LINE'S PUMPS WITH WATER. TOOK TEMP OF BISULFITE GOING INTO THE FLASH MIXER. TEMP WAS 63°. TOOK GRAB SAMPLE WITH RESULTS BEING 0.00 mg/L.

Mileage: 0

Signature of person filling out form: 



DATE: 1-5-15 DAY: Saturday OPERATOR: JM 6-DAY  Weather: Clear Sunny

**INF - 001:**

Flow MGD 1.375  
 Peak MG 2.488  
 TSS mg/L \_\_\_\_\_  
 pH 7.97

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L \_\_\_\_\_  
 Primary Sludge Depth Ft. \_\_\_\_\_  
 Primary Sludge TS mg/L \_\_\_\_\_  
 Primary Sludge TVS mg/L \_\_\_\_\_

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			
#1 TVSS mg/L			
#2 TSS mg/L			
#2 TVSS mg/L			
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL		<u>330</u>	

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. \_\_\_\_\_  
 Final #2 Sludge Depth Ft. \_\_\_\_\_  
 RAS TSS mg/L \_\_\_\_\_

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 244  
 Bisulfite Lbs. 40  
 EFF. Chlorine Residual mg/L 10+

**EFF - 001:**

Flow MGD	Time	Collected	Analyzed
<u>1.315</u>			
Peak Flow MG	Collected	By	By
<u>2.119</u>			
TSS mg/L	_____	_____	_____
Effluent Settleable Solids mL	<u>0.1</u>	<u>7:25</u>	<u>JM</u>
Chlorine Residual Avg mg/L	<u>0.07</u>		
Chlorine Residual Max mg/L	<del>7.29</del> <u>5.10</u>		
CL2 Res. After DeChlor mg/L	<u>0.01</u>	<u>7:25</u>	<u>JM</u>
pH	<u>7.48</u>	<u>7:25</u>	<u>JM</u>
Turbidity NTU	<u>1.98</u>	<u>7:25</u>	<u>JM</u>
Effluent Temperature (6-day)	_____	_____	_____

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L \_\_\_\_\_  
 Digester Sludge TVS mg/L \_\_\_\_\_  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam \_\_\_\_\_  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	<u>0.18</u>	<u>0.18</u>
PRIMARY		<u>0.7</u>
WAS		<u>25</u>
RAS %	<u>25%</u>	<u>30%</u>

**SLUDGE DEWATERING:**

Screw Press Flow MGD \_\_\_\_\_  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l \_\_\_\_\_  
 Press Filtrate mg/l \_\_\_\_\_  
 Press Cake mg/l \_\_\_\_\_

Notes: CL2 Residual Max Alarm 3:30 AM 5:00 AM 7:40, 8:00 AM  
Digester Transducer Not Reading 11:10 AM  
Right

## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	1-5-2013	Analyst:	Jm
Reagent #	R-256 & R-320		

### Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.23	0.92	1.62
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank ( $\leq 0.02$ )			10			0.00	
EFF - 001			10			0.01	
EFF-001 Dup. ( $\leq 30\%$ RPD)	7:25 Am	7:30 Am	10			0.01	PASS
BOD Eff. (6-Day Only)			10				(Result 1 - Result 2) <span style="float: right;">X 100 = RPD</span>
EFF - 001	3:30 Am	3:35 Am	10			3.01	(Result 1 + Result 2) / 2
EFF - 001	5:00 Am	5:10 Am	10			0.02	
EFF - 001	7:40 Am	7:45 Am	10			0.08	
EFF - 001	8:00 Am	8:05 Am	10			0.00	
EFF - 001	11:10 Am	11:15 Am	10			0.06	
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				



# STANDBY/OVERTIME REPORT FORM

DATE: 1-5-13

Equipment Description: \_\_\_\_\_

Name: Josy M

Time in: 3:25 AM Time Out: 4:00 AM

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: Cl<sub>2</sub> Residual max Alarm

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: Sampled Water for Residual From <sup>Effluent</sup> ~~Raw~~ Water  
Read 3.01 PPM, flushed line & Pumps with water  
Bisulfite coming out good

Mileage: \_\_\_\_\_

Signature of person filling out form: Josy Mendoza

# STANDBY/OVERTIME REPORT FORM

DATE: 1-5-13

Equipment Description: \_\_\_\_\_

Name: Joey M

Time in: 4:55 Time Out: 6:00 AM

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL2 Residual max Alarm

Other problems encountered during callout/overtime: Regulator plugged up  
bisulfite coming out of Pressure Relief

Corrective action taken: Sampled water for Residual, from ~~main~~ <sup>Effluent</sup> water  
Read 0.02 PPM,

cleaned old Regulator & Flashed with clear water,  
Reinstalled Regulator, a Bisulfite coming out good

Mileage: \_\_\_\_\_

Signature of person filling out form: Joey Mendoza



# STANDBY/OVERTIME REPORT FORM

DATE: 1-5-13

Equipment Description: \_\_\_\_\_

Name: Joey M

Time in: 11:00 AM Time Out: 12:00

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL-2 Residual max Alarm

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: Sampled water for Residual From <sup>EF/mt</sup> MAZE, Water  
Read 0.06 PPM, Set up Temporary Tank to 'MAZE,  
Flushed with clear water, Put Back in  
Service

Mileage: \_\_\_\_\_

Signature of person filling out form: Joey Mendoza

DATE: 1-6-13 DAY: Sunday OPERATOR: Jm 6-DAY  Weather: Cloudy Cold

**NF - 001:**  
 Flow MGD 1.312  
 Peak MG 2.215  
 TSS mg/L \_\_\_\_\_  
 pH 7.56

**PRIMARY CLARIFIER:**  
 Primary Effluent TSS mg/L \_\_\_\_\_  
 Primary Sludge Depth Ft. \_\_\_\_\_  
 Primary Sludge TS mg/L \_\_\_\_\_  
 Primary Sludge TVS mg/L \_\_\_\_\_

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L			
#1 TVSS mg/L			
#2 TSS mg/L			
#2 TVSS mg/L			
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			<u>320</u>

**SECONDARY CLARIFIERS:**  
 Final #1 Sludge Depth Ft. \_\_\_\_\_  
 Final #2 Sludge Depth Ft. \_\_\_\_\_  
 RAS TSS mg/L \_\_\_\_\_

**DISINFECTION (MAZE):**  
 Hypochlorite Lbs. 244  
 Bisulfite Lbs. 426 P (Avg)  
 EFF. Chlorine Residual mg/L 10 +

**EFF - 001:**  
 Flow MGD 1.255 Time Collected Analyzed  
 Peak Flow MG 2.129 Collected By By  
 TSS mg/L \_\_\_\_\_  
 Effluent Settleable Solids mL 0.1 7:05 Jm Jm  
 Chlorine Residual Avg mg/L 0.56  
 Chlorine Residual Max mg/L 10.01 5.05  
 CL2 Res. After DeChlor mg/L 0.00 7:05 Jm Jm  
 pH 7.72 7:05 Jm Jm  
 Turbidity NTU 2.20 7:05 Jm Jm  
 Effluent Temperature (6-day) \_\_\_\_\_

**SLUDGE DIGESTION:**  
 Digester Sludge TS mg/L \_\_\_\_\_  
 Digester Sludge TVS mg/L \_\_\_\_\_  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam \_\_\_\_\_  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	<u>0.18</u>	<u>0.18</u>
PRIMARY		<u>0.7</u>
WAS		<u>25</u>
RAS %	<u>24%</u>	<u>30%</u>

**SLUDGE DEWATERING:**  
 Screw Press Flow MGD \_\_\_\_\_  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l \_\_\_\_\_  
 Press Filtrate mg/l \_\_\_\_\_  
 Press Cake mg/l \_\_\_\_\_

Notes: CL2 Residual Max Alarm 1:05 Am, 4:00 Am, 6:00 Am, 8:00 Am, 11:15 Am  
Digester Transducer Not Reading Right 11:35 Am



## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	1-6-2013	Analyst:	Jm
Reagent #	R-256 & R-320		

Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.23	0.92	1.62
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10			0.00	PASS
EFF - 001			10			0.00	
EFF-001 Dup.(≤ 30% RPD)	7:05 Am	7:15 Am	10			0.00	
BOD Eff. (6-Day Only)			10				(Result 1 - Result 2) / 2 X 100 = RPD
EFF - 001	1:05 Am	1:10 Am	10			0.68	(Result 1 + Result 2) / 2
EFF - 001	4:00 Am	4:05 Am	10			0.00	
EFF - 001	6:00 Am	6:10 Am	10			0.00	
EFF - 001	8:00 Am	8:05 Am	10			0.01	
EFF - 001	11:15 Am	11:20 Am	10			0.00	
EFF - 001	11:35 Am	11:45 Am	10			0.00	
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				

# STANDBY/OVERTIME REPORT FORM

DATE: 1-6-13

Equipment Description: \_\_\_\_\_

Name: Joey

Time in: 11:10 AM Time Out: 11:45 AM

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: Cl<sub>2</sub> Residual max Alarm

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: Sampled water for Residual From Effluent water  
Read 0.00 ppm, Flushed line + pumps with water. Set up Temporary Tank  
up, Bisulfite coming out good,

Mileage: \_\_\_\_\_

Signature of person filling out form: \_\_\_\_\_

# STANDBY/OVERTIME REPORT FORM

DATE: 1-6-13

Equipment Description: \_\_\_\_\_

Name: Joey M

Time in: 5:50 AM Time Out: 6:30

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CH2 Residual max Alarm

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: Sampled water for Residual from Effluent water  
Read 0.00 PPM. Bisulfite flowing out of pipe.

Mileage: \_\_\_\_\_

Signature of person filling out form: \_\_\_\_\_



# STANDBY/OVERTIME REPORT FORM

DATE: 1-6-13

Equipment Description: \_\_\_\_\_

Name: Joey M

Time in: 3:40 Am Time Out: 4:15 Am

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL2 Residual max Alarm

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: Sampled water for Residual From Effluent Water  
Read 0.00 PPM, Bisulfite coming out good.

Mileage: \_\_\_\_\_

Signature of person filling out form: Joey Mendon



# STANDBY/OVERTIME REPORT FORM

DATE: 1-6-13

Equipment Description: \_\_\_\_\_

Name: Joy

Time in: 1:00 Am Time Out: 2:00 Am

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL2 Residual max Alarm,

Other problems encountered during callout/overtime: Regulator plug up with Kristies,

Corrective action taken: Sampled water for Residual From Effluent water Read 0.08, PPM Flashed Regulator & cleaned ports, put line Back in service, Set up Temporary Tank to maze,

Mileage: \_\_\_\_\_

Signature of person filling out form: Joy Mendoza

DATE: 1-7-13 DAY: Mon. OPERATOR: JZ 6-DAY  Weather: Clear

**INF - 001:**  
 Flow MGD 1.320  
 Peak MG 2.780  
 TSS mg/L 425  
 pH 7.14

**PRIMARY CLARIFIER:**  
 Primary Effluent TSS mg/L 109  
 Primary Sludge Depth Ft. 0.0  
 Primary Sludge TS mg/L 22237  
 Primary Sludge TVS mg/L 19185

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L	<u>FOAM</u>		
#1 TVSS mg/L			
#2 TSS mg/L	<u>2508</u>	<u>2458</u>	<u>2483</u>
#2 TVSS mg/L	<u>2150</u>	<u>2110</u>	<u>2130</u>
#1 D.O. mg/L	<u>0.88</u>	<u>0.96</u>	<u>0.92</u>
#2 D.O. mg/L	<u>3.44</u>	<u>3.59</u>	<u>3.52</u>
30 Minute Settleable Solids mL			<u>340</u>

**SECONDARY CLARIFIERS:**  
 Final #1 Sludge Depth Ft. 1.0  
 Final #2 Sludge Depth Ft. 1.0  
 RAS TSS mg/L 6688

**DISINFECTION (MAZE):**  
 Hypochlorite Lbs. 224  
 Bisulfite Lbs. 400 est.  
 EFF. Chlorine Residual mg/L 10

**EFF - 001:**  
 Flow MGD 1.267 Time Collected Analyzed  
 Peak Flow MG 2.207 Collected By By  
 TSS mg/L 8  
 Effluent Settleable Solids mL 0.1 8:25 JZ JZ  
 Chlorine Residual Avg mg/L 0.49  
 Chlorine Residual Max mg/L 0.08  
 CL2 Res. After DeChlor mg/L 0.00 8:25 JZ JZ  
 pH 7.08 8:25 JZ JZ  
 Turbidity NTU 3.92  
 Effluent Temperature(6-day)

**SLUDGE DIGESTION:**  
 Digester Sludge TS mg/L 18531  
 Digester Sludge TVS mg/L 12981  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 13.0  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	<u>0.10</u>	<u>0.17</u>
PRIMARY	<u>2-3</u>	
WAS	<u>36</u>	
RAS %	<u>26%</u>	

**SLUDGE DEWATERING:**  
 Screw Press Flow MGD 0.011965  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l 18531  
 Press Filtrate mg/l 592  
 Press Cake mg/l 167,320

Notes: Increased foam in aeration tank #1 over weekend.



## Determination of Chlorine Residual Carpinteria Sanitary District

Date:	1-7-13	Analyst:	JM
Reagent #	R-256 + R-320		

Spec Standard Check

Hach Pocket Colorimeter II (DPD)

Standard 1 Results / Limits:	Standard 2 Results / Limits:	Standard 3 Results / Limits:
0.23	0.92	1.61
0.19 +/- 0.09 (0.10-0.28)	0.84 +/- 0.10 (0.74-0.94)	1.52 +/- .14 (1.38-1.66)

Sample	Time Sample Collected	Time Analysis Started	Volume (mls)	Result (mg/l)	Dilution Factor	Final Result (mg/l)	RPD % Pass / Fail (<31%)
Blank (≤ 0.02)			10			0.00	F <sub>2</sub>
EFF - 001	8:25	8:35	10			0.00	
EFF-001 Dup.(≤ 30% RPD)			10			0.00	
BOD Eff. (6-Day Only)			10				(Result 1 - Result 2) / 2 × 100 = RPD
EFF - 001	4:15 Am	4:20 Am	10			2.10	(Result 1 + Result 2) / 2
EFF - 001	5:30 Am	5:38 Am	10			0.01	
EFF - 001	6:10 Am	6:15 Am	10			0.00	
EFF - 001	6:50 Am	6:55 Am	10			0.00	
EFF - 001	7:00 Am	7:05 Am	10			0.00	
EFF - 001	7:20 Am	7:30 Am	10			0.08	F <sub>2</sub>
EFF - 001	7:30 Am	7:40 Am	10	0.78	X10	7.80	F <sub>2</sub>
EFF - 001	8:00 Am	8:05 Am	10			0.09	F <sub>2</sub>
EFF - 001			10				
EFF - 001			10				
EFF - 001			10				

# STANDBY/OVERTIME REPORT FORM

DATE: 1-7-13

Equipment Description: \_\_\_\_\_

Name: Jocely M

Time in: 4:00 AM Time Out: 6:00

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Name: \_\_\_\_\_

Time in: \_\_\_\_\_ Time Out: \_\_\_\_\_

Reason for callout/overtime: CL<sub>2</sub> Residual MAX Alarm

Other problems encountered during callout/overtime: \_\_\_\_\_

Corrective action taken: Sampled water for Residual from Effluent Water  
Read 2.10 ppm, Flushed line & Pumps with water, set up temporary  
Bisulfite Tank in MAZC

Mileage: \_\_\_\_\_

Signature of person filling out form: \_\_\_\_\_



DATE: 1-8-15 DAY: Tue OPERATOR: JZ 6-DAY  weather: Clear

**INF - 001:**

Flow MGD 1.324  
 Peak MG 2.341  
 TSS mg/L 299  
 pH 7.65

**PRIMARY CLARIFIER:**

Primary Effluent TSS mg/L 111  
 Primary Sludge Depth Ft. 0.0  
 Primary Sludge TS mg/L \_\_\_\_\_  
 Primary Sludge TVS mg/L \_\_\_\_\_

**AERATION BASINS:**

	A	B	AVG.
#1 TSS mg/L	<u>Foam</u>		<u>2478</u>
#1 TVSS mg/L			<u>2128</u>
#2 TSS mg/L	<u>2578</u>	<u>2378</u>	<u>2478</u>
#2 TVSS mg/L	<u>2220</u>	<u>2036</u>	<u>2128</u>
#1 D.O. mg/L			
#2 D.O. mg/L			
30 Minute Settleable Solids mL			<u>340</u>

**SECONDARY CLARIFIERS:**

Final #1 Sludge Depth Ft. 0.9  
 Final #2 Sludge Depth Ft. 0.7  
 RAS TSS mg/L 6624

**DISINFECTION (MAZE):**

Hypochlorite Lbs. 224  
 Bisulfite Lbs. 400 est  
 EFF. Chlorine Residual mg/L 10

**EFF - 001:**

Flow MGD 1.263 Time Collected Analyzed  
 Peak Flow MG 1.859 Collected By By  
 TSS mg/L 6 8:25 JZ JZ  
 Effluent Settleable Solids mL 0.1 8:25 JZ JZ  
 Chlorine Residual Avg mg/L ~~0.90~~ 0.01  
 Chlorine Residual Max mg/L ~~7.80~~ ~~5.50~~ 7.80  
 CL2 Res. After DeChlor mg/L 0.01 8:25 JZ JZ  
 pH 7.19 8:25 JZ JZ  
 Turbidity NTU 1.95 8:25 JZ JZ  
 Effluent Temperature (6-day) ~~7.65~~ 7.80 8:25 JZ JZ

**SLUDGE DIGESTION:**

Digester Sludge TS mg/L \_\_\_\_\_  
 Digester Sludge TVS mg/L \_\_\_\_\_  
 Digester D.O. mg/L \_\_\_\_\_  
 Temperature F \_\_\_\_\_  
 Digester Freeboard/Foam 12  
 Rain Fall 0.00

**SET POINTS:**

	Computer UCP-500	
F/M	<u>0.18</u>	<u>0.17</u>
PRIMARY		<u>1.0</u>
WAS	<u>35</u>	<u>25</u>
RAS %	<u>26</u>	<u>30</u>

**SLUDGE DEWATERING:**

Screw Press Flow MGD 0.014558  
 Belt Press Flow MGD \_\_\_\_\_  
 Press Feed mg/l 19531  
 Press Filtrate mg/l 284  
 Press Cake mg/l 172,357

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_