



NEW MEXICO  
ENVIRONMENT DEPARTMENT



*Surface Water Quality Bureau*

BILL RICHARDSON  
Governor  
DIANE DENISH  
Lieutenant Governor

Harold Runnels Building, N2050  
1190 South St. Francis Drive (87505)  
P.O. Box 5469, Santa Fe, NM 87502-5469  
Phone (505) 827-0187 Fax (505) 827-0160  
[www.nmenv.state.nm.us](http://www.nmenv.state.nm.us)

RON CURRY  
Secretary  
SARAH COTTRELL  
Deputy Secretary

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**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

August 5, 2010

Mr. Rudy Jaramillo, Mayor  
City of Belen  
100 South Main Street  
Belen, NM 87002

RE: Major Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, City of Belen Wastewater Treatment Plant, NM0020150, July 21, 2010

Dear Mr. Jaramillo,

Enclosed, please find a copy of the report and checklist for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the Federal Clean Water Act.

Problems noted during this inspection are discussed in the further explanation section of this report. You are encouraged to review the inspection report, correct any problems noted during the inspection, and to modify your operational and/or administrative procedures as appropriate.

I wish to thank you for the cooperation extended to me while at the City of Belen Wastewater Treatment Facility. If you have any questions regarding this inspection report, please contact me at the above address, by telephone at (505) 827-1041 or by email at [sandra.gabaldón@state.nm.us](mailto:sandra.gabaldón@state.nm.us).

Sincerely,

*/s/ Sandra Gabaldón*

Sandra Gabaldón  
Surface Water Quality Bureau

Cc: Marcia Gail Bohling (6EN-AS), via email  
Samuel Tates (6EN-AS), via email  
Carol Peters-Wagnon (6EN-WM), via email  
Larry Giglio (6W-QPP), via email  
Diana McDonald (6EN-WM), via email  
NMED, District I, via email

**Major Municipal  
NPDES Compliance Evaluation Inspection  
Belen Wastewater Treatment Plant  
NPDES Permit No. NM0020150  
July 21, 2010**

**Introduction**

A Compliance Evaluation Inspection (CEI) was conducted at the Belen Wastewater Treatment Plant located in Belen, New Mexico on July 21, 2010 by Sandra Gabaldón and Sarah Holcomb of the State of New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB). This facility is a major discharger classified under the federal Clean Water Act (CWA), Section 402 National Pollutant Discharge Elimination System (NPDES) permit program, and is assigned NPDES permit number NM0020150. The facility design flow is 1.2 million gallons per day (MGD).

The Belen Wastewater Treatment Plant (WWTP) discharges into the Bosque Drain and thence to the Rio Grande in Segment 20.6.4.105 of the Rio Grande Basin (*NMAC State of New Mexico Standards for Interstate and Intrastate Surface Waters*). Designated uses of Segment 20.6.4.105 are irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and secondary contact.

The inspectors arrived at the Belen Wastewater Treatment Plant at 0900 hours and conducted an entrance interview with Mr. Leroy Otero, Lead Operator. The inspectors made introductions, presented their credentials, and discussed the purpose of the inspection with Mr. Otero. Mr. Otero proceeded to contact Mr. Dale Tafoya, Superintendent, who was on leave at the time of the inspection. Mr. Tafoya was available and present for the closing conference. The closing conference was held at 1200 hours to discuss the preliminary findings of the inspection with Mr. Leroy Otero, Mr. Dale Tafoya, Superintendent and Ms. Karen Nunez, Lab Technician.

The NMED performs a specific number of CEI's annually for the United States Environmental Protection Agency (USEPA). The purpose of this inspection is to provide the USEPA with information to evaluate the permittee's compliance with their NPDES permit. The enclosed inspection report is based on verbal information supplied by the permittee's representatives, observations made by the NMED inspectors, and a review of records maintained by the permittee, commercial laboratories, and/or NMED. Findings of the inspection are detailed on the attached EPA form 3560-3 and in the narrative Further Explanations section of the report.

**Treatment Scheme**

The Collection system has approximately 21 lift stations that assist in brining the raw sewage to the entrance works at the WWTP. Two variable speed, submersible pumps with two manually operated submersible pumps are used on an alternating schedule to lift all raw wastewater arriving at the WWTP to the headworks. The headworks consists of an automatic bar screen, with a manual bar screen available for bypass a 12-inch Parshall flume and an aerated grit chamber.

There are two aeration basins with draft tub aerators. There are two secondary clarifiers and two chlorine contact chambers run in parallel. The flow merges after chlorination and sulfur dioxide added for dechlorination just ahead of a three foot rectangular weir. Flow measurements are taken at this location using a Drexelbrook flow meter with a staff gage back up. The permittee's sampling location for NPDES parameters is just after the weir. The flow continues several hundred yards by gravity through a pipe to the outfall at the Bosque drain.

The sludge is drawn from the bottom of the secondary clarifiers and pumped to the aerobic digesters. There are two aerobic digesters which are normally operated in series. After digestion, sludge is taken to the sludge drying beds. After drying for approximately 50 percent of total solids, the sludge is moved to the sludge composting pads for composting. After composting to Class A solids as described under 40 CFR 503, the sludge is used as a soil conditioner on private property.



### NPDES Compliance Inspection Report

#### Section A: National Data System Coding

Transaction Code			NPDES								yr/mo/day					Inspec. Type		Inspector		Fac Type									
1	N	2	5	3	N	M	0	0	2	0	1	5	0	11	12	1	0	0	7	2	1	17	18	C	19	S	20	1	
Remarks																													
B E L E N W W T P M A J O R F A C I L I T Y																													
Inspection Work Days				Facility Evaluation Rating				BI		QA		Reserved																	
67	0	0	1	69	70	2	71	N	72	N	73		74	75															80

#### Section B: Facility Data

Name and Location of Facility Inspected (For industrial users discharging to POTW, also include POTW name and NPDES permit number)		Entry Time /Date 0900 / 07-21-2010		Permit Effective Date September 01, 2009	
Belen WWTP, South of US 85 (Main Street), East on Vivian Road 0.3 miles, South on Conservancy Road to WWTP, Belen, Valencia County, New Mexico 875002		Exit Time/Date 1215 / 07-21-2010		Permit Expiration Date August 31, 2014	
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) Mr. Dale Tafoya, Superintendent (505) 307-9199 (cell) Mr. Leroy Otero, Lead Operator Ms. Karen Nunez, Lab Technician				Other Facility Data W 34.64209 N -106.77694	
Name, Address of Responsible Official/Title/Phone and Fax Number Rudy Jaramillo, Mayor 100 South Main Street Belen, NM 87001				Latitude and Longitude were taken at the banks of the Bosque Drain at the outfall.  SIC 4952	
Contacted Yes <input type="checkbox"/> No <input type="checkbox"/> *					

#### Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	M	Operations & Maintenance	N	CSO/SSO
M	Records/Reports	M	Self-Monitoring Program	S	Sludge Handling/Disposal	N	Pollution Prevention
S	Facility Site Review	S	Compliance Schedules	N	Pretreatment	N	Multimedia
S	Effluent/Receiving Waters	M	Laboratory	N	Storm Water	N	Other:

#### Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

1. THE INSPECTORS ARRIVED ON SITE AT 0900 HOURS 07-21-2010 AND CONDUCTED AN ENTRANCE INTERVIEW WITH MR. LEROY OTERO, LEAD OPERATOR. CREDENTIALS WERE PROVIDED AND THE PURPOSE OF THE INSPECTIONS WAS EXPLAINED.
2. PLEASE SEE FURTHER EXPLANATIONS FOR FURTHER DISCUSSION.
3. EXIT INTERVIEW WAS CONDUCTED WITH MR. LEROY OTERO, MR. DALE TAOFYOA, SUPERINTENDENT AND MS. KAREN NUNEZ, LAB TECHNICIAN. EXIT INTERVIEW WAS CONDUCTED FROM APPROXIMATELY 1200 TO 1215 HOURS ON 07-21-2010.

Name(s) and Signature(s) of Inspector(s)		Agency/Office/Telephone/Fax		Date	
/S/ SANDRA GABALDON		NMED/SWQB 505-827-1041			
Signature of Management QA Reviewer		Agency/Office/Phone and Fax Numbers		Date	
/S/ RICHARD E. POWELL		NMED/SWQB 505-827-2798			

**SECTION A – PERMIT VERIFICATION**

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS DETAILS:  S  M  U  NA (FURTHER EXPLANATION ATTACHED No)

1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE  Y  N  NA

2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES  Y  N  NA

3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT  Y  N  NA

4. ALL DISCHARGES ARE PERMITTED  Y  N  NA

**SECTION B - RECORDKEEPING AND REPORTING EVALUATION**

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. DETAILS:  S  M  U  NA (FURTHER EXPLANATION ATTACHED Yes)

1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs.  Y  N  NA

2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE.  S  M  U  NA

a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING  Y  N  NA

b) NAME OF INDIVIDUAL PERFORMING SAMPLING  Y  N  NA

c) ANALYTICAL METHODS AND TECHNIQUES.  Y  N  NA

d) RESULTS OF ANALYSES AND CALIBRATIONS.  Y  N  NA

e) DATES AND TIMES OF ANALYSES.  Y  N  NA

f) NAME OF PERSON(S) PERFORMING ANALYSES. Some bench sheets provided did not record the person analyzing the sample.  Y  N  NA

3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE.  S  M  U  NA

4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR.  S  M  U  NA

5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA. *See loading calculations*  Y  N  NA

**SECTION C - OPERATIONS AND MAINTENANCE**

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. DETAILS:  S  M  U  NA (FURTHER EXPLANATION ATTACHED Yes)

1. TREATMENT UNITS PROPERLY OPERATED.  S  M  U  NA

2. TREATMENT UNITS PROPERLY MAINTAINED.  S  M  U  NA

3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED.  S  M  U  NA

4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.  S  M  U  NA

5. ALL NEEDED TREATMENT UNITS IN SERVICE.  S  M  U  NA

6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED.  S  M  U  NA

7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.  S  M  U  NA

8. OPERATION AND MAINTENANCE MANUAL AVAILABLE.  Y  N  NA

STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED.  Y  N  NA

PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED.  Y  N  NA

**SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)**

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR?  Y  N  NA  
 IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED?  Y  N  NA  
 HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS?  Y  N  NA
10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT?  Y  N  NA  
 IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT?  Y  N  NA

**SECTION D - SELF-MONITORING**

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED Yes.)  
 DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT.  Y  N  NA
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.  Y  N  NA
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT.  Y  N  NA
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT.  Y  N  NA
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT.  Y  N  NA
6. SAMPLE COLLECTION PROCEDURES ADEQUATE  Y  N  NA
- a) SAMPLES REFRIGERATED DURING COMPOSITING.  Y  N  NA
- b) PROPER PRESERVATION TECHNIQUES USED.  Y  N  NA
- c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3.  Y  N  NA
7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT?  Y  N  NA

**SECTION E - FLOW MEASUREMENT**

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED No)  
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED.  Y  N  NA  
 TYPE OF DEVICE Drexelbrook Ultrasonic Totalizer
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED.  Y  N  NA
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED.  Y  N  NA
4. CALIBRATION FREQUENCY ADEQUATE. (DATE OF LAST CALIBRATION 02/2010)  
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES.  Y  N  NA  
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE.  Y  N  NA
5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE.  Y  N  NA
6. HEAD MEASURED AT PROPER LOCATION.  Y  N  NA
7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES.  Y  N  NA

**SECTION F - LABORATORY**

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED Yes)  
 DETAILS:

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES)  Y  N  NA

**SECTION F - LABORATORY (CONT'D)**

- 2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED  Y  N  NA
- 3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.  S  M  U  NA
- 4. QUALITY CONTROL PROCEDURES ADEQUATE.  S  M  U  NA
- 5. DUPLICATE SAMPLES ARE ANALYZED. >10 % OF THE TIME.  Y  N  NA
- 6. SPIKED SAMPLES ARE ANALYZED. >10 % OF THE TIME.  Y  N  NA
- 7. COMMERCIAL LABORATORY USED.  Y  N  NA

LAB NAME Bio-Aquatic

LAB ADDRESS 2501 Mayes Road, Suite 100; Carrollton, TX 75006

PARAMETERS PERFORMED Whole Effluent Toxicity

**SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS.**

S  M  U  NA (FURTHER EXPLANATION ATTACHED No.)

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	NO	NO	NO	NO	NO	Clear	

RECEIVING WATER OBSERVATIONS:

**SECTION H - SLUDGE DISPOSAL**

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. DETAILS:

S  M  U  NA (FURTHER EXPLANATION ATTACHED No.)

- 1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY.  S  M  U  NA
- 2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503.  S  M  U  NA
- 3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: Agricultural (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

**SECTION I - SAMPLING INSPECTION PROCEDURES.**

S  M  U  NA (FURTHER EXPLANATION ATTACHED     )

- 1. SAMPLES OBTAINED THIS INSPECTION.  Y  N  NA
- 2. TYPE OF SAMPLE OBTAINED  
GRAB \_\_\_\_\_ COMPOSITE SAMPLE  METHOD \_\_\_\_\_ FREQUENCY \_\_\_\_\_
- 3. SAMPLES PRESERVED.  Y  N  NA
- 4. FLOW PROPORTIONED SAMPLES OBTAINED.  Y  N  NA
- 5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE.  Y  N  NA
- 6. SAMPLE REPRESENTATIVE OF VOLUME AND MATURE OF DISCHARGE.  Y  N  NA
- 7. SAMPLE SPLIT WITH PERMITTEE.  Y  N  NA
- 8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED.  Y  N  NA
- 9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT.  Y  N  NA

**Compliance Evaluation Inspection  
Belen Wastewater Treatment Plant  
NPDES Permit No. NM0020150  
July 21, 2010**

**Further Explanations**

Note: The sections are arranged according to the format of the enclosed EPA Inspection Checklist (Form 3560-3), rather than being ranked in order of importance.

**Section B – Recordkeeping and Reporting Evaluation – Overall Rating of “Marginal”**

**Permit Requirements** for recordkeeping and reporting:

The permit requires, in Part I, Section E. Application, DMR and Compliance Status Report:

*A duplicate copy of application for permit renewal, monthly Discharge Monitoring Report, and compliance status report, if there are any, shall be sent to New Mexico Environment Department (NMED) at the mailing address listed in Part III of this permit.*

**Findings for recordkeeping and reporting:**

The permittee started submitting their monthly DMRs via NetDMR to EPA in February 2010. The permittee failed to submit copies of these DMRs to NMED.

**Section C – Operation and Maintenance – Overall Rating of “Marginal”**

**Permit Requirements** for operation and maintenance:

The permit requires, in Part III, Section B.3, Proper Operation and Maintenance:

- a. *The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.*

- b. *The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with conditions of this permit.*

### **Findings for Operation and Maintenance**

This facility only does Sludge Volume Index (SVI) as their process control. Typically, a well developed process control program is seen at a facility of this size. The facility should know the influent loading of Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS) and nitrogen (TKN). Once the influent loadings are calculated, then the process can be adjusted to accommodate the loading. The mixed liquor and the dissolved oxygen must be adjusted to treat the concentration of waste entering the plant, as well as adjustments to Mixed Liquor Suspended Solids (MLSS) which determine the optimal food to mass ratio for wasting purposes. Also, microscopic examination of the bug population is essential in determining the condition and age of the microorganisms involved in treatment.

The secondary clarifiers have uneven weirs as evidenced by the short circuiting taking place.

The City of Belen currently has two certified operators at this facility. Mr. Tafoya is a certified wastewater operator at level IV, and Mr. Leroy Otero is a certified wastewater operator at level IV. Mr. Otero is a part-time employee. The requirements of 20.7.4.13 NMAC, which state in part, "in order to operate the various types of treatment processes at public wastewater facilities, the indicated level of certification shall be required" population of 5,001 to 10,000 should have at least one level III certified operator. There should be a full-time certified operator available to cover any absences by either Mr. Otero or Mr. Tafoya in the event that they become ill or need time off. Every effort should be made by the city to retain full-time qualified operators to ensure proper coverage.

### **Section D – Self-Monitoring – Overall Rating of “Marginal”**

#### **Permit Requirements** for Self-Monitoring:

The permit requires in Part III, Section C.5.a:

- a. *Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.*
- b. *The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.*
- c. *An adequate analytical quality control program, including analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.*

The permit requires in Part III, Section D.9:

*Where the permittee becomes aware that if failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.*

**Findings** for Self-Monitoring:

The inspector requested bench sheets from September 2009 and February 2010.

**TRC (Total Residual Chlorine)**

The inspector requested that a TRC be run during the inspection. The lab technician analyzed the sample. The results were -0.21 mg/L. Negative results usually occur if there is a negative interference present in the sample, dirty sample cells, or an incorrect blank. The key is that the instrument is not detecting any chlorine. The spectrophotometer used should be checked to ensure that the detector within this machine has not failed. Spiked samples may also be warranted.

**TSS (Total Suspended Solids)**

The lab technician stated that during the procedure she “shakes and pours” her sample into the seated glass-fiber filter. In Standard Methods, 20<sup>th</sup> Edition, it states, “While stirring, pipet a measured volume onto the seated glass-fiber filter.” The technician will begin to pipet the measured volume rather than pour it onto the filter as previously being done. This method of pouring it onto the seated glass-fiber filter is not approved by 40 CFR 136.

The permittee is calculating the Total Suspended Solids (TSS) concentration average by including the blank sample. For example, on 02/25/2010, the permittee had TSS results of 6.8 and 47.6 and the blank of 0. Ms. Nunez calculated the average by adding all three and dividing by 3. This gave a lower average of 18 mg/L where the actual average should have been calculated by adding 6.8 and 47.6 and dividing by 2 for a result of 27.2 mg/L. Ms. Nunez was instructed to only add the two samples, 6.8 and 47.6 and then divide by 2. The results reported on the DMRs for TSS are incorrect. The permittee should correct this immediately and re-submit corrected DMRs to EPA and NMED.

**BOD (Biochemical Oxygen Demand 5-day)**

Many sample results were invalid for BOD. Because of this, the permittee had five out of 12 valid results for reporting purposes. The permittee is required to sample three times a week for BOD.

On the BOD sample for February 25, 2010, the permittee ran two blank samples. In the final DO readings, there was a gain in oxygen leading to a negative result. For example, the initial DO for water blank #28 was 6.68 and the final DO reading was 6.80 resulting in a -0.12 final reading. This occurred again on 02/23/2010. Numerous dilution water blanks from both February 2010 and

September 2009 show greater than 0.2 mg/L in the final readings, indicating that something may be wrong with the water used to make the dilution water, the DO meter may need to be calibrated or the glassware being used in the test is contaminated. The permittee should investigate this further and determine the cause of this and take corrective actions as soon as possible.

The permittee had several samples that the glucose glutamic acid (GGA) standard was not in the allowable tolerance of  $198 \pm 30.5$  (228.5 – 167.5 mg/L). On February 18, 2010, September 30th, 17th, 16th, 15th, 9th, 8th, 3rd and 2nd, 2009, both GGA standards failed. Because the GGA did not fall within the tolerances, the entire set of GGA standards becomes invalid and the sample data must be thrown out and cannot be used for reporting purposes.

Samples also, at a minimum, should have a DO change of at least 2.0 mg/L between the initial and final DO and should have a residual DO of at least 1.0 mg/L. Some samples did not meet this requirement.

The ideal seed correction factor should fall within 0.6 and 1.0 mg/L. Many seed correction factors from the bench sheets provided are well below this. This may indicate that the seed is too low and more seed may need to be added to the sample bottles. The lab technician will have to adjust the amount of seed as she sees fit in order to stay within this range.

### **E. COLI**

The technician is not collecting the sample in a prepared bottle containing sodium thiosulfate (dechlorination). Because the technician collects the sample in an unprepared bottle, chlorine may continue to disinfect the sample yielding a false low result. The technician was instructed to collect her sample directly into the prepared bottle with sodium thiosulfate.

### **BIOMONITORING:**

The permittee provided bench sheets of their 24 hour composite samples being taken for their biomonitoring testing. It appears that the permittee was confused on the requirements of their permit. The permittee is required to test once per quarter *Daphnia pulex* and *Pimephales promelas* with a 48-hour static renewal test. The operator stated that he assumed he had to pull two separate 24-hour tests (48 hours) for two separate tests. It was explained to the operator that this was unnecessary and only one 24-hour test per quarter was required.

# **LOADING CALCULATIONS**

## Discharge Monitoring Report Calculation Check

The DMR calculation check was conducted for Biochemical Oxygen Demand (BOD) for the month of September 2009.

Concentration values are mg/L. Loading values are in pounds per day. The Permit requires a six hour composite sample three times a week.

<u>DATE</u>	<u>BOD<sub>5</sub> CONC.</u>	<u>FLOW, MGD</u>	<u>LOADING</u>
09/01/2009	2 mg/L	.827	13.79
09/02/2009*			
09/03/2009*			
09/08/2009*			
09/09/2009*			
09/10/2009	3 mg/L	.811	20.29
09/15/2009*			
09/16/2009*			
09/17/2009*			
09/22/2009	2 mg/L	.783	13.06
09/23/2009*			
09/24/2009	3 mg/L	.727	18.19
<b>TOTAL:</b>	10 mg/L		65.33

**\* GGA out of tolerance – invalid results**

Loading:

September's 30-day average =  $13.79 + 20.29 + 13.06 + 18.19 / 4 = 16.33$  lbs/day (20 lbs/day was reported on the DMR)

September's 7-day average = 20.29 lbs/d (29 lbs/d reported on the DMR).

Concentration:

September's 30-d average =  $10 \text{ mg/L} / 4 = 2.5$  mg/L (3 mg/L reported on DMR)

September's 7-day average = 3 mg/L (4 mg/L reported on DMR)

## Discharge Monitoring Report Calculation Check

The DMR calculation check was conducted for Total Suspended Solids (TSS) for the month of September 2009.

Concentration values are mg/L. Loading values are in pounds per day. The Permit requires a six hour composite sample three times a week.

<b>DATE</b>	<b>TSS CONC.</b>	<b>FLOW, MGD</b>	<b>LOADING</b>
09/01/2009	3.8 mg/L	.827	26.21
09/02/2009	9.0 mg/L	.828	62.45
09/03/2009	6.6 mg/L	.502	27.63
09/08/2009	4.4 mg/L	.844	30.97
09/09/2009	4.2 mg/L	.806	28.23
09/10/2009	5.2 mg/L	.811	35.17
09/15/2009	4.8 mg/L	.825	33.03
09/16/2009	5.2 mg/L	.800	34.69
09/17/2009	3.8 mg/L	.852	27.00
09/22/2009	1.6 mg/L	.783	3.92
09/23/2009	3.2 mg/L	.733	19.56
09/24/2009	7.8 mg/L	.727	47.29
<b>TOTAL:</b>	59.6 mg/L		376.15

Loading:

September's 30-day average =  $26.21 + 62.45 + 27.93 + 30.97 + 28.23 + 35.17 + 33.03 + 34.69 + 27.00 + 3.92 + 19.56 + 47.29 / 12 = 31.37$  lbs/day (21 lbs/day was reported on the DMR)

September's 7-day average =  $26.21 + 62.45 + 27.93 / 3 = 38.86$  lbs/day (25 lbs/day reported on DMR)

Concentration:

September's 30-d average =  $3.8 + 9.0 + 6.6 + 4.4 + 4.2 + 5.2 + 4.8 + 5.2 + 3.8 + 1.6 + 3.2 + 7.8 / 12 = 4.97$  (3 mg/L was reported on DMR).

September's 7-day average =  $3.8 + 9.0 + 6.6 / 3 = 6.47$  mg/L (4 mg/L reported on DMR)