



NEW MEXICO
ENVIRONMENT DEPARTMENT



Surface Water Quality Bureau

SUSANA MARTINEZ
Governor

JOHN SANCHEZ
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

DAVE MARTIN
Secretary

RAJ SOLOMON, P.E.
Deputy Secretary

Certified Mail - Return Receipt Requested

April 18, 2011

Honorable Wayne Ake
Mayor, Village of Bosque Farms
P.O. Box 660
Peralta, NM 87042

Re: Minor Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, Bosque Farms WWTP, NM0030279, April 6, 2011

Dear Mayor Ake,

Enclosed, please find a copy of the report 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.

Findings are based on the inspector's observances in regards to specific requirements of the NPDES permit. The Bosque Farms WWTP received an overall evaluation rating of "3" on a scale of 1 to 5. Problems were found in the area of Recordkeeping and Reporting and Laboratory. Please refer to the Further Explanations section of the report for more detail.

You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and to modify your operational and/or administrative procedures, as appropriate. Further, you are encouraged to notify in writing both USEPA (Diana McDonald, USEPA (6EN-WT), 1445 Ross Ave, Dallas, Texas, 75202) and NMED (at above address) regarding modifications and compliance schedules.

I wish to thank you for the cooperation extended to the NMED while at the Bosque Farms Wastewater Treatment Plant. If you have any questions about this inspection report, please contact me at (505) 222-9587 or sarah.holcomb@state.nm.us.

Sincerely,
/s/ Sarah Holcomb
Sarah Holcomb
Environmental Scientist/Specialist
Surface Water Quality Bureau

Cc: Marcia Gail Adams, USEPA (6EN-AS), by e-mail
Samuel Tate, USEPA (6EN-AS), by e-mail
Carol Peters-Wagnon, USEPA (6EN-AS), by e-mail
Diana McDonald, USEPA (6EN-AS), by e-mail
Larry Giglio, USEPA Permits Branch (6WQ-P), by e-mail
NMED District I, by email

Introduction

On April 6, 2011, Sarah Holcomb of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Bosque Farms Wastewater Treatment Plant (WWTP). The Bosque Farms WWTP has a design flow capacity of 0.5 MGD (million gallons per day) and is classified as a minor discharger under the Federal Clean Water Act, Section 402, of the National Pollutant Discharge Elimination System (NPDES) permit program. It is assigned NPDES permit number NM0030279. This permit regulates the WWTP discharge to Rio Grande in the Middle Rio Grande Basin in Segment 20.6.4.105 according to the *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC*. This segment includes the designated uses of irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and secondary contact.

The NMED performs a certain number of CEIs for the U.S. Environmental Protection Agency (USEPA), Region VI, under the NPDES permit program, in accordance with the Federal Clean Water Act. USEPA uses these inspections to determine compliance with the NPDES permit program. This inspection report is based on information provided by the permittee's representatives, observations made by the NMED inspector, and records and reports kept by the permittee and/or NMED.

Upon arrival at the WWTP at 0900 hours on April 6, 2011, the inspector conducted an entrance interview with Mr. Cliff Hibdon, Utilities Director, where she presented credentials and explained the purpose of the inspection. Mr. Hibdon conducted a tour of the facility. An exit interview was conducted with Mr. Hibdon at the facility at approximately 1145-1200 hours on April 6, 2011 to present the preliminary findings of the inspection.

Treatment Scheme

Construction of the WWTP was completed in 1999. The WWTP is designed for a hydraulic load of 0.5 MGD, but the peak flow is approximately 0.4 MGD according to the permittee's representative. The WWTP serves a population of less than 5,000. There are five employees with one level 3 wastewater, two level 2s and one level 1 operator.

The Village has an ordinance that requires installation, maintenance and inspection of grinder pumps, grease traps and sand traps. Sand traps are required for car washes, schools, day care facilities, commercial laundries and laundromats. Grinder pumps are connected to each residence as well as commercial facilities throughout the village. The grinder pumps provide primary debris removal prior to the WWTP. Village WWTP staff provide maintenance and repair of the grinder pumps as needed.

Influent enters an anaerobic selector unit. The anaerobic selector unit is covered and odors are allowed to be vented to a biofilter (bark) odor compost bed. The contents in the anaerobic selector unit are mixed before moving to the aeration basin. The aeration basin is aerated using diffused air in the bottom of the tank from one of three alternated blowers. The aeration basin has concrete baffles to extend the aeration time and surrounds the secondary clarifier. A scum skimmer arm removes floatables from the clarifier and places them into the scum pit that eventually goes to the sludge storage basin. According to the permittee's representative, ferrous chloride solution in an above-ground storage tank is not used to treat the influent at the lift station and is being allowed to evaporate.

Ultraviolet (UV) light is used for disinfection. Two banks with three lights each can be alternated for maintenance. The UV system is cleaned with an automatic wiper system. Chlorine has not been used as back up disinfection since May of 2006 according to the permittee's representative and records kept at the WWTP. Immediately after the UV system, effluent flow is measured using a 6-inch Parshall flume and a secondary ultrasonic flow totalizer.

According to the permittee's representative, effluent is used for cleaning throughout the plant. Used effluent wash water entering indoor and outdoor drains continues to a drain lift station and are returned to the headworks.

Solids Management

Waste sludge is pumped from the secondary clarifier to an aerated thickener unit. The sludge is thickened with a polymer and allowed to settle by turning off aeration. Records kept at the WWTP indicate that solids reach a concentration between 2 to 3 percent before being trucked in a 2000 gallon tanker truck by village personnel to a village-owned 240 acre fenced unlined sludge disposal facility located on an access road from Dalies Road, three

miles south of NM 6 in Valencia County. The facility does not have a leachate collection system. According to the permittee's representative, the facility's excavated detention ponds and earthen berms were designed for a 100-year storm event. Upon arrival, sludge is transferred first to an above ground open corrugated metal storage tank (nurse tank) then to an injection truck. Each month, injection is to be alternated between one of 12 signed areas of the facility (one area signed for each month of the year). When not in use, the injection truck and equipment are stored in a covered metal building. The permittee maintains written manifest records and tracks sludge trips and percent solids.

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.

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.

Y N NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED.
DETAILS:

S M U NA (FURTHER EXPLANATION ATTACHED NO)

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 NO).
 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 YES).
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. Y N NA
 TYPE OF DEVICE 6-inch Parshall flume

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. Y N NA
 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, 2 % OF THE TIME. 3 TIMES PER YEAR. Y N NA
6. SPIKED SAMPLES ARE ANALYZED, % OF THE TIME. Y N NA
7. COMMERCIAL LABORATORY USED. Y N NA

LAB NAME HALL ENVIRONMENTAL ANALYSIS LABORATORY
 LAB ADDRESS 4901 HAWKINS NE, ALBUQUERQUE, NM 87109
 PARAMETERS PERFORMED BOD, TSS, E. COLI, NITROGEN

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	NONE	NONE	NONE	NONE	NONE	CLEAR	

RECEIVING WATER OBSERVATIONS Receiving water had a slightly milky white color

SECTION H - SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED NO).

DETAILS:

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: INJECTED (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)

SECTION I - SAMPLING INSPECTION PROCEDURES (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

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.

Recordkeeping and Reporting

Section B – Recordkeeping and Reporting Evaluation – Overall rating of Marginal

The permit requires, in Part III, Section D.4, Record Contents:

Records of monitoring information shall include:

- a. The date, exact place, and time of sampling or measurements;*
- b. The individual(s) who performed the sampling or measurements;*
- c. The date(s) and time(s) analyses were performed;*
- d. The individual(s) who performed the analyses;*
- e. The analytical techniques or methods used; and*
- f. The results of such analyses.*

The permit requires, in Part III, Section D.4, Discharge Monitoring Reports and Other Reports:

Monitoring results must be reported on Discharge Monitoring Report (DMR) Form EPA Number 3320-1 in accordance with the “General Instructions” provided on the form. The permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D to the EPA at the address below. Duplicate copies of DMRs and all other reports shall be submitted to the appropriate State agency(ies) at the following address(es):

EPA:

*Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-W)
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733*

New Mexico:

*Program Manager
Surface Water Quality Bureau
New Mexico Environment Department
P.O. Box 5469
1190 Saint Francis Drive
Santa Fe, NM 87502*

Findings for Recordkeeping and Reporting:

This permittee does a good job of documenting required NPDES activities at their facility. The only missing document during this inspection was an Emergency Management Plan.

During review of the Discharge Monitoring Reports (DMRs) for the facility, the inspector noted a few errors in the calculation of the data. Please see Appendix A for the specific calculations. The main problem in the loading calculations seems to be that the wrong flow data is being used. The inspector noted that the flow being used in loading calculations is from the data sheet used to log monthly data. It appears to be a flow measurement encompassing the entire day's flow. When a composite sample is taken for the purpose of measuring BOD and TSS, the calculation that is done after the analyses are received must reflect the flow only during the time that the composite sample was collected. The facility must document flow at each hour an aliquot was taken, and then average the flow over that composite period to use in loading calculations for the DMR. An example is given below:

In this example, a 6 hour composite must be taken as per the permit.

Date	Time	Location	Instantaneous Flow	Volume	Preservation
1-1-2011	0800 hours	Effluent	0.18 mgd	288 ml	Refrigerated
1-1-2011	0900 hours	Effluent	0.19 mgd	304 ml	Refrigerated
1-1-2011	1000 hours	Effluent	0.21 mgd	336 ml	Refrigerated

1-1-2011	1100 hours	Effluent	0.25 mgd	400 ml	Refrigerated
1-1-2011	1200 hours	Effluent	0.20 mgd	320 ml	Refrigerated
1-1-2011	1300 hours	Effluent	0.15 mgd	240 ml	Refrigerated

Then, the flow is averaged over the compositing period to give a value of 0.196 mgd for the compositing period. This is the flow value that should be used in the loading calculations for that parameter.

In the month of November 2009, TSS data was reported, but the associated lab data indicates that there were no detects for TSS. Also, in the lab bench sheets that the inspector was given for pH, there was only one pH sample taken. There were minimum and maximum values reported on the DMR in this month.

In November 2009, the facility was using a contract lab for E. coli analysis that has since gone out of business. However, an issue that should be mentioned is that the run times for E. coli analysis were not noted on the report from the lab. This is a concern because there is a 6 hour holding time before the samples must be started, if the method is being performed in accordance with 40 CFR 136 and with the NPDES permit. The inspector was unable to confirm that the holding times were not exceeded for these particular samples. The new contract laboratory that the facility is utilizing also needs to better document when analysis of a sample is started, for clarity.

Flow Measurement

Section E – Flow Measurement Evaluation – overall rating of Marginal.

Permit Requirements for Flow Measurement:

The permit states in Part III.C.6, Flow Measurements:

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.

The NPDES Inspection Manual states in Chapter 6:

The permit normally requires the facility to check the calibration regularly by the permittee. The facility must ensure that their flow management systems are calibrated by a qualified source at least once a year to ensure their accuracy. Lack of such a program is considered unacceptable for NPDES compliance purposes.

And:

The inspection should evaluate following quality control issues during a compliance inspection to ensure:

- *Proper operation and maintenance of equipment*
- *Accurate records*
- *Sufficient inventory of spare parts*
- *Valid flow measurement techniques*
- *Precise flow data*
- *Adequate frequency of calibration checks*

Findings for Flow Measurement:

Generally, the facility does well in this area, however, in spite of having a certified technician who professionally calibrates the plant's flow meters once per year, the facility staff are only doing visual calibration checks to confirm that the meters are working properly in between these professional calibrations. No records are being kept of this activity to confirm that the visual checks are in fact occurring. Because so much of the facility's compliance data depends on accurate flow measurements, the facility should document calibration checks to assure regulatory authorities that they are producing accurate data.

Flow calibration check:

Measured head at staff gage on 4-6-2011: 0.35 feet

Reading observed on Drexelbrook flow meter: 0.27 MGD

$(0.27 - 0.2534 \times 100) / 0.2534 = 6.55\%$ variance

The meter was reading within the required $\pm 10\%$ of actual flow.

Laboratory

Section F – Laboratory Evaluation – overall rating of Marginal.

Permit Requirements for Laboratory:

The permit states in Part III.C.5.a:

Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

Findings for Laboratory:

In 2007, several laboratory methods were withdrawn from approval in 40 CFR 136. These were mostly EPA methods, including the EPA method for pH. The only approved pH method at this time is from Standard Methods, which requires that the expected pH of the sample be bracketed when calibrating the pH monitor. The facility staff were not doing this at the time of the inspection, and were always calibrating the monitor as a 3 point calibration in a sequence of 4, 7, and 10 buffers in that order.

Appendix A

Calculation Check:

November 2009:

BOD

Date	Value
11-4-2009	<4.0 mg/L
11-18-2009	4.04 mg/L

30 day Average Loading:

Bosque Farms reported: 5.63 mg/L

Inspector calculated:

$$4 \text{ mg/L} \times 8.34 \times 0.19 \text{ mgd} = 6.34 \text{ mg/L}$$

7 day Average Loading:

Bosque Farms reported: 5.62 mg/L

Inspector calculated:

$$4.04 \text{ mg/L} \times 8.34 \times 0.18 \text{ mgd} = 6.07 \text{ mg/L}$$

November 2009:

TSS

Date	Value
11-4-2009	< 4 mg/L
11-18-2009	< 4 mg/L

30 day Average Loading:

Bosque Farms reported: 5.60 mg/L

Inspector calculated:

$$4 \text{ mg/L} \times 8.34 \times 0.19 \text{ mgd} = 6.34 \text{ mg/L}$$

7 day Average Loading:

Bosque Farms reported: 5.63 mg/L

Inspector calculated:

$$4 \text{ mg/L} \times 8.34 \times 0.18 = 6.01 \text{ mg/L}$$

November 2009:

E. coli

Date	Value
11-4-2009	< 1 cfu/100 mls
11-18-2009	< 1 cfu/100 mls

30 day geomean:

Bosque Farms reported: <1.0/100 mls

Inspector calculated:

$$\text{Log}(1) + \text{Log}(1) = 0$$

$$0 / 2 = 0$$

$$\text{Antilog}(0) = 1$$

7 day geomean:

Bosque Farms reported: <1.0/100 mls

Inspector calculated:

$$\text{Log}(1) + \text{Log}(1) = 0$$

$$0 / 2 = 0$$

$$\text{Antilog}(0) = 1$$

November 2010:

BOD

Date	Value
11-3-2010	<2.0 mg/L
10-20-2010	<2.0 mg/L

30 day Average Loading:

Bosque Farms reported: 2.64 mg/L

Inspector calculated:

$$2 \text{ mg/L} \times 8.34 \times 0.17 \text{ mgd} = 2.84 \text{ mg/L}$$

7 day Average Loading:

Bosque Farms reported: 2.77 mg/L

Inspector calculated:

$$2 \text{ mg/L} \times 8.34 \times 0.2 \text{ mgd} = 3.34 \text{ mg/L}$$

November 2010:

TSS

Date	Value
11-3-2010	< 10 mg/L
11-18-2009	< 10 mg/L

30 day Average Loading:

Bosque Farms reported: 13.18 mg/L

Inspector calculated:

$$10 \text{ mg/L} \times 8.34 \times 0.19 \text{ mgd} = 15.85 \text{ mg/L}$$

7 day Average Loading:

Bosque Farms reported: 13.84 mg/L

Inspector calculated:

$$10 \text{ mg/L} \times 8.34 \times 0.2 \text{ mgd} = 16.68 \text{ mg/L}$$

November 2010:

E. coli

Date	Value
11-3-2010	5.2 org/100 mls
10-20-2010	35.1 org/100 mls

30 day geomean:

Bosque Farms reported: 13.51 org/100 mls

Inspector calculated:

$$\text{Log}(5.2) + \text{Log}(35.1) = 2.26131046$$

$$1.3287872 / 2 = 1.13065523$$

$$\text{Antilog}(1.13065523) = 13.51 \text{ org/100 mls}$$

7 day geomean:

Bosque Farms reported: 35.1 org/100 mls

Inspector calculated:

35.1 org/100 mls