



NEW MEXICO
ENVIRONMENT DEPARTMENT



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Cabinet Secretary - Designate

BUTCH TONGATE
Deputy Secretary

Certified Mail – Return Receipt Requested

July 3, 2013

Mr. Juan Fuentes, City Manager
City of Truth or Consequences
505 Sims Road
Truth or Consequences, NM 87901

RE: Major Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, Truth or Consequences Wastewater Treatment Plant, NM0020681, June 20, 2013

Dear Mr. Fuentes:

Enclosed please find a copy of the report for the referenced inspection that the New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) 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 explanations section of the inspection report. You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and modify your operational and/or administrative procedures, as appropriate. Further, you are encouraged to notify in writing both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Diana McDonald
US Environmental Protection Agency
Allied Bank Tower
Region VI Enforcement Branch (6EN-WM)
1445 Ross Avenue
Dallas, Texas 75202-2733

Bruce Yurdin, Program Manager
New Mexico Environment Department
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

Truth or Consequences

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July 3, 2013

I wish to thank your staff for their cooperation during this inspection. If you have any questions concerning this inspection report, please feel free to contact me at the above address or by telephone (505) 827-1041.

Sincerely,

Sandra Gabaldón
Surface Water Quality Bureau

Cc: Rashida Bowlin, 6EN-WC, via email
Darlene Whitten-Hill, 6EN-WC, via email
Carol Peters-Wagnon, 6EN-WM, via email
Jan Walker, 6EN-WC, via e-mail
Brent Larsen, 6WQ-PP, via e-mail
Diana McDonald, 6EN-WM, via email
District III, via e-mail



Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

NPDES Compliance Inspection Report

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspec. Type	Inspector	Fac Type
1 <input type="text" value="N"/> 2 <input type="text" value="5"/> 3 <input type="text" value="N"/> <input type="text" value="M"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="6"/> <input type="text" value="8"/> <input type="text" value="1"/> 11 <input type="text" value="1"/> 12 <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value="0"/> 17			18 <input type="text" value="C"/>	19 <input type="text" value="S"/> 20 <input type="text" value="1"/>	
Remarks					
<input type="text" value="M"/> <input type="text" value="A"/> <input type="text" value="J"/> <input type="text" value="O"/> <input type="text" value="R"/> <input type="text" value="W"/> <input type="text" value="W"/> <input type="text" value="T"/> <input type="text" value="P"/>					
Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved	
67 <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> 69	70 <input type="text" value="2"/>	71 <input type="text" value="N"/>	72 <input type="text" value="N"/>	73 <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	74 <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> 75 <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> 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) TRUTH OR CONSEQUENCES WASTEWATER TREATMENT PLANT From 1-25, take the Williamsburg Exit (Exit 75), and follow Broadway St. Turn Right on Hyde Ave., And right on Veater St. Plant Entrance is on the right. SIERRA COUNTY	Entry Time /Date 0815 Hours / 06-20-2013	Permit Effective Date March 09, 2009
	Exit Time/Date 1140 Hours / 06-20-2013	Permit Expiration Date February 28, 2014
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) Jesus Salayandia, Wastewater Superintendent, (575) 894-7331 Jerry Bonner, Operator, (575) 740-5272 Wwtp@torcnm.org	Other Facility Data SIC 4952 Receiving Stream: Rio Grande (Segment 20.6.4.103) 33°06' 49.66" N -107°16'54.64" W	
Name, Address of Responsible Official/Title/Phone and Fax Number Juan Fuentes, City Manager (575) 894-6673 505 Sims Street Truth or Consequences, NM 87901	Contacted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Section C: Areas Evaluated During Inspection

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

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

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

Name(s) and Signature(s) of Inspector(s) Sandra Gabaldon	Agency/Office/Telephone/Fax NMED/SWQB/(505) 827-1041/(505) 827-0160	Date July 3, 2013
Signature of Management QA Reviewer Bruce Yurdin, Program Manager	Agency/Office/Phone and Fax Numbers NMED/SWQB / 505-827-2795 / 505-827-0160	Date July 3, 2013

TRUTH OR CONSEQUENCES WASTEWATER TREATMENT PLANT

PERMIT NO: NM0020681

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS S M U NA (FURTHER EXPLANATION ATTACHED NO)

DETAILS:

- 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. S M U NA (FURTHER EXPLANATION ATTACHED YES)

DETAILS:

- 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 X N NA
 - d) RESULTS OF ANALYSES AND CALIBRATIONS. Y X 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 X U NA
- 4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR. S M X 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. S M U NA (FURTHER EXPLANATION ATTACHED NO)

DETAILS:

- 1. TREATMENT UNITS PROPERLY OPERATED. S M U NA
- 2. TREATMENT UNITS PROPERLY MAINTAINED. S M O U NA
- 3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED – Generator on site S M O U NA
- 4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE. S M O U NA
- 5. ALL NEEDED TREATMENT UNITS IN SERVICE S M U NA
- 6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED. S M O 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 X N NA

TRUTH OR CONSEQUENCES WASTEWATER TREATMENT PLANT

PERMIT NO. NM0022250

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 X N " NA
 IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED? " Y " N X NA
 HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS? " Y O N X NA
10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT? " Y X N " NA
 IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT? " Y " N X NA

SECTION D - SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS. X S M U NA (FURTHER EXPLANATION ATTACHED NO).
 DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT. X Y " N " NA
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES. X Y " N " NA
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT. X Y " N " NA
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT. X Y " N " NA
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT. X Y " N " NA
6. SAMPLE COLLECTION PROCEDURES ADEQUATE X Y " N " NA
- a) SAMPLES REFRIGERATED DURING COMPOSITING. X Y " N " NA
- b) PROPER PRESERVATION TECHNIQUES USED. X Y " N " NA
- c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3. X 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? X Y " N " NA

SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. " S X M " U " NA (FURTHER EXPLANATION ATTACHED YES).
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. X Y " N " NA
 TYPE OF DEVICE 9-inch Parshall Flume
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED. X Y " N " NA
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED. X Y " N " NA
4. CALIBRATION FREQUENCY ADEQUATE. X Y " N " NA
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES. X Y " N " NA
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE. " Y X N " NA
5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE. X Y " N " NA
6. HEAD MEASURED AT PROPER LOCATION. X Y " N " NA
7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES. X Y " N " NA

SECTION F - LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS. " S " M X 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 X N " NA

TRUTH OR CONSEQUENCES WASTEWATER TREATMENT PLANT

**PERMIT NO.
NM0022250**

SECTION F - LABORATORY (CONT'D)

- 2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED " Y " N X NA
- 3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. " S O M X U " NA
- 4. QUALITY CONTROL PROCEDURES ADEQUATE. " S " M X U " NA
- 5. DUPLICATE SAMPLES ARE ANALYZED. 10 % OF THE TIME. X Y " N " NA
- 6. SPIKED SAMPLES ARE ANALYZED. 0 % OF THE TIME. No spikes are done for chlorine " Y X N O NA
- 7. COMMERCIAL LABORATORY USED. X Y " N " NA

LAB NAME Wilkins Environmental Interlab
 LAB ADDRESS 832 NW 67th Street 3655 Research Dr. #108
 PARAMETERS PERFORMED Whole effluent Toxicity Copper

SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS. S M O U NA (FURTHER EXPLANATION ATTACHED).

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	None	None	None	None	None	Clear	

RECEIVING WATER OBSERVATIONS There were a large number of carp swimming at the outfall of this treatment plant.

SECTION H - SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. X S " M " U " NA (FURTHER EXPLANATION ATTACHED No.).
 DETAILS:

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

SECTION I - SAMPLING INSPECTION PROCEDURES (FURTHER EXPLANATION ATTACHED).

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

Truth or Consequences Wastewater Treatment Plant
NPDES Permit No. NM0020681
Compliance Evaluation Inspection
June 20, 2013

Introduction:

On June 20, 2013, Sandra Gabaldón of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a compliance evaluation inspection (CEI) at the Truth or Consequences (T or C) Wastewater Treatment Plant (WWTP). The T or C WWTP has a design flow capacity of 1.06 million gallons per day (MGD) and is classified as a major 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 NM0020681. This permit regulates the WWTP discharge to the Rio Grande in Segment 20.6.4.103 *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 New Mexico Administrative Code (NMAC)*. This segment includes the designated uses of irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, secondary contact and warmwater aquatic life.

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 NMED staff, and records and reports kept by the permittee and/or NMED.

The inspector made introductions, stated the purpose of the inspection and presented credentials to Mr. Jesus Salayandia, Wastewater Superintendent.

Preliminary findings were discussed with Mr. Salayandia at the end of the inspection.

Treatment Scheme:

The Truth or Consequences (T or C) WWTP serves the city of Truth or Consequences and the Village of Williamsburg for an approximate population of 7,900. The WWTP is an extended aeration activated sludge treatment system with chlorine disinfection and dechlorination. This system is extremely old (37 years) and is currently undergoing review for rehabilitation (Preliminary Engineering Report has been completed). Wastewater gravity flows into the facility from five lift stations and enters the headworks where a mechanical bar screen and back up manual screen are located. Materials collected from the bar screen are stored in a trash bin, and then are spread out in one of the facility's sludge beds to dry. Once dry, the material is buried at the landfill. Wastewater passes through the screen to a grit separator and removal system. The grit system consists of a cylindrical circulating tank where grit settles out and then passes through a fine mesh screen; grit is collected in a dumpster and remaining liquid from this process is returned to the headworks.

Wastewater from the grit chamber gravity flows into a racetrack type extended aeration basin equipped with three surface power brush rotors that are used for aeration. Scum troughs in the aeration basins

collect excess foam that is sent directly to the sludge drying beds. Return Activated Sludge (RAS) from the clarifiers enters the aeration basin at the corner opposite from the grit chamber.

Wastewater exits the aeration basin and gravity flows into a splitter box and is then divided between two parallel secondary clarifiers. The splitter box contains a manual bar screen for additional solids removal before the wastewater enters the clarifiers. Metal rectangular weirs are used in the clarifiers. The clarifiers are showing their age with spalling and cracking concreted on the outer wall surface.

Clarified water enters a chlorine contact chamber that consists of two parallel rectangular concrete basins that receive 30 minutes of contact time in each basin. The plant uses water to spray down their contact chamber in order to keep the scum down. However, on this day, the sprayers were not functional and the scum had built up. Disinfected wastewater is dechlorinated with sulfur dioxide gas in a basin following the chlorine chamber. Both gas tanks for chlorine and sulfur dioxide are equipped with an automatic switchover device to ensure there are no lapses in chemical feed. The wastewater flow rate and chemical amounts are not automatically calibrated to maximize efficiency. Instead, rates are set at approximately 20 lbs of chlorine and 15 lbs of sulfur dioxide and this ratio apparently works effectively for the plant. However, the operators may want to consider an automatic feed system based on flow with the rehabilitation plans or possibly ultraviolet disinfection.

Dechlorinated effluent flows through a 9" Parshall flume where flow is measured by an ultrasonic totalizer meter. Effluent is then discharged through outfall 001 to the Rio Grande. Rip-rap has been installed directly below the outfall pipe to increase aeration and reduce bank erosion. A portion of the effluent is also diverted to an effluent reuse pond for land application on city parks and golf course.

SLUDGE HANDLING:

WAS from the clarifiers is sent to two vacuum assisted drying beds where a cationic polymer is added and liquid is drawn through the porous blocks that make up the beds. The sludge solids stay on top of the blocks and recovered liquid from this process is returned to the headworks. Sludge is then removed and stockpiled on concrete drying beds and spread out for further drying. Class A is achieved by meeting the temperature requirements for pathogen reduction and the percent solids requirement for vector attraction reduction. The Class A material is made available free to the public and applied to city parks.

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”

The permit requires, in Part I.B.1, Schedule of Compliance:

No later than 14-days after the date of compliance with the copper final limits have been met, the permittee shall submit a written final report both to EPA and the State, stating that compliance has been completed. If at any time during the three-year compliance period the permittee determines that full compliance will not be met within the time allowed, a separate report shall be sent to both EPA and the State stating the explanation for this delay and proposed remedial actions.

The permit requires, in Part III.C.3, Retention of Records:

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and all records of data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application.

The permit requires, in part III.C.4, Records 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.*

Findings for Recordkeeping and Reporting Evaluation

The permittee has not submitted their final report stating they have met compliance with copper requirements. The permittee was required to submit a report 14 days from the final day of compliance, three years after issuance of the permit. This report should have been submitted to EPA and the State of New Mexico during April 2012. The operator was made aware of this requirement and stated that the report will be submitted as soon as possible.

The permittee has failed to maintain their records for the required three years from the date of sample, measurement, report or application was generated. The lab technician could not locate various records during the inspection as requested. The lab tech stated that he has been employed for approximately one year and has not yet had the opportunity to go through all the files and familiarize himself with all the information. It is important that the lab tech, or any other operator know where documents are kept in the event that they are requested by the State or EPA.

The inspector reviewed two months of bench sheets (October 2012, April 2013). The analytical method was not stated on the pH bench sheet. Also, the calibration of the instrument for both the pH meter and the chlorine meter was not provided on the bench sheets.

Section C – Operations and Maintenance – Overall Rating of “Marginal”

The permit requires, in part III.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 and auxiliary facility 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 adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.*

Findings for Operations and Maintenance:

The permittee is having some difficulty maintaining the facility due to the age of the treatment system. The system is 37 years old and is showing its age. A preliminary engineering report has been produced and a contractor has recently submitted a bid to the city. The city is hopeful that funds will be secured and construction will begin in the next few years. Until then, the permittee is “bandaging” the plant as things break in order to save money with a debilitated system. The City of Truth of Consequences is in desperate need of a new plant to replace this 37 year old outdated plant. Hopefully, this will happen before any major issues occur. The plant staff is doing a remarkable job in keeping this plant functioning with the issues that are seen on a daily basis. However, as is seen with many plants of this size and age, the plant is in need of more staff members to help with this endeavor.

Section E – Flow Measurement – Overall Rating of “Marginal”

The permit requires in Part III.4.6 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 capacity 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.

Findings for Flow Measurement:

The permittee does not do calibration checks to ensure the device is measuring flows with a maximum deviation of less than 10% of the true discharge rate. Flow is an important element in calculating the loading limits allowed by the permit. If the flow discharge is inaccurate, that also makes all loading calculations incorrect.

Section F – Laboratory – Overall Rating of “Unsatisfactory”

The permit requires in Part III.5., Monitoring Procedures:

- 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.*
- 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 the 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.*

Findings for Laboratory:

E. Coli

The permittee has been performing EPA method 10029 for E. coli analysis. According to 40 CFR 136, the only methods approved for E. coli analysis are:

§ 136.3 Identification of test procedures.

TABLE IA—LIST OF APPROVED BIOLOGICAL METHODS FOR WASTEWATER AND SEWAGE SLUDGE

Parameter and units	Method ¹	EPA	Standard methods	AOAC, ASTM, USGS	Other
Bacteria:					
5. <i>E. coli</i> , number per 100 mL ²¹	MPN ^{6,8,16} multiple tube, or		9221B.1-2006/9221F-2006 ^{12,14}		

	multiple tube/multiple well, or		9223 B-200 4 ¹³	991.15 ¹⁰	Colilert [®] 13,18 Colilert-18 [®] 13,17,18
	MF ^{2,6,7,8} single step	1603 ²²			mColiBlue-24 [®] 19

All analyses that have been completed previously are invalid. The permittee should begin using an approved method as soon as possible.

BOD:

The permittee performs BOD at their on-site laboratory. BOD is important in measuring the effectiveness of the treatment system. There are a number of quality controls that need to be followed since this test relies in part on living organisms and because many things can go wrong with the test resulting in inaccurate results. The quality controls that need to be followed include: Dilution water blanks, oxygen depletion rules, dechlorination of chlorinated samples, dissolved oxygen meter calibration, careful control of incubator temperature, routine analysis of GGAs, and annual analysis of an externally supplied standard.

The permittee provided bench sheets for October 2012 and April 2013. There are numerous questionable quality control issues noted.

- The initial temperature and the final temperature remain the same on all bench sheets (20°), which may indicate that the temperature is not being taken prior to incubation. It is important that the samples be warmed to 20°C prior to analysis. Thermometers must also be calibrated with NIST standards annually.
- The pH does not appear to be adjusted or checked prior to analysis. All bench sheets have "N/A" for pH adjustment. If the sample is alkaline or acidic (pH > 8.5 or <6.0, respectively), the sample pH must be adjusted to near neutral. The pH should be checked to insure it is between 6.5 and 7.5 s.u. prior to analysis.
- The chlorine is not being checked prior to analysis. This facility uses chlorine as a disinfectant. If there is residual chlorine remaining in the sample, it would kill the microorganisms resulting in a much lower BOD measurement. All chlorinated samples should be dechlorinated with sodium sulfite if any residual chlorine is found.
- Oxygen depletion rules require that at least 2.0 mg/L of dissolved oxygen be consumed in sample bottles during incubation or the results from that bottle are not included in calculating the BOD. And, at least 1.0 mg/L of dissolved oxygen must remain in sample bottles following incubation or the results are not included in calculating the BOD. The permittee should review these requirements in order to assure the results are within the oxygen depletion rules. It was noted in the October 2012 bench sheets that there were a number of results that did not follow the oxygen depletion rules. A total of 10 samples did not meet both or one of the depletion rules.

- Seed control is recommended to be between 0.6 and 1.0 mg/L. Many seed correction factors are below this recommended value. The permittee should re-evaluate the seed strength, consider using more seed or consider using another seed source.
- The dilution water blanks check the water being used for dilution. Here, again, there were a number of samples that were greater than 0.2 mg/L, indicating that the DO meter calibration was incorrect, or the glassware being used was contaminated. The permittee should insure that calibration of the DO meter is being done correctly with adjustment for barometric pressure and should clean the glassware. The difference between the initial and final DO for dilution water blanks needs to be below <0.2 mg/L.

TSS:

- 2540-D TSS states, "Choose sample volume to yield between 2.5 and 200 mg dried residue. If volume filtered fails to meet minimum yield, increase sample volume up to 1 L. Samples on October 31st, October 10th, and October 3rd were below the minimum of 2.5 mg dried residue. Samples on May 1st, April 24th, and April 17th were also below the minimum of 2.5 mg dried residue. Many volume samples are 1 L, however, some were not the maximum amount allowed.

Chlorine:

- Calibration is required with chlorine or potassium permanganate solutions. Review of the bench sheets does not reveal calibration is being performed. Calibration to known standards is required for all photometric devices. The recovery of known standards to check the instrument calibration is required as part of a quality control program. At least five (5) calibration standards covering the chlorine equivalent range of 0.05 – 4.0 mg/L should be used to prepare a calibration curve.

Externally supplied performance evaluation standards should be analyzed at least annually.