



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Surface Water Quality Bureau

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 MARKLIN
Secretary

BUTCH TONGATE
Deputy Secretary

JAMES H. DAVIS, Ph.D.
Director
Resource Protection Division

Certified Mail - Return Receipt Requested

August 2, 2012

The Honorable Constance Cordell-Wehrheim, Mayor
Village of Reserve
P.O. Box 587
Reserve, New Mexico 87830

Re: **Minor Municipal; SIC 4952; NPDES Compliance Evaluation; Village of Reserve Waste Water Treatment Plant; NM0024163; July 26, 2012**

Dear Mayor Cordell-Wehrheim;

Enclosed, please find a copy of the report and check list 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.

Introduction, treatment scheme, and 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 to 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, Region VI
Enforcement Branch (6EN-WM)
Allied Bank Tower
1445 Ross Avenue
Dallas, Texas 75202-2733

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

I wish to thank you for the cooperation extended to the NMED personnel by Mr. Lonnie Graham, Superintendent, Village of Reserve WWTP. If you have any questions about this inspection report, please contact me at (505) 827-2575 or daniel.valenta@state.nm.us.

Sincerely,

/s/Daniel Valenta

Daniel Valenta
Environmental Scientist/Specialist
Surface Water Quality Bureau

Cc: Rashida Bowlin, USEPA (6EN-AS) by e-mail
Samuel Tate, USEPA (6EN-AS) by e-mail
Carol Peters, USEPA (6EN-WM) by e-mail
Diana McDonald, USEPA (6EN-WM) by e-mail
Larry Giglio, USEPA (6WQ-PP) by e-mail
Hannah Branning, USEPA (6EN-WC) by e-mail
NMED District III by 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 N 2 5 3 N M 0 0 2 4 1 6 3 11 12 1 2 0 7 2 6 17 18 C 19 S 20 1					
Remarks					
M I N O R	W W T P				
Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved	
67 [] [] [] 69	70 4	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) Village of Reserve Wastewater Treatment Plant, 101 Plant Street, Reserve, New Mexico. From NM 12, travel south on NM 435, turn east on Plant Street to "T" intersection, travel southeast on unsigned street (Sewer Plant Road). Catron County	Entry Time /Date 1100/7-26-2012	Permit Effective Date February 1, 2008
	Exit Time/Date 1320/7-26-2012	Permit Expiration Date January 31, 2013
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) Lonnie Graham, Superintendent, Village of Reserve WWTP (575)-533-6581	Other Facility Data LAT N 33.70325 LONG W -108.75703 SIC 4952	
Name, Address of Responsible Official/Title/Phone and Fax Number Constance Cordell-Wehrheim, Village of Reserve, P.O. Box 587, Reserve, New Mexico 878301 Mayor 1575-533-6276	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)

M	Permit	M	Flow Measurement	M	Operations & Maintenance	N	CSO/SSO
S	Records/Reports	S	Self-Monitoring Program	S	Sludge Handling/Disposal	N	Pollution Prevention
S	Facility Site Review	N	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. SEE REPORT AND FURTHER EXPLANATIONS.

Name(s) and Signature(s) of Inspector(s) DANIEL VALENTA /s/Daniel Valenta	Agency/Office/Telephone/Fax NMED/SWQB 505-827-2575	Date 8/1/2012
Signature of Management QA Reviewer RICHARD E. POWELL /s/Richard Powell	Agency/Office/Phone and Fax Numbers NMED/SWQB 505-827-2798	Date 8/1/2012

SECTION A - PERMIT VERIFICATION

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

- 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. **Backup generator on site** S M U N
- 4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE. **Problem warning light on site.** S M U NA
- 5. ALL NEEDED TREATMENT UNITS IN SERVICE. **One secondary clarifier needs repair.** 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 N
- 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 **V-Notch weir**
- 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 03/2012) 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

Compliance Evaluation Inspection
Village of Reserve Wastewater Treatment Facility
NPDES Permit No. NM0024163
July 26, 2012

Introduction

On July 26, 2012, Daniel Valenta of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Village of Reserve Wastewater Treatment Plant in Catron County, New Mexico. The WWTP has a design flow capacity of 0.075 MGD (million gallons per day) and is classified as a minor municipal 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 NM0024163 which regulates discharge from outfall 001 to an unnamed tributary to the San Francisco River in Segment 20.6.4.601 *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, marginal warmwater and marginal coldwater aquatic life, livestock watering, wildlife habitat and secondary contact.

The NMED performs a certain number of CEIs each year for the U.S. Environmental Protection Agency (USEPA), Region VI. The purpose of this inspection is to provide the USEPA with information to evaluate the Permittee's compliance with the NPDES permit. This inspection report is based on information provided by the Permittee's representative, observations made by the NMED inspector, and records and reports kept by the Permittee and/or NMED.

Upon arrival at 1100 hours, the inspector contacted Mr. Lonnie Graham, Superintendent, Village of Reserve WWTP, presented credentials and explained the purpose of the inspection. The inspector toured the plant and conducted an exit interview to discuss preliminary findings with Mr. Graham on site. The inspection ended at 1635 hours on July 26, 2012.

Treatment Scheme and Solids Management

The Village of Reserve's publicly owned treatment works was originally constructed in the 1970's. The current anoxic basin, two cell aeration basin and secondary clarifiers were constructed in 2003. The Village has a population of approximately 400 residents and restaurants. The Village has adopted a grease trap ordinance.

The WWTP's collection system has 2 lift stations. Peak flow occurs around 1300 hours with a 2nd peak flow around 2100 to 2200 hours according the permittee's on-site representative. A 140-gallon diesel generator at the plant can be used for backup power. The headworks of the plant consist of a manually cleaned bar screen and 3" Parshall flume for measuring influent flow. The lift station at the headworks has an alarm (light) for power outages.

After the headworks, a pump lifts wastewater to an anoxic tank. Flow can then be diverted to one of two aeration basins consisting of two concrete tanks with diffused aeration from one of three blowers on-site. One of the two aeration basins is used as an additional anoxic basin. After the aeration basin, wastewater flows by gravity to a splitter box where it can be directed to one of two secondary circular conal-type clarifiers. Return activated sludge (RAS) can be sent back to the aeration basin and flow from the secondary clarifiers can be recycled back to the anoxic basin. Wastewater leaves the clarifier by flowing over weirs into an inner trough leading to a wet well where gas chlorine is injected into the contents. One hundred fifty (150) pound gas chlorine cylinders and automatic switchover unit is stored in a chlorine

Compliance Evaluation Inspection
Village of Reserve Wastewater Treatment Facility
NPDES Permit No. NM0024163
July 26, 2012

room at the plant office. After the wet well, wastewater enters a dual chamber serpentine chlorine contact chamber. Each chlorine contact chamber has a sodium sulfite tablet de-chlorination unit.

After the de-chlorination unit, effluent enters an open basin and channel before flow measurement. Flow measurement staff gauge, ultrasonic level sensor and weir are located after this open channel. The v-notch weir has been modified with the addition of second bolted V-notch plate. A sensor instantaneously measures the head (height) of the flow and displays the volume in gallons. Influent and effluent readings are also recorded on a circular pen chart in the WWTP office.

Waste activated sludge from the secondary clarifier is dewatered in four sludge sand filter drying beds in a low area of the facility. Under drains collect water from the drying beds. Filtrate is lifted using a return pump to a drain line back to the headworks to be retreated. Dry sludge is moved from the beds to the plant's concrete dry sludge storage pad.

Outfall 001 is located outside the plant fence in a low area (wetland). Effluent from the outfall enters an unnamed tributary, then a pipe that passes under an irrigation ditch, then to an unnamed tributary to San Francisco River. Due to a buildup of sediment, the inlet of the pipe was not observed on the day of the inspection.

Compliance Evaluation Inspection
Village of Reserve Wastewater Treatment Facility
NPDES Permit No. NM0024163
July 26, 2012

Section A – Permit Verification– Overall Rating of “Marginal”

1. Per Part III, A, 4, Duty to Reapply, *“If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR Part 122.6 and any subsequent amendments”*

Findings

- The Village of Reserve NPDES permit (NM0024163) expires on January 31, 2013. On the day of the inspection only 6 months and 5 days remained until the permit expired. According to the Operator the permit renewal process had not been started. It was recommended to the Operator to contact the EPA with an updated on the progress of the permit renewal.

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

Permit Requirements for Operations and Maintenance

Part III.B.1 (Standard Conditions, Need to Halt or Reduce Not a Defense) of the permit states:
“The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes...”

Part III.B.3 (Standard Conditions, Proper Operation and Maintenance) of the permit states:
“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...”

“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 the conditions of this permit.”

Findings

- One of the secondary clarifiers was not operational on the day of the inspection. The clarifier needed a gasket replaced in the sweep arm. Parts had been ordered and received. The plant design flow is 0.075 MGD and the average discharge is around 0.020 MGD. With this low influent flow the facility has been able to function with one clarifier inoperable but has no backup if this unit malfunctions also.

Compliance Evaluation Inspection
Village of Reserve Wastewater Treatment Facility
NPDES Permit No. NM0024163
July 26, 2012

- The functional clarifier needed to be maintained (weirs cleaned and washed down). Biosolids were in the flow over the clarifier effluent weirs, flow rate over the weirs was short circuiting (flow not uniform), with a large growth of algae in the inner clarifier trough.
- According to Operator Certification Regulations (20.7.4.13 NMAC) the systems used at the Village of Reserve WWTP are required to have a level 3 wastewater operator. Mr. Graham who holds a Level IV Certification said he may be retiring in the near future. Mr. Graham has no certificated backup when absent.

Section E – Flow Measurement: “Marginal”

Part III, Section C. of the permit states:

“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.”

Finding

- To measure discharge at the facility a v-notch weir is used with an ultrasonic level sensor flow meter. The v-notch weir has been modified with the addition of second bolted V-notch plate. Per the Isco Open Channel Flow Measurement Handbook the thickness of the weir should be less than 1/8 inch. The Inspector was unable to measure the thickness of the weir due to the location however it appeared to exceed this thickness.

Section F – Laboratory – Overall Rating of “Marginal”

Permit Requirements for Laboratory

Part III.C.5 (Standard Conditions, Monitoring Procedures) of the permit requires:

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 the analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of

Compliance Evaluation Inspection
Village of Reserve Wastewater Treatment Facility
NPDES Permit No. NM0024163
July 26, 2012

all required analytical results shall be maintained by the permittee or designated commercial laboratory.

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

- Weight times and drying temperature for the TSS sample collected on March 26, 2010 were not recorded on bench sheets to confirm that referenced test procedures were in accordance with EPA approved analytical procedures, in this case Standard Methods (SM) 18th Edition 2540 D. SM 18th 2540 D states, “Dry in an oven at 103 to 105°C for 1 hour.” **This is a repeat finding of the May 2010 inspection.**
- BOD5 monitoring was not analyzed in accordance with the referenced test procedure; in this case SM 18th Edition 5210 B, on bench sheets for a sample collected on March 29, 2012. Laboratory bench sheet did not record daily incubator temperatures to confirm that samples were incubated at 20°C ±1°C.
- SM 18th Edition states, “The DO uptake of seeded dilution water should be between 0.6-1.0 mg/L.” The recorded seed correction factor of 0.14 mg/L for the sample collected on March 29, 2012 was outside this range.
- SM 18th Edition also states, “Dilutions that result in a residual DO of at least 1 mg/L and a DO uptake of at least 2 mg/L after 5 day incubation produce the most reliable results.” Each of the three BOD5 dilutions for the sample collected on March 26, 2010 had recorded final 5 day DO drops of only 1.1 mg/L. Bench sheets for April 2012 were not reviewed, so it is unknown if adjustments were made to the volume of seed to obtain the desired depletion for the next series of samples.