



NEW MEXICO  
ENVIRONMENT DEPARTMENT

*Surface Water Quality Bureau*

SUSANA MARTINEZ  
Governor

JOHN A. 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](http://www.nmenv.state.nm.us)



RYAN FLYNN  
Cabinet Secretary-Designate

BUTCH TONGATE  
Deputy Secretary

ERIKA SCHWENDER  
Director  
Resource Protection Division

**Certified Mail - Return Receipt Requested**

September 18, 2013

Colonel Tony D. Bauernfeind,  
Commander 27<sup>th</sup> Special Operations Wing  
100 South Air Commando Way  
Cannon Air Force Base, New Mexico 88103-5214

**Re: Cannon Air Force Base; Minor; Individual Permit; SIC 4952; NPDES Compliance Evaluation  
Inspection; NM0030236; September 5, 2013**

Dear Colonel Bauernfeind:

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)  
1445 Ross Avenue  
Dallas, Texas 75202-2733

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

Cannon AFB WWTP  
September 18, 2013  
Page 2

If you have any questions about this inspection report, please contact Daniel Valenta at (505) 827-2575 or [daniel.valenta@state.nm.us](mailto:daniel.valenta@state.nm.us).

Sincerely,

*/s/Bruce Yurdin*

Bruce J. Yurdin  
Program Manager  
Point Source Regulation Section  
Surface Water Quality Bureau

Cc: Rashida Bowlin, 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  
Jan Walker, USEPA (6EN) by e-mail  
NMED Acting District III, Mike Kesler 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	3	0	2	3	6	11	12	1	3	0	9	0	5	17	18 C	19 S	20 4	
Remarks																							
U S A I R F O R C E B A S E 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)	Entry Time /Date <b>0930 hours / 09-05-2013</b>	Permit Effective Date <b>September 1, 2012</b>
	Exit Time/Date <b>1530 hours / 09-05-2013</b>	Permit Expiration Date <b>August 31, 2016</b>
<b>Cannon Air Force Base Waste Water Treatment Plant (WWTP), 400 North Perimeter Road, Cannon AFB NM 88103. From US 60/84 (west of Clovis, NM), take CAFB exit, turn south and follow signs to Visitor Entrance Station. Curry County</b>		
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)	Other Facility Data	
<b>John Rebman, Water Quality Program Manager, 27 SOCES/CEIEC / 575-784-1099, fax 784-1093</b> <b>Jesse Frogge, Level IV Operator &amp; Contract Manager, National O&amp;M, Inc. / 575-784-3990</b> <b>Brenda Schiller, Level IV Operator &amp; Laboratory Analysis, National O&amp;M, Inc. / 575-784-3990</b>	<b>WWTP Entrance Latitude N. 34.391373° Longitude W. - 103.304158°</b>  <b>SIC 4952</b> <b>Outfall 001 (Playa Lake)</b> <b>Outfall 002 (Golf Course Pond)</b>	
Name, Address of Responsible Official/Title/Phone and Fax Number	Contacted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<b>Colonel Tony D. Bauernfeind,, 100 South Air Commando Way, Cannon Air Force Base, New Mexico 88103-5214/ Commander 27<sup>th</sup> Special Operations Wing</b>		

#### Section C: Areas Evaluated During Inspection

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

S	Permit	S	Flow Measurement	U	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	S	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)	Agency/Office/Telephone/Fax	Date
Daniel Valenta /s/Daniel Valenta	NMED/SWQB 505-827-2575	9/18/2013
Signature of Management QA Reviewer	Agency/Office/Phone and Fax Numbers	Date
Sarah Holcomb /s/Sarah Holcomb	NMED/SWQB 505-827-2798	9/18/2013

**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.  S  M  U  NA (FURTHER EXPLANATION ATTACHED *No.*)

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 ( *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 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 No).  
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED.  Y  N  NA  
 TYPE OF DEVICE **9-inch Parshall flume (Outfall 001) and Fischer & Porter Mag Flow Meter (Outfall 002)**
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 \_\_\_\_\_)  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 No).  
 DETAILS:

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



**Cannon AFB WWTP**  
**NPDES Permit No. NM0030236**  
**Compliance Evaluation Inspection**  
**9/5/2013**

**Further Explanations**

**Introduction**

On September 5, 2013, Daniel Valenta of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Cannon Air Force Base (CAFB) waste water treatment plant (WWTP) approximately 5 miles west of Clovis in Curry County, New Mexico. The CAFB WWTP has a design flow of 0.75 million gallons per day (MGD) and is classified as a minor industrial discharger under the federal Clean Water Act, Section 402, of the National Pollutant Discharge Elimination System (NPDES) permit program. CAFB plans to expand the existing WWTP from 0.75 to 1 MGD facility which includes construction of a new 250,000 gallon aerobic digester to support the SBRs.

It is assigned NPDES permit number NM0030236, which regulates discharge of treated effluent from outfall 001 to North Playa Lake and outfall 002 at the Golf Course Pond in the Southern High Plains River Basin *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 New Mexico Administrative Code (NMAC)*. 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 Permittees compliance with the NPDES permit.

The inspector arrived at the CAFB WWTP at approximately 0930 hours. The inspector made introductions, explained the purpose of the inspection and presented credentials to Mr. John Rebman, Water Quality Program Manager, Ms. Brenda Schiller, Level IV Operator & Laboratory Analysis, National O&M, Inc.; and Mr. Jesse Frogge, Level IV Operator & Contract Manager, National O&M, Inc. The inspector, Mr. Frogge, Ms. Schiller and Mr. Rebman toured the facility. Following the facility and records inspection, an exit interview to discuss preliminary findings was conducted with those listed above. The inspector left the facility at approximately 1330 hours on September 5, 2013. This inspection report is based on information provided by the Permittees representatives, observations made by the NMED inspectors, and records and reports kept by the Permittee and/or NMED.

**Treatment Scheme**

CAFB WWTP serves a population of approximately 6,200, but the number fluctuates due to personnel changes at the base. The population is expected to grow with a new mission that the base has accepted. The WWTP also receives wastewater from eating establishments (restaurants, cafeterias), one commissary, and industrial wastewater from various operations conducted at the base such as some aircraft washing and floor cleaning maintenance. To improve the collection system at the base projects include repairs to sanitary sewer manholes; abandoning inactive lines, replacing cleanout pipes with caps, replacing cleanout caps, and repairing and replacing degraded sanitary sewer lines.

The treatment plant is a sequencing batch reactor (SBR) treatment system with chlorine disinfection and dechlorination. Wastewater first enters the headworks consisting of an Auger Monster automatic screening system and bypass manual bar screen, Parshall flume, and grit and grease collection system with traveling bridge, grit pump, grit classifier with auger, grease blade, and grease auger, and influent pump station. Screenings removed from the headworks are allowed to dry in a concrete lined bed before disposal at the City of Clovis Solid Waste Facility landfill. Diesel back-up generators are available on-site to run the headworks and main plant in the event of a power outage.

**Cannon AFB WWTP**  
**NPDES Permit No. NM0030236**  
**Compliance Evaluation Inspection**  
**9/5/2013**

CAFB has constructed two storage basins for raw wastewater. One use of the raw wastewater basins are intended for unsuitable material that may enter the treatment system (e.g., firefighting foam) or in the event the plant needs to be shut down for repairs or maintenance. The basins may also be used to store treated effluent for reuse around the base. The facility intends to stop discharging to the North Playa Lake and let it dry up so it is not a draw for waterfowl. With planes taking off and landing close by, collisions with waterfowl is a concern.

After the headworks, influent pumps in the wet wells lift wastewater into the SBR basins. Secondary treatment system consists of two approximately 400,000 gallon basins (SBR#1 and SBR#2). Each basin operates with a 144 minute filling and 144 minute processing cycle (static fill, mixed fill, react fill, react, settle, decant, sludge waste and idle time). A Programmable Logic Controller (PLC) monitors various treatment indicators within the plant and controls the SBR phases based on information gathered from sensors and programmed timers. The facility operators can also manually override the PLC when necessary. SBR basins were aerated with coarse bubble diffused air system supplied by three blowers and floating downdraft mixer pump. These have been changed out to a fine diffused air supply to limit the breakup of flock. The SBR basins are decanted below the water surface to limit floatables from entering the disinfection and de-chlorination chamber.

An aerobic sludge digester, in common wall arrangement with the SBR basins, has coarse bubble aeration supplied by two blowers. Air supply for the aerobic digester is from the plant's two positive displacement blowers. Waste Activated Sludge (WAS) is withdrawn from the bottom of the digester by gravity or submersible sewage pump if necessary and sent to sludge drying beds.

Disinfection occurs in a chlorine contact basin where sodium hypochlorite solution is added at the head of the basin followed by mechanical mixing. The basin has baffles that create a serpentine flow through three narrow channels. Solids and grease that escape the SBR are manually removed by a slotted pipe skimmer. Dechlorination is done with sodium bisulfite solution in the last chamber of the chlorine contact chamber.

Treated water from the chlorine chamber is batch discharged to an on-site playa lake Outfall 001 (North Playa Lake) and intermittently piped to a 190,000 gallon storage tank then discharged to an on-site partially synthetically-lined golf course lagoon Outfall 002 (Golf Course Pond). Treated wastewater and stormwater from both the North Playa Lake and Golf Course Pond is used for irrigation at CAFB.

### **Solids Management**

Sludge removed from the aerobic digester is placed into on-site drying beds for 120-180 days. Ten beds are available for storage and include center drains that collect liquid for return to the plant headworks. Sludge is no longer disposed at a landfill. Sewage sludge is stockpiled after being removed from the drying beds and further treated to reduce pathogens and to meet vector reduction requirements in 40 CFR 503 then land applied at the WWTP grounds. The facility is also considering land applying sewage sludge to other areas of the base.

Based on sewage sludge certifications and record keeping at the facility, CAFB has selected § 503.32(a) Alternative 5, in this case the density of Coliform in the sewage sludge shall be less than 100 Most Probable Number per gram of total solids (dry weight basis), to meet Class A pathogen requirements.

**Cannon AFB WWTP**  
**NPDES Permit No. NM0030236**  
**Compliance Evaluation Inspection**  
**9/5/2013**

This alternative also requires that sewage sludge that is used or disposed shall be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in Appendix B of the 40 CFR 503. CAFB has selected PFRP composting (Option 1), specifically in this case using the static aerated pile composting method--the temperature of the sewage sludge is maintained at 55 degrees Celsius or higher for three days. The facility does not add a bulking agent to the sewage sludge for aeration. CAFB has also selected a method for vector attraction reduction, in this case § 503.33(b)(1) the mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.

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

Permit Requirements For Operation and Maintenance (O&M)

The permit requires in Part III.B.3. PROPER OPERATIONS AND MAINTENANCE:

*The permittee shall at all times properly operate and maintain all facilities and systems of the 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 operation staff which is duly qualified to carry out the operation, maintenance and testing functions required to insure compliance with the conditions of this permit.*

Finding for O& M

Inadequate operational staff; at the present time there are only two plant operators and one lab technician assigned to the facility. The facility is upgrading from 0.75 MGD to 1.0 MGD. The WWTP is a complex system and requires highly trained and skilled Operators to prevent system failures and to protect human health and the environment. **This is a repeat finding of the December 30, 2008 inspection.** In the response from the base to this previous finding dated March 4, 2009 the letter states, “Cannon AFB is in the process of hiring an additional maintenance technician.” It does not appear the position had been filled. The lab is staffed with one technician with no back-up. It takes time and experience for new staff to become familiar with the operating systems, sampling procedures, standard and emergency SOP’s.