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RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

Certified Mail - Return Receipt Requested

February 17, 2015

Mayor Dale Janway
City of Carlsbad
P.O. Box 1569
Carlsbad, NM 88221

**Re: City of Carlsbad WWTP, Major, Individual Permit; SIC 4952; NPDES Compliance
Sampling Inspection; NM0026395; February 11, 2015**

Dear Mayor Janway:

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 advised to modify your operational and/or administrative procedures, as appropriate. If you have comments on or concerns with the basis for the findings in the NMED inspection report, please contact us (see the address below) in writing within 30 days from the date of this letter. Further, you are encouraged to notify in writing both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Gladys Gooden-Jackson
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

If you have any questions about this inspection report, please contact Sarah Holcomb at 505-827-2798 or at sarah.holcomb@state.nm.us.

Sincerely,

/s/ Bruce J. 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-Wagnon, USEPA (6EN-WM) by e-mail
Gladys Gooden-Jackson, USEPA (6EN-WM) by e-mail
Brent Larsen, USEPA (6WQ-PP) by e-mail
Raquel Douglas, USEPA (6EN-WC) by e-mail
NMED District 3, Mike Kesler by e-mail

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS
DETAILS:

S M U NA (FURTHER EXPLANATION ATTACHED YES)

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 YES)

1. TREATMENT UNITS PROPERLY OPERATED.

S M U NA

2. TREATMENT UNITS PROPERLY MAINTAINED.

S M U NA

3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED.

S M U NA

4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.

S M U NA

5. ALL NEEDED TREATMENT UNITS IN SERVICE

S M U NA

6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED.

S M U NA

7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED.

S M U NA

8. OPERATION AND MAINTENANCE MANUAL AVAILABLE.

Y N NA

STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED.

Y N NA

PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED.

Y N NA

SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)

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

SECTION D - SELF-MONITORING

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

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

SECTION E - FLOW MEASUREMENT

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

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. Y N NA
 TYPE OF DEVICE 18-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 NO.)
 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 NA3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. S M U NA4. QUALITY CONTROL PROCEDURES ADEQUATE. S M U NA5. DUPLICATE SAMPLES ARE ANALYZED. 10 % OF THE TIME. Y N NA6. SPIKED SAMPLES ARE ANALYZED. 10 % OF THE TIME. Y N NA7. COMMERCIAL LABORATORY USED. Y N NALAB NAME Summit Environmental Services, Inc. Bio-Aquatic Testing, Inc.LAB ADDRESS 17650 Route 37, West Frankfort, IL 62896/PO Box 397, Kevil, KY 42053 2501 Mayes Rd. #100, Carrollton, TX 75006PARAMETERS PERFORMED Aluminum Whole Effluent Toxicity**SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS.** S M U NA (FURTHER EXPLANATION ATTACHED YES).

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOAT SOL.	COLOR	OTHER
001	NONE	NONE	NONE	NONE	NONE	CLEAR	

RECEIVING WATER OBSERVATIONS PRELIMINARILY "SATISFACTORY" ON EFFLUENT QUALITY, PENDING SAMPLING RESULTS.**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 NA2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503. S M U NA3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: N/A (e.g., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE)**SECTION I - SAMPLING INSPECTION PROCEDURES** (FURTHER EXPLANATION ATTACHED YES).1. SAMPLES OBTAINED THIS INSPECTION. Y N NA

2. TYPE OF SAMPLE OBTAINED

GRAB X COMPOSITE SAMPLE METHOD FREQUENCY ONE EFFLUENT, ONE GREYWATER3. SAMPLES PRESERVED. Y N NA4. FLOW PROPORTIONED SAMPLES OBTAINED. Y N NA5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE. Y N NA6. SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE. Y N NA7. SAMPLE SPLIT WITH PERMITTEE. Y N NA8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED. Y N NA9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT. Y N NA

Compliance Evaluation Inspection
Carlsbad WWTP
NPDES Permit Number NM0026395
February 11, 2015

Introduction

On February 11, 2015, a Compliance Sampling Inspection (CSI) was conducted at the City of Carlsbad Wastewater Treatment Plant (WWTP) by Sarah Holcomb of the State of New Mexico Environment Department (NMED), accompanied by Bruce Yurdin. This facility is classified as a major municipal under the federal Clean Water Act (CWA), Section 402 National Pollutant Discharge Elimination System (NPDES) permit program and is assigned permit number NM0026395. The present permit lists the plant as a 5.0 MGD facility. The permit maintains the discharge limits of a 5.0 MGD facility. The actual design flow for the facility is 4.2 MGD.

This facility discharges to the Pecos River in Segment 20.6.4.202 (*State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 New Mexico Administrative Code (NMAC)*) of the Pecos River Basin. This segment has designated uses of industrial water supply, irrigation, livestock watering, wildlife habitat, primary contact and warmwater aquatic life.

The NMED performs a certain number of CEIs and CSIs for the U.S. Environmental Protection Agency (USEPA) each year. The purpose of this inspection is to provide USEPA with information to evaluate the permittee's compliance with the NPDES permit. This report is based on review of files maintained by the permittee and NMED, on-site observation by NMED personnel, and verbal information provided by the permittee's representative. Findings of the inspection are detailed on the attached EPA Form 3560-3 and in the narrative Further Explanations of the report.

At 0926 hours on February 11, 2015 the inspectors arrived at the facility and made introductions, presented credentials and explained the purpose of this inspection to Mr. Joe Harvey, Wastewater and Collections Superintendent and Mr. Richard Aguilar, Superintendent of Environmental Services. The inspectors and Messrs. Harvey and Aguilar toured the facility. An exit interview to discuss preliminary findings was conducted at the WWTP offices at 1355 hours on February 11, 2015.

Treatment Scheme

There are approximately 20 lift stations within the entire collection system. Seven of these lift stations feed directly to the primary lift station located on the west side of the Pecos River. All raw sewage from the City is lifted by this primary lift station to the WWTP on the east side of the Pecos River. The primary lift station is at the City's former WWTP. It has two lift pumps and backup power, an alarm and callout system. The WWTP itself also has telemetry and a callout system in the event of an emergency. The WWTP has a headworks that consists of an automatic bar screen, fine screen compactor and aerated grit chamber. There is also an automatic overflow bypass. The flow travels from the headworks to a splitter box, then to either of two primary clarifiers which are run in parallel. Grit and screenings are hauled to the landfill after being dried on the drying beds.

The flow is divided between the two primary clarifiers, then re-combines and is treated in four aeration basins, which are also run in parallel. The basins have both anoxic and aeration zones for nitrogen removal. From the aeration basin, the wastewater flows into two secondary clarifiers. After solids are dropped out in the two secondary clarifiers it flows through a dual bank UV system for final disinfection. Some flow is stored for reuse on the city golf course and other facilities. The effluent flow is measured using an 18-inch Parshall flume with a secondary Drexelbrook flow totalizing meter. The final effluent is discharged to the Pecos River through an effluent pipeline above the river.

Sludge

The sludge from the two primary clarifiers is pumped to the primary sludge digesters for anaerobic treatment. The Return Activated Sludge (RAS) from the secondary clarifiers is pumped to the head of the activated sludge basins. When wasting is necessary, the Waste Activated Sludge (WAS) can be directed to the belt thickener, or can be pumped back to the entrance works for resettling in the primary clarifiers. A polymer is added prior to the belt thickener for enhanced dewatering. The digester is heated by burning gas collected during primary digestion. It can be used to fuel one of the two recirculation water boilers. The second boiler is fueled by natural gas only; the first can be fueled by natural gas or digester gas.

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The facility has solid bottom sludge beds with drains for decanting liquid. The decant water from the sludge beds is pumped back to the head of the WWTP, along with the decant water from the belt press. The sludge on the solids beds is mixed and turned to enhance drying using newly purchased equipment for turning compost solids. It is then stockpiled and composted to meet Class A pathogen reduction requirements. The composted sludge is used by the City golf course as well as other City properties.

Septage Receiving

The facility accepts hauled waste. Septage and domestic wastewater sources are received at a facility that is housed next to the sludge beds. This facility is equipped with a bar screen and large solids removal.

Greywater sources (primarily shower water, etc.) from oil and gas maintenance facilities in the area is dumped into a converted sludge bed, and then bled into the WWTP gradually. Staff monitors incoming trucks for pH and grease to determine compatibility with the WWTP. pH limits for acceptance are between 6.6-9.0 SU.

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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 A – Permit Verification – Overall rating of “Marginal”

The permit states in Part I:

PART I – REQUIREMENTS FOR NPDES PERMITS								
SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS								
1. Effluent Limits – 5 MGD Design Flow								
Beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge treated municipal wastewater to receiving waters named Pecos River, in Segment No. 20.6.4.202 of the Pecos River Basin, from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:								
EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS			
POLLUTANT	STORET CODE	Standard Units		MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY		
pH	00400			6.6	9.0	Daily		
EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	lbs/day, unless noted			mg/L, unless noted (*5)		MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	30-DAY AVG	7-DAY AVG	DAILY MAX	30-DAY AVG	7-DAY AVG	DAILY MAX	Totalizing Meter
		Report MGD		Report MGD	N/A		N/A	
Biochemical Oxygen Demand, 5-day Effluent	00310	1252	1878		30	45		Once/Week (*1)
Biochemical Oxygen Demand, 5-day Influent		Report	Report					24-Hour Composite
Percent Removal, minimum, BOD		≥83% (*6)						Once/Week
Total Suspended Solids Effluent	00530	1252	1878		30	45		24-Hour Composite
Total Suspended Solids Influent		Report	Report					24-Hour Composite
Percent Removal, minimum TSS		≥83% (*6)						Calculate
Aluminum		Report	Report	Report			Report	1/Quarter
E. coli Bacteria	51040	N/A		N/A	126 (*2)		410 (*2)	Once/Week
Total Residual Chlorine (*8)	50060	N/A		N/A	N/A		11 µg/L	Daily

Findings for Permit Verification:

The NMED water quality standards have changed from Total Aluminum to Total Recoverable Aluminum. The permit currently does not specify what aluminum analysis should be conducted at the facility. NMED instructed the permittee while on site that total recoverable analyses must be conducted for aluminum.

Section B – Recordkeeping and Reporting – Overall rating “Marginal”

The permit requires, in Part III.C.5.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.

The permit requires, in Part III.D.5:

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.

In EPA’s NPDES Reporting Requirements Handbook, on page 45, it states:

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Some parameters in the permit are limited in terms of pounds per day (lbs/day). Although all of these parameters are measured initially in milligrams per liter (mg/L), conversion to lbs/day can be achieved by using the following formula. Always be sure to use the flow measurement determined on the day when sampling was done.

Flow on day of sampling (MGD) x concentration (mg/L) x 8.34 (lbs/gal) = Loading (lbs/day)

Findings for Recordkeeping and Reporting:

During this inspection, a routine walk through of the facility's laboratory was performed. The inspector noted that the calibration date on the NIST thermometer contained in the IDEXX (E. coli) incubator was approximately a year past due for calibration. EPA recommends that calibrations be performed yearly by an outside representative to ensure the best possible laboratory data.

The facility monitors E. coli daily, as required by their NMED Ground Water Quality Bureau Discharge Permit (DP). The permittee is analyzing samples per a 40 CFR Part 136 method and is factoring the extra data into their calculations reported under this permit. There is an issue with how the calculations are being performed. This is addressed in Section D of this report.

A check of DMR reporting values was conducted in the office after the inspection. The monthly loading values reported on the DMR for January 2015 appeared to be correct, however, the 7 day maximum loading values were under reported by approximately 5 pounds per day for BOD and TSS. The totalized flow for the day should be used when calculating the daily loading values. Please see Appendix A for the inspector's check of calculations.

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

The permit requires, in Part III.B.3.a:

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

Findings for Operations and Maintenance:

The facility employs an aerated grit chamber at the headworks to remove fine solids from the influent. This unit had been out of service for approximately a month at the time of this inspection.

Additionally, the fine screen compactor had been out of service for approximately a week at the time of this inspection. Permittee representatives indicated that frozen conditions contributed to the breakdown of the unit.

No procedures for emergency treatment control were established. There are no additional basins for holding wastewater or other emergency mechanisms to avoid discharging excessive pollutants in the case of an emergency.

While on site, the permittee representatives indicated that there were ongoing problems with the computer controller systems at the facility. Staff was working to resolve those issues at the time of this inspection.

Section D – Self Monitoring – Overall rating of “Marginal”

The permit requires in Part I.A.1 (footnote 2):

Colony forming units (cfu) per 100 ml (geometric mean).

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EPA's Reporting Requirements Handbook states:

There are two methods by which to calculate the geometric mean (GM). Method One is the product of all the values ($n_1 \times n_2 \times n_3 \dots$) followed by taking the n th root of the multiplication factor, and Method Two is to average the sum of the logs ($\log n_1 + \log n_2 + \log n_3 \dots$) followed by the antilog of the average.

Findings for Self Monitoring:

From reviewing the facility's calculations, it appears that facility staff are collecting two E. coli samples per day. Those two results are combined using an arithmetic average, and then those resulting values for each day are combined using a geometric mean for reporting purposes.

A geometric mean should always be used for averaging biological constituents. By incorporating an arithmetic mean, the facility is slightly under-reporting the number of E. coli in its discharge. Please see the calculation check included as Appendix A to this report.

Section G – Effluent/Receiving Waters Observations – Overall rating of “Satisfactory”.

The permit requires, in Part II.C: Contributing Industries and Pretreatment Requirements:

- a. *The following pollutants may not be introduced into the treatment facility:*
- (1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit of 60 degrees Centigrade using the test methods specified in 40 CFR 261.61*
 - (2) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;*
 - (3) Solid or viscous pollutants in amounts which will cause obstructions to the flow in the POTW, resulting in Interference;*
 - (4) Any pollutant including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;*
 - (5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;*
 - (6) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;*
 - (7) Pollutants which result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and*
 - (8) Any trucked or hauled pollutants, except at discharge points designated by the POTW.*

Findings for Effluent/Receiving Waters Observations:

This inspection encompassed complaints regarding alleged acceptance of fracking wastewaters at the facility. The facility does receive hauled wastewaters from many trucks in the area. Some trucks haul septage, some haul greywater from shower facilities at oil and gas maintenance sites, and others haul potentially greasy wastes from restaurants in the area. Current procedures for accepting this waste at the facility include monitoring the pH and grease of the shipments being brought in, and this is documented on hauler manifests. This procedure was implemented in July 2014. Under the facility's previous permit, the city was required to conduct annual priority pollutant scans, but EPA determined that there was no reasonable potential to exceed water quality standards based on those data. During review of that information prior to the inspection, NMED determined that MQLs used for many pollutants in those scans were higher than either MQLs required by EPA, and/or higher than NMED water quality standards. This information is included with this report as Appendix B.

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The complaints received by NMED indicated that oil and gas fracking wastewaters were being comingled with other greywater sources and brought to the facility. In order to investigate this complaint fully, NMED collected samples during this inspection from the effluent and from the greywater acceptance station.

NMED also reviewed the manifesting system employed by the Carlsbad WWTP, which has been in place since July 2014. Inspectors took copies of hauler manifests and documentation kept by the facility to review their acceptance procedures. It appears that from July 2014 to January 2015, the facility typically received approximately 750,000-1,000,000 gallons of hauled waste per month. Over that time frame, approximately 11 trucks of hauled waste were rejected (mostly due to low or high pH) out of 1628 hauled waste loads brought to the facility.

Samples are currently being analyzed at the NM Department of Health's Scientific Laboratory Division in Albuquerque, NM. Inspectors collected samples for total and dissolved metals, including total recoverable aluminum, volatile and semi-volatile compounds, and a gamma scan for radioactive isotope tracers commonly used in fracking operations. When sampling results are received, copies of the results will be sent under separate letter to EPA and to the facility.

NMED contacted the Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) to inquire as to manifesting requirements for haulers involved in wastewater disposal from fracking operations. OCD indicated that there are no manifesting requirements aside from the OCD requirement to disclose the chemicals that are in hauled wastewater.

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Appendix A - Discharge Monitoring Report Calculation Check

The DMR calculation check was conducted for the parameters of BOD, TSS and *E. coli* for the month of January 2015.
✓ = in agreement with calculation result submitted on facility's NetDMR.

BOD

<u>Date</u>	<u>BOD Result</u>
1-8-2015	5.22 mg/L
1-15-2015	3.37 mg/L
1-22-2015	3.18 mg/L
1-29-2015	5.06 mg/L

<u>Date</u>	<u>Flow rate</u>
1-8-2015	2.4 MGD
1-15-2015	2.36 MGD
1-22-2015	2.37 MGD
1-29-2015	2.28 MGD

Loading:

January's 30-day average:

1-8-2015:	$5.22 \text{ mg/L} \times 8.34 \times 2.4 \text{ mgd} = 104.48 \text{ lbs/day}$
1-15-2015:	$3.37 \text{ mg/L} \times 8.34 \times 2.36 \text{ mgd} = 66.33 \text{ lbs/day}$
1-22-2015:	$3.18 \text{ mg/L} \times 8.34 \times 2.37 \text{ mgd} = 62.86 \text{ lbs/day}$
1-29-2015:	$5.06 \text{ mg/L} \times 8.34 \times 2.28 \text{ mgd} = 96.22 \text{ lbs/day}$

Avg: $(104.48 + 66.33 + 62.86 + 96.22)/4 = 82.47 \text{ lbs/day}$ (This was reported as 77.72 lbs/day)

January's 7-day maximum loading = 104.48 lbs/day (This was reported as 104.48 lbs/day) ✓

Concentration:

January's 30-day average = $(5.22 \text{ mg/L} + 3.37 \text{ mg/L} + 3.18 \text{ mg/L} + 5.06 \text{ mg/L})/4 = 4.21 \text{ mg/L}$ (this was reported as 4.21 mg/L) ✓

April's 7-day average = 5.22 mg/L (This was reported as 5.22 mg/L) ✓

TSS

<u>Date</u>	<u>TSS Result</u>
1-8-2015	4.95 mg/L
1-15-2015	7.0 mg/L
1-22-2015	3.75 mg/L
1-29-2015	4.6 mg/L

<u>Date</u>	<u>Flow rate</u>
1-8-2015	2.4 MGD
1-15-2015	2.36 MGD
1-22-2015	2.37 MGD
1-29-2015	2.28 MGD

Loading:

January's 30-day average:

1-8-2015:	$4.95 \text{ mg/L} \times 8.34 \times 2.4 \text{ mgd} = 99.08 \text{ lbs/day}$
1-15-2015:	$7.0 \text{ mg/L} \times 8.34 \times 2.36 \text{ mgd} = 137.78 \text{ lbs/day}$

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1-22-2015: 3.75 mg/L x 8.34 x 2.37 mgd = 74.12 lbs/day
 1-29-2015: 4.6 mg/L x 8.34 x 2.28 mgd = 87.47 lbs/day

Avg: $(99.08 + 137.78 + 74.12 + 87.47)/4 = 99.61$ lbs/day (This was reported as 95.3 lbs/day)

January's 7-day maximum loading = 137.78 lbs/day (This was reported as 137.78 lbs/day) ✓

Concentration:

January's 30-day average = $(4.95 \text{ mg/L} + 7.0 \text{ mg/L} + 3.75 \text{ mg/L} + 4.6 \text{ mg/L})/4 = 5.08$ mg/L (this was reported as 5.08 mg/L) ✓

April's 7-day average = 7.0 mg/L (This was reported as 7.0 mg/L) ✓

E. coli

<u>Date</u>	<u>Result 1</u>	<u>Result 2</u>
1-1-15	8	7
1-2-15	48	96
1-5-15	5	6
1-6-15	5	2
1-7-15	5	6
1-8-15	2	4
1-9-15	<1	4
1-12-15	5	4
1-13-15	5	3
1-14-15	<1	2
1-15-15	6	5
1-16-15	4	1
1-19-15	3	5
1-20-15	3	5
1-21-15	5	3
1-22-15	5	4
1-23-15	2	8
1-26-15	72	78
1-27-15	5	4
1-28-15	8	7
1-29-15	9	4
1-31-15	2	2

Concentration:

January's 30-day average = (sum of the log values of all 44 results for the month)/44, then divide by the anti-log = 4.99 cfu/100 mls (this was reported as 6 cfu/100 mls)

January's 7-day maximum = 96 cfu/100 mls (This was reported as 75 mg/L)

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Appendix B - Priority Pollutant Scan Data, MQLs, and NMWQCC Water Quality Standards - all data in ug/L

Constituent	Data reported under previous NPDES permit	EPA MQLs	ML/MDL Used in Analytical Data Submitted with Permit Reapplication	Applicable NMWQCC Water Quality Standard
Arsenic	3.1	0.5	3.0	9.0
Beryllium	ND	0.5	1.0	4.0
Copper	5.0	0.5	1.0	a
Lead	1.6	0.5	1.0	a
Mercury	ND	0.005	0.2	0.77
Nickel	5.0	0.5	1.0	a
Silver	ND	0.5	1.0	a
Thallium	ND	0.5	5.0	0.47
Acrylonitrile	ND	20	50	2.5
Carbon Tetrachloride	ND	2	5	16
2-Chlorophenol	ND	10	50	150
2,4-Dichlorophenol	ND	10	50	290
2,4-Dimethylphenol	ND	10	50	850
Pentachlorophenol	ND	5	50	30
Phenol	ND	10	50	860,000
2,4,6-trichlorophenol	ND	10	50	24
Benzo(a)anthracene	ND	5	10	0.18
Benzo(a)pyrene	ND	5	10	0.18
3,4-benzo-fluoranthene	ND	10	50	None
Benzo(k)fluoranthene	ND	5	10	0.18
2-chloronaphthalene	ND	10	50	1,600
Chrysene	ND	5	10	0.18
Dibenzo(a,h)anthracene	ND	5	10	0.18
3,3'-dichlorobenzidene	ND	5	50	0.28
Hexachlorobenzene	ND	5	10	0.0029
Indeno(1,2,3-cd)pyrene	ND	5	10	0.18

- Hardness (as CaCO3) = 630 ppm
- a = hardness based