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**NEW MEXICO  
ENVIRONMENT DEPARTMENT**

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RYAN FLYNN  
Cabinet Secretary

BUTCH TONGATE  
Deputy Secretary

**Certified Mail - Return Receipt Requested**

May 27, 2015

Ms. Jennifer MacLeod, Manager  
CCI Investments  
144 S. 1<sup>st</sup> Avenue  
Oakdale, CA 95361

**Re: Minor Non-Municipal; SIC 6515; NPDES Compliance Evaluation; Rio de Arenas  
Mobile Home Manor; Wastewater Treatment Plant; NM0027375; Arenas Valley,  
New Mexico; April 29, 2015**

Dear Ms. Jennifer MacLeod;

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

Racquel Douglas  
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 Shelly Lemon at (505) 827-2819 or at [shelly.lemon@state.nm.us](mailto:shelly.lemon@state.nm.us).

Rio de Areans Mobile Home Manor WWTP

May 27, 2015

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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-Wagnon, USEPA (6EN-WM) by e-mail  
Raquel Douglas, USEPA (6EN-WM) by e-mail  
Gladys Gooden-Jackson, USEPA (6EN) by e-mail  
Tung Nguyen, USEPA (6WQ-PP) by email  
Mike Kesler, NMED District III by e-mail



## SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS

 S  M  U  NA (FURTHER EXPLANATION ATTACHED YES)DETAILS: **Expired permit has physical address, but physical address and mailing address are different. Also, facility and mobile home park has changed ownership.**

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  NA4. ALL DISCHARGES ARE PERMITTED **Permit reissued on 04/24/2015 with effective date of 06/01/2015** 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  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  NA3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED. **No generator** 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 YES)  
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED.  Y  N  NA  
 TYPE OF DEVICE: **GPI TM Series Electronic in-line meter (installed September 2013)**
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 at installation - 09/2013)  Y  N  NA  
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES.  Y  N  NA  
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE. **Last check was done in September 2014**  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: **pH and TRC analyzed on site.**

1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(b) FOR SLUDGES) **Yes, but permittee needs to update**  Y  N  NA

**SECTION F - LABORATORY (CONT'D)**

2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED  Y  N  NA
3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. **TRC not documented**  S  M  U  NA
4. QUALITY CONTROL PROCEDURES ADEQUATE. **Not documented**  S  M  U  NA
5. DUPLICATE SAMPLES ARE ANALYZED. \_\_\_\_\_ % OF THE TIME. **Not documented**  Y  N  NA
6. SPIKED SAMPLES ARE ANALYZED. \_\_\_ % OF THE TIME.  Y  N  NA
7. COMMERCIAL LABORATORY USED.  Y  N  NA

LAB NAME	Silver City WWTP Lab	Huthur and Associates, Inc.
LAB ADDRESS	1660 Filaree Road, Silver City, NM 88062	1156 North Bonnie Brae, Denton, TX 76201
PARAMETERS PERFORMED	BOD, TSS, E. coli	Whole Effluent Toxicity (WET) Testing

**SECTION G - EFFLUENT/RECEIVING WATERS OBSERVATIONS.**  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO).

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

RECEIVING WATER OBSERVATIONS: **One reported exceedence of TSS since last inspection. Flow, and consequently load, not reported for numerous months in 2012 and 2013 when flow meter was out of service. One assumed typographical error on a reported pH value (2/28/2014) – reported 704 instead of 7.4.**

**SECTION H - SLUDGE DISPOSAL**

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS.  S  M  U  NA (FURTHER EXPLANATION ATTACHED NO).  
 DETAILS: **Pumped about two times per year. Receipts from septage hauler, Humphries Enterprises, are kept by permittee.**

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

**SECTION I - SAMPLING INSPECTION PROCEDURES** (FURTHER EXPLANATION ATTACHED NO).

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

**Compliance Evaluation Inspection  
Rio de Arenas Mobile Home Manor  
Wastewater Treatment Plant  
NPDES Permit No. NM0027375  
April 29, 2015**

**Introduction:**

On April 29, 2015, Shelly Lemon of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection at the Rio de Arenas Mobile Home Manor Wastewater Treatment Plant (WWTP) in Grant County, New Mexico. The WWTP has a design flow capacity of 0.04 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. It is assigned NPDES permit number NM0027375 which regulates discharge from outfall 001 to Rio de Arenas in Water Quality Segment 20.6.4.98 of the New Mexico Administrative Code (NMAC). This segment includes the designated uses of marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

The NMED performs a certain number of inspections each year for the U.S. Environmental Protection Agency (USEPA), Region VI, 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 representative, observations made by the NMED inspector, and records and reports kept by the permittee and/or NMED.

Upon arrival at the facility, the inspector made introductions, stated the purpose of the inspection and presented her credentials to Mr. Manny Orosco, WWTP Operator. The inspector and Mr. Orosco toured the facility. At the end of the tour, the inspector conducted an exit interview on site with Mr. Orosco to discuss preliminary findings of the inspection. The inspector also contacted Ms. Jennifer MacLeod by phone at a later date to review the inspection findings.

**Treatment Scheme and Solids Management:**

Rio de Arenas Mobile Home Manor WWTP is an activated sludge package plant system with chlorine disinfection. Influent from the mobile home park enters the plant via gravity flow into a beehive shaped brick structure, flows through a downward sloped concrete structure with a bar screen, then into an aerated equalization tank to accommodate fluctuating flows. From the equalization tank, wastewater enters an aeration basin, then clarifier basins for settling. A sludge digester unit located between the aeration basin and the equalization tank receives waste activated sludge (WAS) from the clarifiers. Return activated sludge (RAS) flows back from the clarifiers to the equalization basin where it mixes with influent before going to the aeration basin. After the clarifiers, flow enters an open basin or trough, then a chlorine contact chamber with serpentine baffle design. Calcium hypochlorite tablets are manually placed into the open trough below the clarifiers' effluent weir. An outlet pipe at the bottom of the chlorine contact chamber allows effluent to exit the package plant. Effluent is then piped to Outfall 001. Before reaching the outfall the effluent flow is metered and then flows into a sodium sulfite de-chlorination tablet unit. Effluent is discharged into a short (approximately 60 foot long) unnamed ditch then to Rio de Arenas. Biosolids are removed from the plant by a septic tank cleaning service (Humphrey's Enterprises Inc, Silver City, New Mexico).

## 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 “Unsatisfactory”**

#### **Permit Requirements** for Permit Verification:

Part III.A (General Conditions) of the permit requires:

2. *Duty to Comply*

*The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.*

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.*

5. *Permit Flexibility*

*This permit may be modified, revoked and reissued, or terminated for cause in accordance with 40 CFR 122.62-64. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.*

6. *Property Rights*

*This permit does not convey any property rights of any sort, or any exclusive privilege.*

7. *Duty to Provide Information*

*The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.*

40 CFR §122.61 (Transfer of [EPA-Administered NPDES] permits) of the Federal regulations states:

a. **Transfers by modification.** *Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under §122.62(b)(2)), or a minor modification made (under §122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.*

b. **Automatic transfers.** *As an alternative to transfers under paragraph (a) of this section, any NPDES permit may be automatically transferred to a new permittee if:*

- (1) The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (b)(2) of this section;*
- (2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and*
- (3) The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under §122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (b)(2) of this section.*

## **Findings for Permit Verification:**

According to the facility's operator, Rio de Arenas Mobile Home Manor, which includes the NPDES-permitted wastewater treatment plant (NM0027375), changed ownership in December 2014. Notification of this change in ownership was not provided to EPA nor NMED. A new permit (effective date of June 1, 2015) was re-issued on April 24, 2015 to the previous owner, Mrs. Virginia Simmens. The new owner, CCI Investments, LLC should contact EPA as soon as possible regarding the transfer of this EPA-administered NPDES permit (NM0027375).

## **Section B – Record Keeping and Reporting – Overall Rating of “Marginal”**

### **Permit Requirements for Record Keeping and Reporting:**

Part III.D.6 (Averaging of Measurements) and Part III.F.22 (Municipal Terms) of the permit state:

*Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean...*

*7-DAY AVERAGE or WEEKLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The 7-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.*

The NPDES Reporting Requirements Handbook for EPA Region 6 advises:

#### ***How do I calculate and report 7-day averages?***

*We recognize that calendar weeks and calendar months rarely coincide. Therefore, for the purpose of calculating and reporting 7-day averages, you should follow the process below:*

- a) Define your week (SUN-SAT, MON-SUN, etc.).*
- b) Calculate the averages of all sample data obtained for each week.*
- c) The highest calculated weekly average will be reported on the DMR for the month in which (1) the week ends or (2) the week begins, or (3) the month which contains the greatest number of days. It is the choice of the facility. However, the choice should be consistent month to month, year to year.*

#### ***How do I round numbers and ratios?***

*Permits sometimes require the rounding of numbers or ratios. These numbers or ratios should be rounded as follows:*

- 1) If the digit 6, 7, 8, or 9 is dropped, increase preceding digit by one unit.  
Example: a value of 1.06 should be rounded to 1.1 and reported as a violation of the permit limit if the permit limit is 1.0.*
- 2) If the digit 0, 1, 2, 3, or 4 is dropped, do not alter the preceding digit.  
Example: a value of 1.04 should be rounded to 1.0 and reported to EPA as compliant with the permit limit if the permit limit is 1.0.*
- 3) If the digit 5 is dropped, round off preceding digit to the nearest even number.  
Example 1: a value of 1.05 should be rounded to 1.0 and reported to EPA as compliant with the permit limit if the permit limit is 1.0.  
Example 2: a value of 11.5 should be rounded to 12 and reported to EPA as a violation of the permit limit if the permit limit is 11.*

## **Findings for Recordkeeping and Reporting:**

The inspector reviewed one month (September 2014) of the facility's lab and data records.

- The 7-day average flow for was reported incorrectly. The 30-day average and 7-day average flows should not be the same value if measurements are taken more than once a month. Instead, the 7-day average flow is the arithmetic mean of the daily values for all effluent samples collected during a calendar week. The highest, or maximum, calculated weekly average should be reported on the DMR.

- The reported *E. coli* values (30-day and 7-day averages) were not rounded properly. The calculated concentration was 70.588 cfu/100mL  $([(60 \text{ colonies} + 40 \text{ colonies} + 20 \text{ colonies}) \div 170 \text{ mL}] \times 100)$ . According to the guidelines in the NPDES Reporting Requirements Handbook, if the digit 6, 7, 8, or 9 is dropped the preceding digit should be increased by one unit. In this instance, 70.588 would be rounded to 70.59 cfu/100 mL.
- Looking at the pH lab sheet (see Appendix B), it appears that the pH values were transcribed incorrectly on to the DMR. The DMR reported values were 7.9 for both the minimum and maximum; however the lab sheet recorded a pH of 7.80 on the day of sampling, although the value was hard to read.
- The BOD5 loading value was not calculated correctly. The load should be calculated using the flow on the day of sampling. According to lab and flow records, the BOD5 load should have been calculated as:

$$13.08 \text{ mg/L} \times 0.005775 \text{ MGD} \times 8.34 \text{ conversion factor} = 0.629979 \text{ lbs/day.}$$

The reported value was 0.048164 lbs/day. On the other hand, the TSS load was calculated and reported correctly.

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

#### Permit Requirements for Operation and Maintenance:

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

- 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...*
- 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 Operation and Maintenance:

- The facility has large areas that have rusted through the paint with metal flaking off (see Photo 1). **This is a repeat finding.** Any preventative maintenance to stop or slow down the rusting of the equalization and treatment basins will extend the life of the facility.
- Mr. Orosco is a certified Level IV operator, but he is the only operator at the plant. Given the type of treatment process, population served, and lab analyses performed, this facility is required to have at least a Small Wastewater – Advanced (“SWWA”) certified operator to run the various types of treatment processes on site. It is highly recommended that the Rio de Arenas Mobile Home Manor (i.e., CCI Investments, LLC) hire a substitute operator in the event that Mr. Orosco cannot be at work.
- No written procedures were available for standard operating procedures or emergency treatment controls. No spare parts/supplies inventory is maintained.
- The facility has invested in another sludge judge to help regulate clarifier operations and overall treatment capabilities. The storage shed also has a lock on it now. This is an improvement from the previous inspection.

**Section D – Self-Monitoring – Overall Rating of “Satisfactory”**

**Permit Requirements for Self-Monitoring:**

Part I.A.1 (Limitations and Monitoring Requirements) of the previous permit (*effective 10/01/2009*) required:

**PART I – REQUIREMENTS FOR NPDES PERMITS**

**SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS**

1. FINAL Effluent Limits – 0.04 MGD Design Flow

During the period 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 dry arroyos named Whiskey Creek, thence to Rio De Arenas, thence to San Vicente Arroyo an unclassified ephemeral tributary of the Mimbres River in the Closed Basin, from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	00400	6.6	8.8	1/Month (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		lbs/day, unless noted			mg/l, unless noted				
POLLUTANT	STORET CODE	30-DAY AVG	DAILY MAX	7-DAY AVG	30-DAY AVG	DAILY MAX	7-DAY AVG	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	50050	Report MGD	Report MGD	Report MGD	***	***	***	5/Week	Instantaneous
Biochemical Oxygen Demand, 5-day	00310	10	N/A	15	30	N/A	45	1/Month	Grab
Total Suspended Solids	00530	10	N/A	15	30	N/A	45	1/Month	Grab
E. Coli Bacteria	51040	N/A	N/A	N/A	126 (*1)	410 (*1)	N/A	1/Month	Grab
Total Residual Chlorine	50060	N/A	N/A	N/A	N/A	11 ug/l	N/A	1/Week	Instantaneous Grab (*2)

EFFLUENT CHARACTERISTICS		DISCHARGE MONITORING		MONITORING REQUIREMENTS	
WHOLE EFFLUENT TOXICITY (48 Hr. Static Renewal) (*3)		30-DAY AVG MINIMUM	48-HR MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Daphnia pulex		Report	Report	Once/Term (*4)	24-Hr Composite
Pimephales promelas		Report	Report	Once/Term (*4)	24-Hr Composite

**Footnotes:**

- \*1 Colony forming units (cfu) per 100 ml.
- \*2 Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*3 Monitoring and reporting requirements begin on the effective date of this permit. Compliance with the Whole Effluent Toxicity limitations is required on Permit Effective Date. See PART II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.
- \*4 Once per permit term. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple test failures. However, upon failure of any WET test, the permittee must report the test results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

Part I.A.1 (Limitations and Monitoring Requirements) of the re-issued permit (*effective 06/01/2015*) requires:  
PART I – REQUIREMENTS FOR NPDES PERMITS

SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

1. Effluent Limits – 0.04 MGD

During the period 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 sanitary wastewater to Rio de Arenas, according to New Mexico surface water quality standard 20.6.4.98 NMAC for Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below in **Error! Reference source not found.**, Table 2 and Table 3.

**Table 1**

Effluent Characteristics		Discharge Limitations			
		Standard Units		Monitoring Requirements	
Pollutant	STORET Code	Minimum	Maximum	Measurement Frequency	Sample Type
pH	00400	6.6	9.0	5/Week	Instantaneous Grab <sup>1</sup>

Footnote for Table 1:

\*1 Instantaneous grab a field measurement that is the analysis of a sample less than 15 minutes from the time of collection

**Table 2**

Whole Effluent Toxicity Testing (48 Hr. NOEC) <sup>1</sup>				
Effluent Characteristic	Discharge Monitoring		Monitoring Requirements	
	30-Day Average Min	48-Hr Min	Frequency	Type
Daphnia pulex	Report	Report	Once/term <sup>2</sup>	24-Hr. Composite
Pimephales promelas	Report	Report	Once/term <sup>2</sup>	24-Hr. Composite

Footnote Table 2:

\*1 Monitoring and reporting requirements begin on the effective date of this permit. See PART II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

\*2 Once per permit-term. The test shall take place between November 1 and April 30 during the first year of the permit term. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple failures. However, upon failure of any WET test, the permittee must report the results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

**Table 3**

PARAMETER	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass (lbs/ day, unless noted)		Concentration (mg/L, unless noted)			Measurement Frequency	Sample Type
	30 Day Avg.	7 Day Avg.	30 Day Avg.	Daily Max	7 Day Avg.		
Flow	Report MGD	Report MGD	N/A	N/A	N/A	Daily	Instantaneous Grab <sup>6</sup>
BOD5 (influent) <sup>2</sup>	***	***	Report	***	Report	1/month <sup>7</sup>	Grab <sup>1</sup>
BOD5 (effluent) <sup>2</sup>	10	15	30	***	45	1/month <sup>7</sup>	Grab <sup>1</sup>
TSS (influent) <sup>2</sup>	***	***	Report	***	Report	1/month <sup>7</sup>	Grab <sup>1</sup>
TSS (effluent) <sup>2</sup>	10	15	30	***	45	1/month <sup>7</sup>	Grab <sup>1</sup>
Percent Removal (minimum), BOD5	≥85%	***	***	***	***	1/month <sup>7</sup>	Calculation <sup>3</sup>
Percent Removal (minimum), TSS	≥85%	***	***	***	***	1/month <sup>7</sup>	Calculation <sup>3</sup>
E. coli Bacteria <sup>4</sup>	***	***	206	940	***	1/month <sup>7</sup>	Grab <sup>1</sup>
TRC	***	***	***	11 µg/L <sup>5</sup>	***	5/week	Instantaneous Grab <sup>6</sup>

Footnotes Table 3:

\*1 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.

\*2 Effluent and Influent monitoring shall be conducted simultaneously.

\*3 Percent removal is calculated using the following equation :  $\{[(\text{average monthly influent concentration} - \text{average monthly effluent concentration})] \div [\text{average monthly influent concentration}]\} \times 100$ .

\*4 Bacteria reporting units MUST be either cfu/100mL or MPN.

\*5 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. See Part II.A for MQL.

\*6 Instantaneous grab is a field measurement that analyzes a sample within 15 minutes from the time of collection.

\*7 Sample events for any reporting period shall be taken at least (15) days from the first sample event of the previous reporting period.

## **Findings for Self-Monitoring:**

The NPDES permit was re-issued on April 24, 2015 and has an effective date of June 1, 2015. Several noteworthy changes from the previous permit are listed below:

- The measurement frequency requirement for Flow was changed to daily.
- The measurement frequency for pH and Total Residual Chlorine (TRC) was changed to 5 times per week.
- Reporting requirements for BOD5 and TSS influent concentrations have been added to the new permit.
- Percent removal discharge limitations ( $\geq 85\%$ ) for BOD5 and TSS have been added to the new permit.
- Discharge limitations for *E. coli* bacteria were changed.
- Whole Effluent Toxicity (WET) Testing, "...shall take place between November 1 and April 30 during the first year of the permit term."

## **Section E – Flow Measurement: “Unsatisfactory”**

### **Permit Requirements for Flow Measurement:**

Part III.C.5 (Monitoring Procedures) of the permit stipulates:

- 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.*

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.”*

### **Findings for Flow Measurement:**

A new in-line GPI TM Series electronic meter was installed in September 2013. There were no functional secondary flow instruments nor any readily available flow measurement calibration records or other measurements to verify accuracy and reliability of flow measurements. The treatment facility had at one time a v-notch weir at the discharge point for taking flow measurements. This was removed and is no longer functional.

The new flow meter is not recording low flows. The operator said that he has observed flow from the outfall but the meter reads zero. This may be an indication that a calibration is needed and/or that the flow meter is not adequate to handle the expected flow rates, especially low flow rates.

Flow measurement accuracy is important because this information is used to calculate mass loading calculations. Simple checks, like using the *Bucket Flow Method*, could be used at intervals frequent enough to insure accuracy of the flow meter. USEPA’s NPDES Inspection Manual, Chapter 6 states, “The facility must ensure that their flow measurement systems are calibrated by a qualified source at least once a year [emphasis added] to ensure their accuracy.”

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

40 CFR Part 136, Tables I.A and II.B list the following as approved analytical methods for regulatory compliance:

<i>Parameter</i>	<i>Methodology</i>	<i>EPA</i>	<i>Standard Methods</i>	<i>ASTM</i>	<i>USGS/AOAC/Other</i>
<i>Bacteria: 5. E. coli, number per 100 mL</i>	<i>MPN multiple tube, or</i>		<i>9221B.1-2006/ 9221F-2006</i>		
	<i>multiple tube/multiple well, or</i>		<i>9223 B-2004</i>	<i>991.15</i>	<i>Colilert® Colilert-18®</i>
	<i>MF single step</i>	<i>1603</i>			<i>mColiBlue-24®</i>
<i>9. Biochemical oxygen demand (BOD5), mg/L</i>	<i>Dissolved Oxygen Depletion</i>		<i>5210 B-2001</i>		<i>973.44, p. 17, I-1578-78</i>
<i>17. Chlorine-Total residual, mg/L</i>	<i>DPD-FAS</i>		<i>4500-Cl F-2000</i>		
<i>28. Hydrogen ion (pH), pH units</i>	<i>Electrometric measurement</i>		<i>4500-H<sup>+</sup> B-2000</i>	<i>D1293-99 (A or B)</i>	<i>973.41, I-1586-85</i>
<i>55. Residue—non-filterable (TSS), mg/L</i>	<i>Gravimetric, 103-105° post washing of residue</i>		<i>2540 D-1997</i>	<i>D5907-03</i>	<i>I-3765-85</i>

### Findings for Laboratory:

- Although the monitoring records did indicate the analytical methods used, it appears that the forms are old and need to be updated. Most of the forms indicate Standard Methods, 18<sup>th</sup> Edition (published in 1992). Most of the current approved methods are from more recent editions. The permittee should ensure that they are using the applicable 40 CFR-approved methods and procedures, and that they are accurately documenting the method used on their analytical forms.
- pH and TRC are the only parameters analyzed on-site. Calibration and maintenance of the TRC instrument is not documented on the lab sheets.
- Quality control procedures are not documented and are therefore assumed to be inadequate.

**APPENDIX A – FLOW and DMR CHECK**

## SEPTEMBER 2014 - Monthly Flow Readings

day	reading	gallons	MGD	7-DA AVG
August 31	MDP	MDP	MDP	
1	2426545	3579	0.003579	
2	2430124	1877	0.001877	
3	2432001	2791	0.002791	
4	2434792	4892	0.004892	
5	2439684	4140	0.004140	
6	-	4140	0.004140	0.003570
7	-	4140	0.004140	
8	2452103	5016	0.005016	
9	2457119	3293	0.003293	
10	2460412	5775	0.005775	**day of sampling
11	2466187	5924	0.005924	
12	2472111	5875	0.005875	
13	2477986	8088	0.008088	0.005444
14	2486074	8088	0.008088	
15	2494162	10013	0.010013	
16	2504175	8865	0.008865	
17	2513040	6540	0.00654	
18	2519580	6292	0.006292	
19	2525872	6381	0.006381	
20	2532253	8034	0.008034	0.007745
21	-	8034	0.008034	
22	2548320	6993	0.006993	
23	2555313	6895	0.006895	
24	2562208	6688	0.006688	
25	2568896	6958	0.006958	
26	2575854	1575	0.001575	
27	-	1575	0.001575	0.005531
28	2579004	6565	0.006565	
29	2585569	7164	0.007164	
30	2592733	MDP	MDP	

	Actual	Reported	Check
<b>30-DA AVG</b>	0.005731	0.005707	ok
<b>7-DA AVG</b>	0.007745	0.005707	X
<b>DAILY MAX</b>	0.010013	0.010013	ok

Close enough without September 30th flow data.

Should report MAXIMUM 7-day average flow.

\* MDP = missing data point.



## **APPENDIX B – FACILITY RECORDS**

RIO DE ARENAS WWTP- NM0027375

MONTHLY FLOW READINGS

5 TIMES WEEKLY

September 2014

September 2014	FLOW READING	FLOW RATE	Comments
1	2426545	5.2	
2	2430124	0.0	m.o
3	2432001	8.1	m.o
4	2434792	6.5	m.o
5	2439684	7.0	m.o
6			
7			
8	2452103	9.0	m.o
9	2457119	0.0	m.o
10	2460412	6.8	m.o
11	2466187	5.9	m.o
12	2472111	6.2	m.o
13	2477986	0.0	m.o
14	2486074	7.8	m.o
15	2494162	8.6	m.o
16	2504175	6.3	m.o
17	2513040	7.3	m.o
18	2519580	5.5	m.o
19	2525872	6.2	m.o
20	2532253	6.6	m.o
21			
22	2548320	7.2	m.o
23	2555313	6.0	m.o
24	2562208	6.7	m.o
25	2568896	0.0	m.o
26	2575854	5.9	m.o
27			
28	2579004		m.o
29	2585569	8.5	m.o
30	2592733	5.2	m.o
<del>31</del>			

RIO DE ARENAS WASTEWATER TREATMENT PLANT

PH-Standard Method 18<sup>th</sup>

Sec. 4500-H+ A & B pp. 4-65-4-69

Meter: Orion 920A

Date 9-10-14

Time 5:50 AM

Sample: Effluent

Location: Outfall

Sampler M. OROSCO

Temperature 24.2

Flow \_\_\_\_\_

Analyst M. OROSCO

# 6.0 Buffers

Received 7-9-14 Opened 3-9-14 Expires 3-2016

# 9.0 Buffers

Received 7-19-13 Opened 1-22-14 Expires 3-2015

# 10.0 Buffers 3-11-13

Received ~~8-13-14~~<sup>MO</sup> Opened 3-7-14 Expires 12-2014

Calibration

Date 9-10-14 Time 5:35 SLP 101.2%

Sample Data

Time of Analysis 5:50 AM pH Reading 7.80

# Town Of Silver City W.W.T.P. LABORATORY

## E. Coli Worksheet

Exact Sampling Location: Effluent Flume Method Used: Standard Methods,  
 Sample Preservation: Refrigeration 18<sup>th</sup> Ed. Pages 9-60 through 9  
 Type of Sample: Grab Incubator 35.0 +/- 0.5C for 24 +/- 2Hrs  
 Broth: m-ColiBlue 24 20-80 Colonies

Laboratory # 9427 Rio De Arenas

Sampling:

Date: 9-10-14 Time: 6:05 Time of Arrival 7:12

Sampler: Mary O. Peak Flow: \_\_\_\_\_

Analysis: (Performed)

Analyst: Chris

Date 9-10-14 Time: 7:20 Lab Area Disinfected: yes

Placed in incubator: Date: 9-10-14 Time: 7:33

Analysis: (Read)

Analyst: Chris

Removed from incubator: Date: 9-11-14 Time: 8:00

Sample	Volume	Colonies	Colonies / 100 ml
Dilution Water	100 ML	<1	<1
Effluent	5 ML	10	200
" "	10 ML	12	120
" "	20 ML	20	100
" "	50 ML	40	80
" "	100 ML	60	60

$$60 + 40 + 20 = 120 \times 100 = \frac{12000}{170} \approx 70.58 = 1.84 \log$$

NMED/SWQB  
**Official Photograph Log**  
Photo #1

Photographer: Shelly Lemon	Date: 4/29/2015	Time: 16:05 hours
City/County: Silver City/Grant County		
Location: Rio de Arenas WWTP		
Subject: Rio de Arenas WWTP – notice flaking paint and rusty areas on structure.		



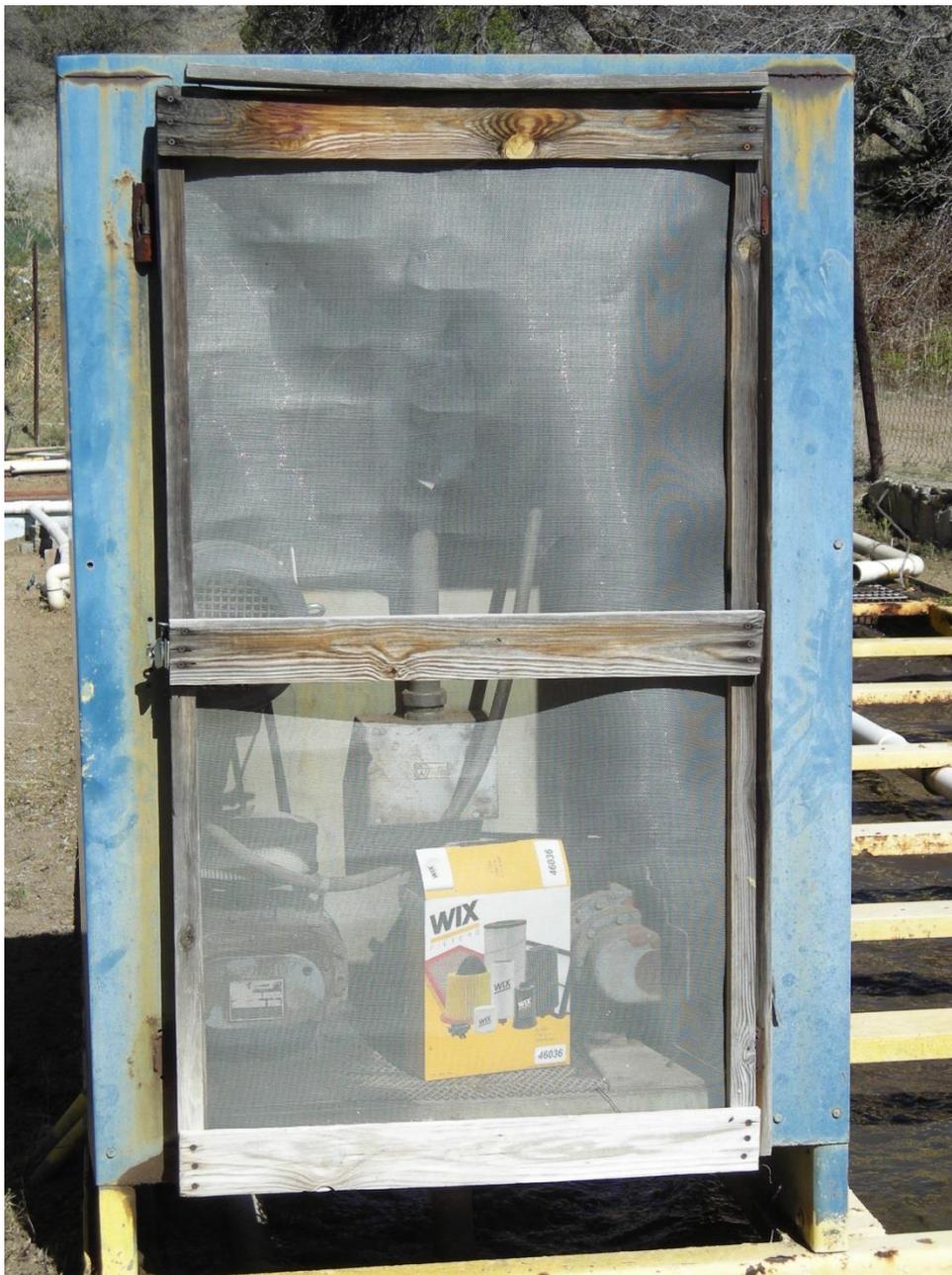
NMED/SWQB  
**Official Photograph Log**  
Photo #2

Photographer: Shelly Lemon	Date: 4/29/2015	Time: 16:15 hours
City/County: Silver City/Grant County		
Location: Rio de Arenas WWTP		
Subject: Secondary Clarifier.		



NMED/SWQB  
**Official Photograph Log**  
Photo #3

Photographer: Shelly Lemon	Date: 4/29/2015	Time: 16:20 hours
City/County: Silver City/Grant County		
Location: Rio de Arenas WWTP		
Subject: Pump House and Storage Shed.		



NMED/SWQB  
**Official Photograph Log**  
Photo #4

Photographer: Shelly Lemon	Date: 4/29/2015	Time: 16:45 hours
City/County: Silver City/Grant County		
Location: Rio de Arenas WWTP		
Subject: In-Line Flow Meter.		



NMED/SWQB  
**Official Photograph Log**  
Photo #5

Photographer: Shelly Lemon	Date: 4/29/2015	Time: 16:55 hours
City/County: Silver City/Grant County		
Location: Rio de Arenas WWTP		
Subject: Outfall.		

