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RYAN FLYNN
Cabinet Secretary

BUTCH TONGATE
Deputy Secretary

Certified Mail - Return Receipt Requested

January 29, 2015

Mr. Allen Hoffman
Oshara Village Reclamation Facility
P.O. Box 24191
Santa Fe, NM 87502

Re: Minor Municipal, SIC 4952, NPDES Compliance Evaluation Inspection, Oshara Village Water Reclamation Facility, NM0030813, January 9, 2015

Dear Mr. Hoffman,

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.

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:

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.

Sincerely,

/s/ Bruce Yurdin

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

Oshara Village Water Reclamation Facility

January 29, 2015

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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
Robert Italiano, NMED District II, by e-mail

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS

 S M U NA (FURTHER EXPLANATION ATTACHED NO)

DETAILS: Physical Address is on permit; Mailing Address is Oshara Village, LLC, PO Box 24191, Santa Fe, NM 87502

1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE

 Y N NA

2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES

 Y N NA

3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT

 Y N NA

4. ALL DISCHARGES ARE PERMITTED

 Y N NA

SECTION B - RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT.

 S M U NA (FURTHER EXPLANATION ATTACHED YES)DETAILS: **Exact location of sampling not described; Time of sampling missing for some parameters; Equipment calibrations not documented**

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: **Generator not being exercised; Dechlorination not occurring prior to discharge; O&M manuals not available**

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. **UNDETERMINED** 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. **CONTAINERS UNDETERMINED** 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: Ultrasonic totalizing meter with 6 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. (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 YES)
 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 NA
- 3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. S M U NA
- 4. QUALITY CONTROL PROCEDURES ADEQUATE. S M U NA
- 5. DUPLICATE SAMPLES ARE ANALYZED. ____ % OF THE TIME. Y N NA
- 6. SPIKED SAMPLES ARE ANALYZED. ____ % OF THE TIME. Y N NA
- 7. COMMERCIAL LABORATORY USED. Y N NA

LAB NAME	SUMMIT ENVIRONMENTAL TECHNOLOGIES	BIO-AQUATIC
LAB ADDRESS	2709 PAN AMERICAN FREEWAY, NE; ALBUQUERQUE, NM 87107	2501 MAYES RD #100; CARROLLTON, TX 75006
PARAMETERS PERFORMED	BOD5, TSS, AND E. COLI	BIOMONITORING

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 DISCHARGE						

RECEIVING WATER OBSERVATIONS: No discharge at time of inspection.

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 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: SLUDGE SENT TO SANTA FE WWTP FOR DISPOSAL (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
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- 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
Oshara Village Water Reclamation Facility
NPDES Permit No. NM0030813
January 9, 2015**

Introduction

On January 9, 2015, Shelly Lemon of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Oshara Village Water Reclamation Facility (WWTP). The Oshara WWTP has a design flow capacity of 0.03 MGD (million gallons per day) and is classified as a minor municipal discharger under the Federal Clean Water Act, Section 402, of the National Pollutant Discharge Elimination System (NPDES) permit program. It is assigned NPDES permit number NM0030813. This permit regulates the WWTP discharge to an unnamed ephemeral tributary to Arroyo Hondo in Water Quality Segment 20.6.4.97 of the New Mexico Administrative Code (NMAC) in the Rio Grande Basin. Designated uses include livestock watering, wildlife habitat, limited aquatic life and secondary contact.

The NMED performs a certain number of CEIs for the U.S. Environmental Protection Agency (USEPA), Region VI, under the NPDES permit program, in accordance with the Federal Clean Water Act. USEPA uses these inspections to determine compliance with the NPDES permit program. This inspection report is based on information provided by the permittee's representatives, observations made by the NMED inspector, and records and reports kept by the permittee and/or NMED.

Upon arrival at the WWTP at approximately 0855 hours on the day of this inspection, the inspector made introductions, presented her credentials, and explained the purpose of the inspection to Mr. Leonard Quintana, Level IV Operator for the Oshara Village WWTP. The inspector and Mr. Quintana toured the facility. At the end of the tour, the inspector conducted an exit interview with Mr. Quintana at the facility to discuss preliminary findings of the inspection. The meeting concluded at approximately 1015 hours.

Treatment Scheme

The system is an advanced Sequencing Batch Reactor (SBR) treatment facility which has three major tanks: anoxic equalization tank, SBR tank, and effluent equalization chlorine contact tank. It consists of one lift station that brings raw influent to the water reclamation facility from approximately 50 homes in Oshara Village. At the headworks, influent flows through a 12-inch wide bar screen with 1-inch openings to catch rags and debris. A 4" magnetic flow meter measures the influent flow at the plant. From the headworks, influent travels by gravity into the conditioning sludge storage tank, the first tank in the system. Here, the solids and grit are allowed to settle, much like a primary clarifier. This tank provides an area to concentrate the sludge.

Next, the influent travels to an anoxic equalization tank that is used to retain and equalize peak influent flows and provide denitrification. Within the anoxic basin, two pumps transfer the wastewater to the SBR tank. The SBR tank has an aspirating jet aerator that delivers oxygen to the system. Each cycle of treatment consists of fill/react, interact/react, settle and decant phases. The phases of treatment are controlled by a Programmable Logic Controller, or PLC, that the operator can adjust manually to provide optimum treatment in each phase.

Disinfection of the wastewater is achieved through a chlorine contact tank. A chemical metering pump with auto/manual control doses liquid sodium hypochlorite directly into the decant pipe during the decant phase. The effluent can then be dechlorinated with a dose of sodium bisulphate in the manhole prior to discharge; however, according to the operator, at this time the effluent is not being dechlorinated.

The effluent is metered with a 6" Parshall flume and an ultrasonic flow meter located in the manhole prior to discharge into the unnamed arroyo. There is a primary Palmer Bowles Flume as well. The effluent enters the receiving stream through a 10" closed pipe with a rip rap area below the pipe to minimize erosion and provide velocity dissipation.

Solids Management

Sludge is removed from the sludge tank with a vacuum truck and taken to the Santa Fe Wastewater Treatment Plant for final disposal. Rags and debris from the bar screen are sent to the Ranchland Utility WWTP in Rancho Viejo for disposal.

Further Explanations

Note: The sections are arranged according to the format of the enclosed EPA Inspection Checklist (Form 3560-3), rather than being ranked in order of importance.

Section B – Recordkeeping and Reporting Evaluation – Overall Rating of “Unsatisfactory”

The permit requires in Part III.C.2, Representative Sampling:

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

The permit requires in Part III.C.4, Record Contents:

Records of monitoring information shall include:

- 1. The date, exact place, and time of sampling or measurements; ...*

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

- 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.*

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.

30-DAY AVERAGE or MONTHLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Findings for Recordkeeping and Reporting:

There was no indication the permittee took samples for total residual chlorine as required by the permit (see “Self Monitoring” Section for more detail). The location of sampling or measurement on the Log Sheets was only described as “effluent.” The exact place of sampling or measurement needs to be described. If samples are taken from the manhole, the location should be “manhole”; if samples are taken at the outfall to the arroyo, the locations should be “outfall,” etc.

No calibration or maintenance records were provided by the permittee, therefore the inspector was unable to verify calibration of pH or chlorine meters. All other samples (BOD, TSS, *E.coli*) are sent to a contract laboratory for analysis; however no Sampling or Chain-of-Custody forms were provided by the permittee for BOD, TSS, and *E. coli*, so the inspector was not able to verify if the records content was complete or if an adequate analytical quality control program is in place (see “Self Monitoring” Section for more detail).

A DMR calculation check was conducted for the parameters of BOD, TSS and *E. coli* for the months of July, August, and September 2014. Please see Appendix A for details. Concentration based data appeared to be reported correctly, except for *E. coli*. Fecal Coliform results were reported as *E. coli* results in July and September 2014. According to the laboratory bench sheets for these months, *E. coli* was not tested – only Fecal Coliform was tested. The current NPDES permit requirements do not have Fecal Coliform limitations, only *E. coli* limitations and monitoring requirements.

The 30-Day Average Loads reported on the July, August, and September 2014 DMRs are not consistent with analytical results. The monthly (30-Day) average loading is calculated by dividing the sum of the daily discharge loadings for the month by the number of samples taken during the month [30-Day Avg = (SUM of Daily Loads) ÷ (# of samples for

month)]. REMEMBER, daily loads are calculated by multiplying the discharge on the day of sampling (in MGD) by the concentration of the sample (in mg/L) by a conversion factor (8.34) to get a load in pounds per day (lbs/day):

$$\text{Daily Load} = \text{flow on day of sampling (MGD)} \times \text{concentration of sample (mg/L)} \times \text{conversion factor (8.34)}$$

Similarly, the weekly (7-Day) average loadings are calculated by summing the individual daily loadings calculated for each calendar week and dividing the sum by the number of samples taken during the week [7-Day Avg = (SUM of Daily Loads for calendar week) ÷ (# of samples for week)]. The highest 7-Day Average loading for the month must be reported on the DMR.

In a specific instance where a calendar week begins in one month and ends in the next, the weekly monitoring results may be reported for the month in which (1) the calendar week ends or (2) the calendar week begins, or (3) the month which contains the greatest number of days. According to the Region 6 *NPDES Reporting Requirements Handbook* (www.epa.gov/region6/gen/w/dmrman.pdf), "It is the choice of the facility. However, the choice should be consistent month to month, year to year. SET A RULE AND STICK WITH IT." This is why it is important to write down the facility's standard procedures and have them readily available to reference, as needed, for consistency and to insure accurate and reliable reporting practices.

In a specific instance where the required monitoring frequency is only once per month (as is the case with this permit), the monthly average, weekly average, and/or daily maximum values will be the same value as there is only one sample result to "average" and report.

The *NPDES Reporting Requirements Handbook* for EPA Region 6 also prescribes the following rules for rounding:

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.

There were also discrepancies with the flow measurements being reported on the facility's DMRs. Both the 30-Day and 7-Day average flows were reported incorrectly on the DMR forms for July, August, and September 2014 (see Appendix A).

Section C – Operations and Maintenance – Overall Rating of "Marginal"

The permit states, in Part III.B.3.a, Proper Operation and Maintenance:

... The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances)... 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...

Findings for Operations and Maintenance:

A software program has been set up to ensure that the on-site generator is exercised periodically; however, the operator could not inform the inspector of the frequency that the generator is started up. This is a repeat finding.

Another repeat finding is that the facility does not have an operations and maintenance manual, written standard operating procedures, or established emergency treatment controls. These documents are important in the event that Mr. Quintana cannot be available to operate the facility or in the event of an emergency. Written procedures should be established in order to provide consistency over time, which also helps ensure permit compliance.

Section D – Self Monitoring – overall rating of “Unsatisfactory”

The permit requires in Part I.A:

Measurement frequencies of pH and Total Residual Chlorine shall be 5 times per week.

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

- a. *Monitoring must be conducted according to test procedures approved under 40 CFR Part 136...*
- 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.*

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

Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.

Findings for Self Monitoring:

- The permit requires testing for pH five (5) times per week. According to the pH log sheets for July, August, and September 2014, this is not occurring. The measurements for the first week of July 2014 were missing, as were measurements for July 7, 8, 23, and 31. In August 2014, measurements were missing for August 14 and 19; and, in September 2014, measurements were missing for September 1, 3, 4, 19, 22, 23, 24, 26, 29, and 30.
- The permit requires testing for TRC five (5) times per week when chlorine is being used. A TRC Log Sheet was not provided by the permittee to verify that chlorine is being tested at this frequency and that the chlorine meter is being calibrated prior to analysis. DMR reports for July, August, and September 2014 indicate chlorine is being measured in the effluent (0.00 mg/L reported for each month). However, according to the facility’s representative, the effluent is not being dechlorinated prior to discharge, and as a result one would not expect 0.00 mg/L daily maximum concentrations.
- It is not documented that preservation techniques (i.e., temperature) are adequate for compliance monitoring. Proper preservation of BOD and TSS includes keeping the samples at or below 6°C. Proper preservation of *E. coli* includes keeping the samples at or below 10°C. The sample temperatures at receipt in the lab were not documented on reviewed records.

40 CFR PART 136.3 TABLE II

Parameter number/name	Container¹	Preservation	Maximum holding time
1-5. Coliform, total, fecal, and <i>E. coli</i>	PA, G	Cool, <10 °C, 0.0008% Na ₂ S ₂ O ₃ ⁵	8 hours.
9. Biochemical oxygen demand (BOD)	P, FP, G	Cool, ≤6 °C	48 hours.
55. Residue, Nonfilterable (TSS)	P, FP, G	Cool, ≤6 °C	7 days.

1 “P” is for polyethylene; “FP” is fluoropolymer (polytetrafluoroethylene (PTFE); Teflon[®]), or other fluoropolymer; “G” is glass; “PA” is any plastic that is made of a sterilizable material (polypropylene or other autoclavable plastic).

5 ASTM D7365-09a specifies treatment options for samples containing oxidants (e.g., chlorine). Also, Section 9060A of Standard Methods for the Examination of Water and Wastewater (20th and 21st editions) addresses dechlorination procedures.

- It is not documented that sample collection procedures are adequate for bacteria monitoring. As previously discussed, chlorine is likely to be in the effluent. Preservation requirements in 40 CFR Part 136.3 include adding a reducing agent if an oxidant (e.g., chlorine) is present. Proper preservation techniques, in this case 0.0008% Na₂S₂O₃, to dechlorinate the samples were not documented on reviewed records.
- A Quality Assurance/Quality Control (QA/QC) program is not documented or readily available from the permittee.

Section E – Flow Measurement – Overall rating of “Unsatisfactory”

The Permit requires in Part III.C.3:

The permittee shall retain records of all monitoring information, including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application.

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.C.6:

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 rate of less than 10% from true discharge rates throughout the range of expected discharge volumes.

Findings for Flow Measurements:

The permittee did not have any calibration records to show that calibrations were being conducted as part of plant maintenance. In addition, the permittee does not do calibration checks to assure the flows measured are within 10% of the actual effluent flow.

The effluent is metered with an ultrasonic totalizing meter located in the manhole prior to discharge, which restricts/inhibits any maintenance and calibration due to the confined space. The physical flow mechanism leaving the plant is a 6 inch Parshall flume, however, there is no staff gauge associated with the flume. It is impossible to know whether the totalizer is accurate without regular checks, and a staff gauge is needed for this purpose. It is strongly recommended that the facility install a staff gauge for calibration checks. EPA recommends that flow meter calibrations are performed by an outside representative once per year. This is a repeat finding from 2011 & 2012.

Section F – Laboratory – Overall Rating of “Marginal”

The Permit requires in Part III, Section 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.*
- c. An adequate analytical quality control program, including the analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.*

Findings for Laboratory:

There were no calibration or maintenance records provided by the permittee. The permittee stated that calibration of pH and chlorine meters is done prior to analysis; however the pH Log Sheet did not have any indication or record of a daily calibration. The permittee did not provide a TRC Log Sheet. The permittee provided bench sheets from their contract laboratory, Summit Environmental Technologies, Inc. The bench sheets for July and September 2014 only documented analysis for Fecal Coliform, not for *E. coli*. The permittee, however, did report *E. coli* results on their DMR for July and September. Based on the records provided, the inspector was not able to determine the frequency of duplicate samples for BOD, TSS, and *E. coli*. At least 10% duplicate samples should be performed to verify accuracy as well as precision of their contract laboratory.

APPENDIX A: DMR REPORTING & FLOW DATA LOGGER CHECKS

ANALYTICAL RESULTS (SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.)

★ = Analytical result is consistent with DMR
 ✘ = Analytical result is not consistent with DMR

★ = Calculated load is consistent with DMR
 ✘ = Calculated load is not consistent with DMR

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

JULY 2014						CONCENTRATION	
Method	Parameter	Collected	Analyzed	Result	Units	DMR Value	CHECK
SM 2540 D	TSS-influent	7/30/2014	8/5/2014	290	mg/L	n/a	n/a
SM 2540 D	TSS-effluent	7/30/2014	8/5/2014	< 2.0	mg/L	2.0 mg/L	★
	TSS % removal	-	-	99%	-	99%	★
SM 5210 B	BOD-influent	7/30/2014	7/31/2014	240	mg/L	n/a	n/a
SM 5210 B	BOD-effluent	7/30/2014	7/31/2014	< 5.0	mg/L	5.0 mg/L	★
	BOD % removal	-	-	98%	-	98%	★
SM 9222 D	Fecal Coliform	7/30/2014	7/30/2014*	2	CFU/100ml	not required for permit	
SM 9223 B	E. coli	NR	NR	NR	NR	2.0 CFU/100ml	✘

*NO COLLECTION TIME INDICATED; BACTERIA SAMPLE ANALYZED AT 3:00 PM
 NO ANALYSIS TIMES INDICATED FOR BOD OR TSS

DMR LOADING CHECK:						
Parameter	Loads Reported on DMR				Calculated Loads	
	30-Day Avg	CHECK	7-Day Avg	CHECK	30-Day Avg	7-Day Avg
TSS	0.069	✘	0.25	★	0.250	0.250
BOD	0.17	✘	0.62	★	0.624	0.624
Flow (7/30/2014)			0.014960 MGD	discharge to arroyo		

AUGUST 2014						CONCENTRATION	
Method	Parameter	Collected	Analyzed	Result	Units	DMR Value	CHECK
SM 2540 D	TSS-influent	8/27/2014	9/2/2014	350	mg/L	n/a	n/a
SM 2540 D	TSS-effluent	8/27/2014	9/2/2014	< 2.0	mg/L	2.0 mg/L	★
	TSS % removal	-	-	99%	-	99%	★
SM 5210 B	BOD-influent	8/27/2014	8/28/2014	310	mg/L	n/a	n/a
SM 5210 B	BOD-effluent	8/27/2014	8/28/2014	< 5.0	mg/L	5.0 mg/L	★
	BOD % removal	-	-	98%	-	98%	★
SM 9222 D	Fecal Coliform	8/27/2014	8/27/2014	< 1.0	CFU/100ml	not required for permit	
SM 9223 B	E. coli	8/27/2014	8/27/2014	< 1.0	CFU/100ml	1.0 CFU/100ml	★

SAMPLES COLLECTED AT 9:30 AM; BACTERIA SAMPLES ANALYZED AT 3:00 PM
 BOD ANALYZED AT 2:00 PM; TSS ANALYZED AT 12:44 PM

DMR LOADING CHECK:						
Parameter	Loads Reported on DMR				Calculated Loads	
	30-Day Avg	CHECK	7-Day Avg	CHECK	30-Day Avg	7-Day Avg
TSS	0.16	✘	0.28	✘	0.268	0.268
BOD	0.41	✘	0.70	✘	0.669	0.669
Flow (8/27/2014)			0.016040 MGD	discharge to arroyo		

SEPTEMBER 2014						CONCENTRATION	
Method	Parameter	Collected	Analyzed	Result	Units	DMR Value	CHECK
SM 2540 D	TSS-influent	9/11/2014	9/12/2014	330	mg/L	n/a	n/a
SM 2540 D	TSS-effluent	9/11/2014	9/12/2014	< 2.0	mg/L	2.0 mg/L	★
	TSS % removal	-	-	99%	-	99%	★
SM 5210 B	BOD-influent	9/11/2014	9/12/2014	560	mg/L	n/a	n/a
SM 5210 B	BOD-effluent	9/11/2014	9/12/2014	< 5.0	mg/L	5.0 mg/L	★
	BOD % removal	-	-	99%	-	99%	★
SM 9222 D	Fecal Coliform	9/11/2014	9/11/2014	1	CFU/100ml	not required for permit	
SM 9223 B	E. coli	NR	NR	NR	NR	1.0 CFU/100ml	✘

*NO COLLECTION TIME INDICATED; BACTERIA SAMPLE ANALYZED AT 2:45 PM
 NO ANALYSIS TIMES INDICATED FOR BOD OR TSS

DMR LOADING CHECK:						
Parameter	Loads Reported on DMR				Calculated Loads	
	30-Day Avg	CHECK	7-Day Avg	CHECK	30-Day Avg	7-Day Avg
TSS	0.13	✘	0.24	★	0.241	0.241
BOD	0.33	✘	0.60	★	0.602	0.602
Flow (9/11/2014)			0.014440 MGD	discharge to arroyo		

NR = "Not Reported"; n/a = "not applicable"; mg/L = milligrams per liter; CFU/100ml = colony forming units per 100 milliliters; lbs/day = pounds per day; MGD = million gallons per day

DATA LOGGER - EFFLUENT				RECLAIMED WATER		
DAY	reading	gallons	CHECK	reading	gallons	CHECK
1	19631190	4590	4590	2443067	2005	2005
2	19635780	8730	8730	2445072	0	0
3	19644510	33470	33470	2445072	2098	2098
7	19677980	11070	11070	2447170	1096	1096
8	19689050	8730	8730	2448266	1198	1198
9	19697780	10790	10790	2449464	0	0
10	19708570	4140	4140	2449464	0	0
11	19712710	29230	29230	2449464	2256	2256
14	19741940	19420	19420	2451720	2547	2547
16	19761360	4430	4390	2454267	23	23
17	19765750	9830	9830	2454290	6	6
18	19775580	23910	23910	2454296	2365	2365
21	19799490	10740	10740	2456661	0	0
22	19810230	13390	13380	2456661	2409	2409
24	19823610	9830	9830	2459070	0	0
25	19833440	20840	20840	2459070	2339	2339
28	19854280	19450	19450	2461409	2133	2133
30	19873730	14960	14960	2463542	108	108
<i>19888690 August 1 reading</i>				<i>2463650 August 1 reading</i>		

CHECK = Difference between daily readings

e.g., DATA LOGGER - EFFLUENT

(Day 2 reading) - (Day 1 reading) = 19635780 - 19631190 = 4590

SAMPLING DATE

30-Day AVERAGES:

	reported	actual		BENCH SHEET	actual
<i>CHECK</i>	257550			<i>CHECK</i> 20583	<input checked="" type="checkbox"/>
TOTAL	127380	257500		TOTAL 20583	20583
MO. AVG	4109	8306	✘	MO. AVG 2058	664

CHECK = SUM of all gallons in column

Monthly AVG = TOTAL ÷ 31 days in July

7-Day AVERAGES:

	TOTAL	7-DA AVG	DAYS	
week 1	63960	9137	6th-12th**	<i>TOTAL = SUM of weekly gallons</i>
week 2	57550	8221	13th-19th	<i>7-Day AVG = Weekly TOTAL ÷ 7</i>
week 3	54790	7827	20th-26th	
week 4	58700	8386	27th-2nd	
reported	-	4781	✘	

**started with the second week of July because I didn't have bench sheet for June to calculate average of first week.

The highest calculated weekly average will be reported on the DMR -- see R6 DMR Reporting Manual

DATA LOGGER - EFFLUENT			
DAY	reading	gallons	CHECK
1	19888690	24290	24290
4	19912980	0	20420
5	19933400	20420	0
6	19933400	10580	10580
7	19943980	9720	9720
8	19953700	30530	30560
11	19984260	10810	10780
12	19995040	4500	4500
13	19999540	9790	9790
14	20009330	4920	4920
15	20014250	25320	25320
18	20039570	10000	10000
19	20049570	10350	10390
20	20059960	6010	6040
21	20066000	8970	8970
22	20074970	29310	29310
25	20104280	1	16040
27	20120320	16040	0
28	20120320	16716	15720
29	20136040	35890	35890
	20171930	September 2 reading	

RECLAIMED WATER		
reading	gallons	CHECK
2463650	2053	2053
2465703	0	0
2465703	2072	2072
2467775	44	44
2467819	0	0
2467819	2086	2086
2469905	1027	1027
2470932	673	673
2471605	1	1
2471606	0	0
2471606	1520	1514
2473120	0	0
2473120	1874	1874
2474994	0	0
2474994	0	0
2474994	2113	2113
2477107	2150	2150
2479257	0	0
2479257	0	1
2479258	2101	2101
	2481359	September 2 reading

CHECK = Difference between daily readings

e.g., DATA LOGGER - EFFLUENT

(Day 4 reading) - (Day 1 reading) = 19912980 - 19888690 = 24290

SAMPLING DATE

30-Day AVERAGES:

	reported	actual
CHECK	284167	
TOTAL	284200	283240
MO. AVG	9800	9137

	BENCH SHEET	actual
CHECK	17714	
TOTAL	17714	17709
MO. AVG	1968	571

CHECK = SUM of all gallons in column

Monthly AVG = TOTAL ÷ 31 days in August

7-Day AVERAGES:

	TOTAL	7-DA AVG	DAYS
week 1	58700	8386	27th-2nd
week 2	71280	10183	3rd-9th
week 3	55310	7901	10th-16th
week 4	64710	9244	17th-23rd
week 5	67650	9664	24th-30th
reported	-	9820	✘

TOTAL = SUM of weekly gallons

7-Day AVG = Weekly TOTAL ÷ 7

The highest calculated weekly average will be reported on the DMR -- see R6 DMR Reporting Manual

DATA LOGGER - EFFLUENT

DAY	reading	gallons	CHECK
2	20171930	21470	21470
5	20193400	30270	30270
9	20223670	5020	5020
10	20228690	0	0
11	20228690	14440	14440
12	20243130	23850	23850
15	20266980	0	0
16	20266980	21020	21020
17	20288000	0	0
18	20288000	10240	10240
19	20298240	30880	30880
22	20329120	25150	25150
25	20354270	45710	45710
30	20399980	0	0

RECLAIMED WATER

reading	gallons	CHECK
2481359	1753	1753
2483112	1984	1984
2485096	132	112
2485208	0	0
2485208	610	610
2485818	2885	2885
2488703	0	0
2488703	2511	2511
2491214	0	0
2491214	0	0
2491214	2422	2422
2493636	2572	2572
2496208	4464	4464
2500672	0	0

CHECK = Difference between daily readings

e.g., DATA LOGGER - EFFLUENT

(Day 5 reading) - (Day 2 reading) = 20193400 - 20171930 = 21470

SAMPLING DATE

Day 30 values are from September Bench Sheet

30-Day AVERAGES:

	reported	actual	BENCH SHEET	actual
CHECK	228050	<input checked="" type="checkbox"/>	CHECK	19333
TOTAL	228050	228050	TOTAL	19330
MO. AVG	7864	7602 ✘	MO. AVG	644

CHECK = SUM of all gallons in column

Monthly AVG = TOTAL ÷ 30 days in September

7-Day AVERAGES:

	TOTAL	7-DA AVG	DAYS
week 1	51740	7391	31st-6th
week 2	43310	6187	7th-13th
week 3	62140	8877	14th-20th
week 4	70860	10123	21st-27th
reported	-	8877 ✘	

TOTAL = SUM of weekly gallons

7-Day AVG = Weekly TOTAL ÷ 7

The highest calculated weekly average will be reported on the DMR -- see R6 DMR Reporting Manual

NMED/SWQB
Official Photograph Log
Photo # 1

Photographer: Shelly Lemon	Date: 01-09-2015	Time: 0948 hours
City/County: Santa Fe/Santa Fe County		
Location: Oshara Village Water Reclamation Facility		
Subject: Anoxic Basin		



NMED/SWQB
Official Photograph Log
Photo # 2

Photographer: Shelly Lemon	Date: 01-09-2015	Time: 0949 hours
City/County: Santa Fe/Santa Fe County		
Location: Oshara Village Water Reclamation Facility		
Subject: SBR Basin (aeration)		



NMED/SWQB
Official Photograph Log
Photo # 3

Photographer: Shelly Lemon	Date: 01-09-2015	Time: 0959 hours
City/County: Santa Fe/Santa Fe County		
Location: Oshara Village Water Reclamation Facility		
Subject: PLC Control Panel		

