NEW MEXICO
ENVIRONMENT DEPARTMENT

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

Harold Runnels Building
1190 South St. Francis Drive (87505)
P.O. Box 5469, Santa Fe, NM 87502-5469
Phone (505) 827-0187 Fax (505) 827-0160
www.nmenv.state.nm.us

RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

Certified Mail - Return Receipt Requested

June 3, 2015

Ms. Debi Lee, Village Manager
Village of Ruidoso
313 Cree Meadows Drive
Ruidoso, New Mexico 88345

Re: **Village of Ruidoso/Grindstone Dam: Minor Non-Municipal, SIC 4941, NPDES Compliance Evaluation Inspection, NM0030392, May 13, 2015**

Dear Ms. Lee:

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 USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Racquel Douglas
US Environmental Protection Agency, Region VI
Enforcement Branch (6EN-WM)
Fountain Place
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 Daniel Valenta at (505) 827-2575 or at daniel.valenta@state.nm.us.

Sincerely,

/s/Bruce Yurdin

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

cc: Rashida Bowlin, USEPA (6EN-AS) by e-mail
Carol Peters, USEPA (6EN-WM) by e-mai
Brent Larsen, USEPA (6WQ) by e-mail
Racquel Douglas, USEPA (6EN-WM) by e-mail
Gladys Gooden-Jackson, USEPA (6EN-WC) by e-mail
NMED District III, Mike Kesler by e-mail

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

NPDES Compliance Inspection Report

Section A: National Data System Coding

1	Transaction Code	2	NPDES	11	12	yr/mo/day	17	18	Inspec. Type	19	Inspector	20	Fac Type
	N	5	NM0003039			150513			C		S		2

Remarks: WATER RESERVOIR

67	Inspection Work Days	69	70	Facility Evaluation Rating	71	BI	72	QA	73	74	75	Reserved	80
				3		N		N					

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*	Entry Time /Date	Permit Effective Date
Village of Ruidoso, Grindstone Dam Raw Water Treatment and Reuse Facility, 500 Resort Drive, Ruidoso, New Mexico. Lincoln County.	**1325 hours/5-13-2015**	**6/1/2012**
	Exit Time/Date **1740 hours/5-13-2015**	Permit Expiration Date **5/31/2017**

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)	Other Facility Data
Randy Koehn, Water Production Manager, Village of Ruidoso / 575-257-5525 ex 2056 Gary Goss, Water Production Operator, Village of Ruidoso / 575-551-1304	**GPS:** **N. 33.322°** **W. -105.683°** **SIC: 4941**
Name, Address of Responsible Official/Title/Phone and Fax Number Debi Lee, Village Manager, Village of Ruidoso, 313 Cree Meadows Drive, Ruidoso, New Mexico 88345 / Village Manager / 575-258-4343 or 1-877-700-4343	Contacted Yes * No

Section C: Areas Evaluated During Inspection

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

M	Permit	M	Flow Measurement	S	Operations & Maintenance	N	CSO/SSO
M	Records/Reports	M	Self-Monitoring Program	N	Sludge Handling/Disposal	N	Pollution Prevention
S	Facility Site Review	N	Compliance Schedules	N	Pretreatment	N	Multimedia
S	Effluent/Receiving Waters	S	Laboratory	N	Storm Water	N	Other:

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

1. **SEE ATTACHED REPORT AND FURTHER EXPLANATIONS.**

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone/Fax	Date
Daniel Valenta ***/s/Daniel Valenta***	**NMED/SWQB 505-827-2575**	*6/3/15*
Signature of QA Reviewer	**Agency/Office/Phone and Fax Numbers**	**Date**
Sarah Holcomb ***/s/Bruce Yurdin***	**NMED/SWQB 505-827-2798**	*6/3/15*

Village of Ruidoso - Grindstone Dam – 5/13/2015	PERMIT NO. **NM0030392**

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS ☐ S ☒ M ☐ U ☐ NA (*FURTHER EXPLANATION ATTACHED* ***Yes***)
DETAILS:

1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE. ☒ Y ☐ N ☐ NA

2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES. ☐Y ☒ N ☐ NA

3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT ☒ Y ☐ N ☐ NA

4. ALL DISCHARGES ARE PERMITTED**. Not documented.** ☐ 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* ***No***)
DETAILS:

1. TREATMENT UNITS PROPERLY OPERATED. ☐ S ☐ M ☐ U ☒ NA

2. TREATMENT UNITS PROPERLY MAINTAINED. ☐ S ☐ M ☐ U ☒ NA

3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED . ☐ 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	Inline 6” Water Specialties Model ML-04 Totalized Flow Meter	
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.	Factory Calibration	☐ Y ☐ N ☒ NA
RECORDS MAINTAINED OF CALIBRATION PROCEDURES.	No calibration	☐ Y ☐ N ☒ NA
CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE.	No calibration	☐ 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

Village of Ruidoso - Grindstone Dam - 5/13/2015 | PERMIT NO. **NM0030392**

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. **0** % 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 1) Aqua Environmental Testing Laboratory 2) Anatek Labs, Inc.
LAB ADDRESS 103 Via Aquila, Ruidoso 87109, 575-336-1107 1282 Alturas Dr, Moscow, ID 83843, 208-883-2839
PARAMETERS PERFORMED

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	No discharge	No discharge	No discharge	No discharge	No discharge	No discharge

RECEIVING WATER OBSERVATIONS: No solids or foam observed at 002

SECTION H - SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS. ☐ S ☐ M ☐ U ☒ NA *(FURTHER EXPLANATION ATTACHED **No**).*
DETAILS: Grindstone Dam Raw Water and Treatment Facility does not generate domestic sewage sludge.

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: **NA** (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 MATURE 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

Village of Ruidoso - Grindstone Dam
Compliance Evaluation Inspection
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May 13, 2015

Further Explanations

Introduction

On May 13, 2015, Daniel Valenta of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB) conducted a Compliance Evaluation Inspection (CEI) at the Village of Ruidoso, Grindstone Dam Raw Water Treatment and Reuse Facility, 500 Resort Drive, Ruidoso in Lincoln County, New Mexico.

The facility 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 NM0030392 which authorizes discharge from outfall 001 and 002. Outfall 002 is below the dam and 001 is into Grindstone Canyon Reservoir above the dam. Both outfalls are in Grindstone Canyon thus to Carrizo Creek in Segment 20.6.4.209 State of New Mexico Standards for Interstate and Intrastate Surface Waters, New Mexico Administrative Code (NMAC) in the Pecos River Basin. This segment includes the designated uses of domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat, public water supply and primary contact.

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

On the day of this inspection, the inspector made introductions, explained the purpose of the inspection, and presented credentials to Mr. Gary Goss at the Grindstone Reservoir facility at approximately 1325 hours. Mr. Randy Koehn shortly joined the facility tour.

Files were reviewed at the offices of the Grindstone Dam WTP. A tour of the Grindstone Dam Raw Water Treatment and Reuse Facility and exit interview to discuss preliminary findings was conducted at the facility. The inspector left the Grindstone Dam WTP at approximately 1740 hours on the day of this inspection. Additional information was obtained from Mr. Koehn after the inspection prior to writing this report.

Treatment Scheme Background

The facility is located at 500 Resort Drive in Ruidoso, Lincoln County, New Mexico. Under the Standard Industrial Classification Code 4941, the applicant operates a drinking water supply storage reservoir. Grindstone Dam built in the mid 1980s impounds water from Grindstone Canyon. The dam is a roller compacted concrete structure (RCC) and these types of designs tend to leak and produce seepage on the downstream side. Previous inspection reports state that seepage from this particular structure had elevated pH ranging from 9.0 to 11.0 standard units (su). Copper sulfate was used at one time for algae control in the reservoir, typically beginning March through October on an as needed basis.

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The Ruidoso Water System services approximately 10,800 persons in residential connections. Water sources include a combination of stream diversions, and reservoirs. Grindstone Canyon Reservoir, Outfall 001 has a very small watershed located entirely with the Two Rivers Source and Water Protection Area, and can receive water piped in from Two Rivers and Upper Canyon Diversions. The Village of Ruidoso is currently under Restriction Level Phase 5 in water usage, see http://www.ruidoso-nm.gov/water-conservation.html.

The process was described as returning water leaking from Grindstone Reservoir/Dam back to the reservoir or to the water treatment facility. A water collection gallery (also called the pumpback system) was installed to collect the dam seepage water. The dam seepage can be pumped into the drinking water treatment facility or to the reservoir as needed. Into this system a new 8,300' water line has been installed to carry water from the Two Rivers junction, below the dam, into the collection gallery. This mixed water, dam seepage and transferred water is pumped into the WTP for treatment or into the Grindstone storage reservoir. Waste from the drinking water treatment process is discharged into the WWTP collection system.

The Two Rivers Diversion is located at the confluence of Carrizo Creek with the Rio Ruidoso and was given emergency authorization by the Office of the State Engineer. The Village of Ruidoso can divert water from this location up to Grindstone Reservoir when flow at the Hollywood gaging station reaches levels prescribed by the Office of the State Engineer. Both watercourses flow through developed areas with numerous potential sources of contamination. At the diversion location, Carrizo Creek is impaired for fecal coliform bacteria, and the Rio Ruidoso has a temperature and turbidity impairment. A number of homes and vacation cabins in the watersheds of these streams may utilize on site wastewater systems. The present active permit effective June 1, 2012 to May 31, 2017 does not include this diversion and co-mingling of water.

Seepage from the dam at one time had elevated pH levels thus a chemical treatment building was located between the dam and the drinking water treatment plant. The facility no longer conducts pH treatment. Testing of pH is completed before discharging back into Grindstone Canyon Reservoir.

In June 2014 Ruidoso officials announced that the village received more than $3 million from the New Mexico Water Trust Board to purchase and install a liner for the structure. The village was restricted to a level 16 feet below the spillway by the state Dam Safety Bureau, a restriction recently lifted after a detailed structural analysis. At that level, the reservoir only stored 60 percent of the 1,520 acre feet of water the dam was designed to hold, see http://www.ruidosonews.com/ruidoso-news/ci_25982569/liner-installation-slated-restore-ruidosos-grindstone-reservoir.

Seepage from Grindstone dam that is not returned to Grindstone Canyon Reservoir or used at the WTP is allowed to discharge to the unclassified Grindstone Canyon, 20.6.4.98, thence to Carrizo Creek (approximately 3,000 ft. below the dam), thence to the Rio Ruidoso. The discharge is to waterbody Segment Code 20.6.4.209 of the Pecos River Basin.

The EPA is encouraging permittees to transition from submitting DMR's as paper copies to the NetDMR system. Information on NetDMR training information can be found at: https://netdmr.zendesk.com/home

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Section A - Permit Verification – Overall Rating of "M = Marginal"

Per Permit Requirements Part III. D. Reporting Requirements

1. PLANNED CHANGES

a. INDUSTRIAL PERMITS

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b); or,

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements listed at Part III.D.10.a.

b. MUNICIPAL PERMITS

Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

Findings: for Permit Verification

1. No documents were found in a file review of NMED records to disclose that a new source of water was being discharged under the existing NPDES permit. It is unknown if EPA was notified. The Village of Ruidoso is diverting water from the downstream confluence with the Carrizo creek. Some of this diverted water is discharged upstream into the Grindstone Reservoir. The pumped water is first co-mingled with dam seepage; the Inspector was unable to get a clear description of the quality and quantity of the diverted water discharged into the Reservoir.

   See attached map and http://www.ruidoso-nm.gov/water-conservation.html.

Section B - Recordkeeping and Reporting Evaluation – Overall Rating of "M = Marginal"

Per Permit Requirements Part I. Section A. 1 Finial Effluent Limits – Outfall 001
Per Permit Requirements Part I. Section B. 1 Finial Effluent Limits – Outfall 002

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EFFLUENT CHARACTERISTICS		*DISCHARGE LIMITATIONS*					
		lbs/day, unless noted			*mg/l, unless noted*		
POLLUTANT	*STORET CODE*	*30-DAY AVG*	*DAILY MAX*	*7-DAY AVG*	*30-DAY AVG*	*DAILY MAX*	*SAMPLE TYPE*
*Flow (*1)*	*50050*	***	*Report*	***	*Report*	*Report*	*Totalizing Meter*
Total Copper	*01042*	*Report*	***	***	*Report*	*Report*	*Grab*

Findings: for Recordkeeping and Reporting

1. Per NPDES Reporting Requirements Handbook, Revised August 25, 2004, page 45
   see http://www.deq.state.ok.us/wqdnew/forms/DMR-Manual.pdf

   Reporting of Loadings

   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)

   Reviewing operating procedures and notes, the flow values used in the calculations were the monthly averages not the flow value on the day of sampling. The discharge volumes may vary greatly from day to day when the pump is on or off. Operating notes should be changed so this error will not be repeated. Always use the flow value on the day the sample was taken

Section D – Self Monitoring – Overall Rating of "M = Marginal

Per Permit Requirements Part I. Section A. 1 Finial Effluent Limits – Outfall 001
Per Permit Requirements Part I. Section B. 1 Finial Effluent Limits – Outfall 002

EFFLUENT CHARACTERISTICS		*DISCHARGE LIMITATIONS*					
		lbs/day, unless noted			*mg/l, unless noted*		
POLLUTANT	*STORET CODE*	*30-DAY AVG*	*DAILY MAX*	*7-DAY AVG*	*30-DAY AVG*	*DAILY MAX*	*SAMPLE TYPE*
*Flow (*1)*	*50050*	***	*Report*	***	*Report*	*Report*	*Totalizing Meter*
Total Copper	*01042*	*Report*	***	***	*Report*	*Report*	*Grab*

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Per Permit Requirements Part III. C. 5 Monitoring Procures

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.*

Per Standard Methods for the Examination of Water & Wastewater, 21 Edition, page 3.2

Sampling and Sample Preservation – 3010 B. Preserve samples immediately after sampling by acidifying with concentrated nitric acid (HMO3) to pH<2.After acidifying sample, preferably store it in a refrigerator at approximately 4º C to prevent changes in volume due to evaporation.

Finding – Self Monitoring

1. The permit requires a grab sample be taken twice a week for total copper measurements. The permit requires loading in lbs. /day be reported. Samples must be taken following approved test procedures under 40 CFR 136, see above. The copper samples were not being acidified and preserved following Standard Methods.

2. An adequate analytical quality control program, per Laboratory Procedures and Quality Assurance Manual, page 7-9. Requires duplicate analyses with each batch of samples to determine precision. In general, 10 percent of the samples should be duplicated. At the present time this is not being performed.

Section E – Flow Measurements – Overall Rating of "M = Marginal

Per Permit Requirements Part III.C.6. Flow Measurements

"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."

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May 13, 2015

<u>Finding</u> – Flow Measurements

1. The meters throughout the system are in-line meters thus calibration is completed at the factory. In my discussions with the staff there are two ways water can go into the reservoir. It can be pumped into the cement discharge point in the reservoir or it may backflow from the storage chamber /equational basin back into the reservoir. It is unknown at the present time the volume of the unmetered discharge.

NMED/SWQB
Official Photograph Log

Photo # 1

Photographer: Daniel Valenta	Date: 5/13/2015	Time: 1451 hours
City/County: Ruidoso/Lincoln		
Location: Grindstone Reservoir/Dam facing north.		
Subject: A liner is being placed on the dam to reduce seepage and allow increased reservoir capacity.		

NMED/SWQB
Official Photograph Log

Photo # 2

Photographer: Daniel Valenta	Date: 5/13/2015	Time: 1506 hours
City/County: Ruidoso/Lincoln		
Location: Grindstone Reservoir/Dam facing southwest.		
Subject: Grindstone reservoir has been greatly reduced to allow repairs.		

NMED/SWQB
Official Photograph Log

Photo # 3

Photographer: Daniel Valenta	Date: 5/13/2015	Time: 1408 hours
City/County: Ruidoso/Lincoln		
Location: Grindstone Reservoir/Dam facing southwest.		
Subject: Seepage at the toe of the Grindstone Dam. This is collected at the pumpback collection reservoir downstream and sent to the treatment facility or back into the reservoir.		

NMED/SWQB
Official Photograph Log

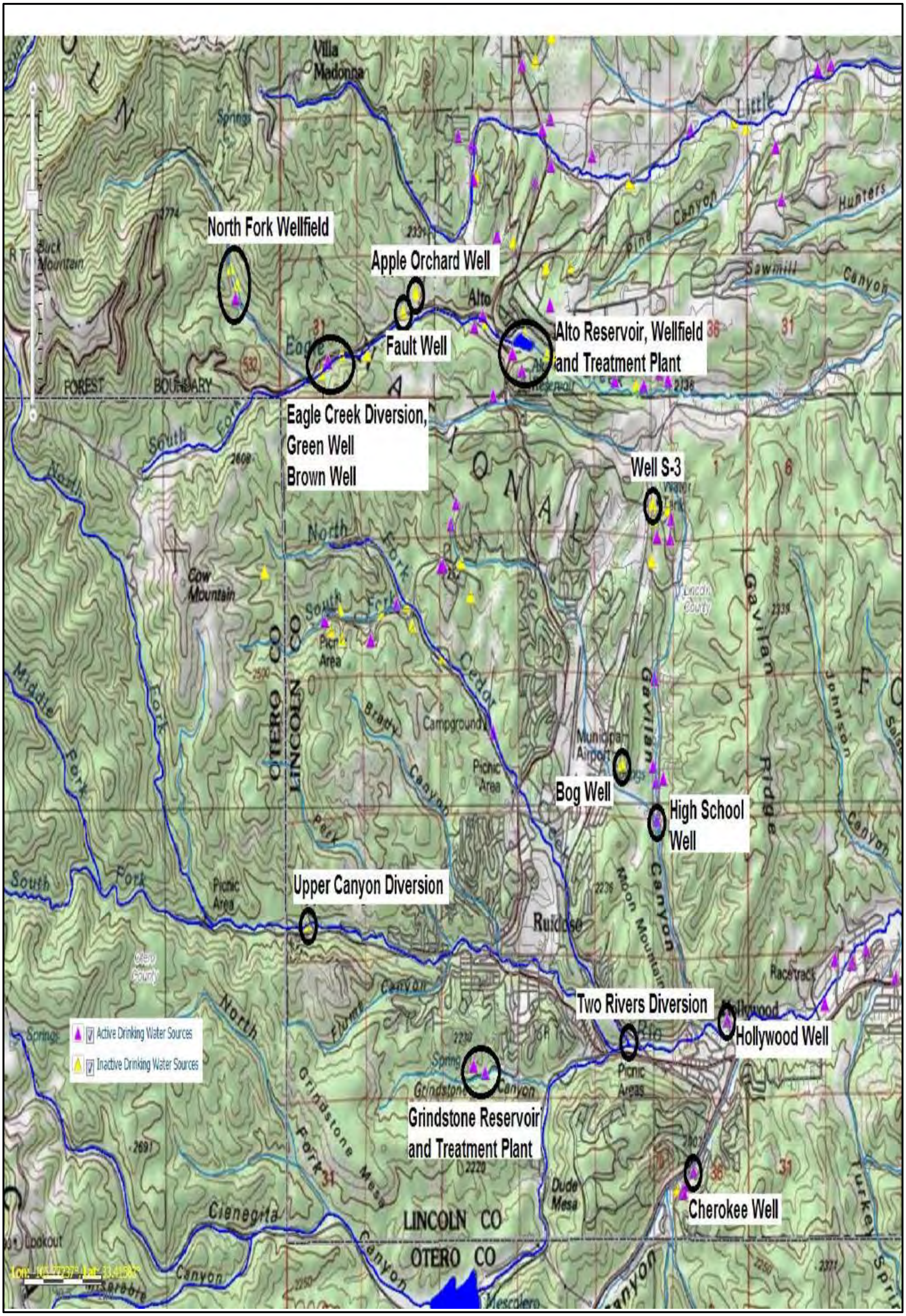
Photo # 4

Photographer: Daniel Valenta	Date: 5/13/2015	Time: 1442 hours
City/County: Ruidoso/Lincoln		
Location: Downstream of Grindstone dam, facing north.		
Subject: Seep pumpback collection reservoir. Note 10" pipe discharges into collection reservoir co-mingling water from Two Rivers intake with dam seep water.		

NMED/SWQB
Official Photograph Log

Photo # 5

Photographer: Daniel Valenta	Date: 5/13/2015	Time: 1435 hours
City/County: Ruidoso/Lincoln		
Location: Downstream of Grindstone dam, facing east.		
Subject: Outfall 002, on the other side of the road from the seep pumpback collection reservoir.		

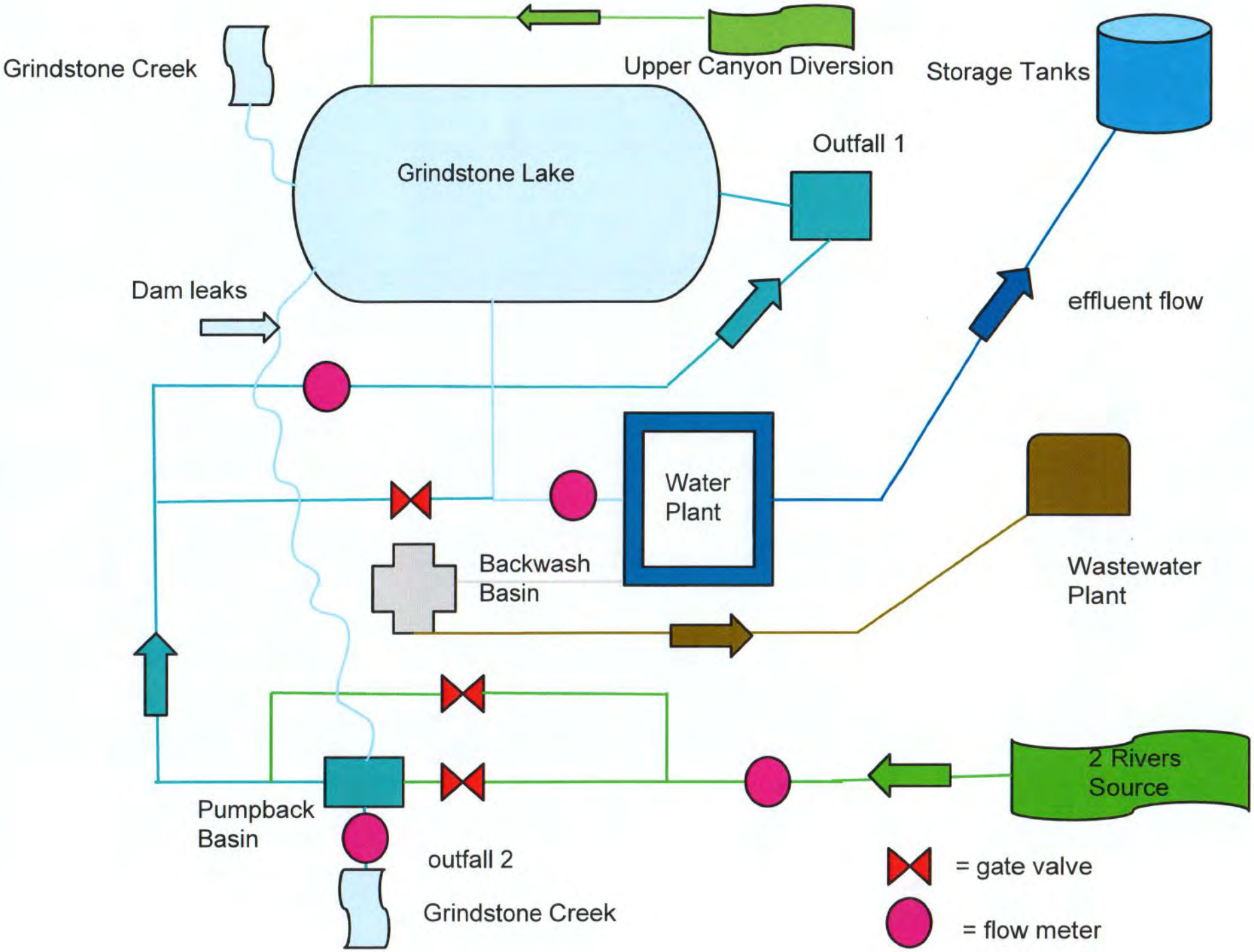

North Fork Wellfield
Apple Orchard Well
Fault Well
Alto Reservoir, Wellfield and Treatment Plant
Eagle Creek Diversion, Green Well Brown Well
Well S-3
Bog Well
High School Well
Upper Canyon Diversion
Two Rivers Diversion
Hollywood Well
Grindstone Reservoir and Treatment Plant
Cherokee Well
Active Drinking Water Sources
Inactive Drinking Water Sources
OTERO CO
LINCOLN CO
Ruidoso
Alto
Villa Madonna
Cow Mountain
Buck Mountain
Gavilan Canyon
Moon Mountain
Dude Mesa
Grindstone Mesa
Cienegita Canyon
Mescalero

Grindstone Reservoir Drinking Water Treatment Plant Intake and Discharge Dynamics

Currently there are several methods in which Grindstone treatment plant can both receive water into the inlet for treatment and discharge dam leakage to a water of the U.S. Historically, water for treatment was diverted from the Ruidoso river in the upper canyon area to the Grindstone reservoir along with small seasonal amounts of flow from the Grindstone creek above the lake. The dam leakage was pumped back up to a collection basin aside the lake to reclaim the water.This is still one option used today, although some recent additions have been added. An additional source from the convergence of the Carrizo river and the Ruidoso river can now be transferred up to the pump back station and then to either the treatment plant, the reservoir or a combination of both. (please see diagram attached) Our current NPDES permit does not reflect these new additions. There are also items that have been deleted from the treatment process such as addition of copper sulfate for algae control and acids for ph adjustment. Currently the water being sampled may or may not be from the sources described in the permit. These dynamics of flow and deletion of treatment process lead the Village of Ruidoso to believe that the NPDES permit is in need of restructure or redefinition. After speaking with and touring the oversight contact from the EPA, the possibility of perhaps going under an emergency discharge permit was discussed. The safety of both our drinking water and the environment is of the utmost concern to the Village. Whatever processes or procedures need to be undergone, the Ruidoso water system seeks to be in compliance at all times. We hope to correct or resolve any issues that need to be addressed as soon as possible as our permit renews in two years and it is our understanding that permit change is a slow process. Please let us know your thoughts on this matter so we can work together to assure our compliance.

Thank you,

Village of Ruidoso Water Production Manager


Grindstone Creek
Upper Canyon Diversion
Storage Tanks
Grindstone Lake
Outfall 1
Dam leaks
effluent flow
Water Plant
Backwash Basin
Wastewater Plant
Pumpback Basin
2 Rivers Source
outfall 2
Grindstone Creek
= gate valve
= flow meter

Ruidoso WTP NM0030392								002-A						
Date	pH	pH	CU	CU	CU	Q	Q	pH	pH	CU	CU	CU	Q	Q
	Minimum	Maximum	30 Day Ave lbs/day	30 Day Ave mg/l	Daily Max mg/l	Daily Max	30 Day Ave	Minimum	Maximum	30 Day Ave lbs/d	30 Day Ave mg/l	Daily Max mg/d	Daily Max	30 Day Ave
	6.60	8.80	Report	Report	Report	MGD	MGD	6.6	8.8	Report	Report	Report	MGD	MGD
3/1/15	nd	nd	nd	nd	nd	nd	nd	7.10	7.60	0.01	0.030	0.073	0.030	0.041
2/1/15	nd	nd	nd	nd	nd	nd	nd	7.20	7.70	0.00	0.010	0.044	0.050	0.057
1/1/15	nd	nd	nd	nd	nd	nd	nd	7.50	7.70	0.01	0.030	0.057	0.050	0.106
12/1/14	nd	nd	nd	nd	nd	nd	nd	7.00	8.40	0.01	0.020	0.130	0.052	0.057
11/1/14	nd	nd	nd	nd	nd	nd	nd	7.40	8.50	0.00	0.010	0.038	0.050	0.094
10/1/14	nd	nd	nd	nd	nd	nd	nd	7.00	8.50	0.01	0.020	0.045	0.060	0.070
9/1/14	nd	nd	nd	nd	nd	nd	nd	6.90	7.10	0.010	0.020	0.040	0.070	0.090
8/1/14	nd	nd	nd	nd	nd	nd	nd	7.00	7.20	0.040	0.060	0.180	0.070	0.100
7/1/14	7.90	8.10	0.020	0.060	0.090	0.030	0.045	7.10	8.10	0.030	0.060	0.180	0.050	0.140
6/1/14	7.30	8.10	0.008	0.030	0.052	0.030	0.036	nd	nd	nd	nd	nd	nd	nd
5/1/14	7.70	7.90	0.010	0.050	0.140	0.030	0.043	nd	nd	nd	nd	nd	nd	nd
4/1/14	7.50	7.90	0.050	0.070	0.190	0.080	0.500	nd	nd	nd	nd	nd	nd	nd
3/1/14	7.40	7.80	0.099	0.685	0.330	0.374	0.522	nd	nd	nd	nd	nd	nd	nd
2/1/14	7.60	7.90	0.021	0.520	0.140	0.150	0.528	nd	nd	nd	nd	nd	nd	nd
1/1/14	7.40	7.90	0.002	0.015	0.076	0.019	0.047	nd	nd	nd	nd	nd	nd	nd
12/1/13	8.00	8.20	0.004	0.069	0.120	0.031	0.089	nd	nd	nd	nd	nd	nd	nd
11/1/13	8.00	8.20	0.001	0.006	0.027	0.034	0.352	nd	nd	nd	nd	nd	nd	nd
10/1/13	8.00	8.20	0.073	0.612	0.310	0.292	0.584	nd	nd	nd	nd	nd	nd	nd
9/1/13	6.70	8.30	0.025	0.407	0.110	0.326	0.644	nd	nd	nd	nd	nd	nd	nd
8/1/13	6.70	8.20	0.014	0.090	0.022	0.434	0.655	nd	nd	nd	nd	nd	nd	nd
7/1/13	6.80	8.00	0.003	0.014	0.057	0.053	1.020	nd	nd	nd	nd	nd	nd	nd
6/1/13	6.80	7.90	0.001	0.007	0.034	0.029	0.292	nd	nd	nd	nd	nd	nd	nd
5/1/13	7.10	7.80	0.001	0.005	0.026	0.017	0.044	nd	nd	nd	nd	nd	nd	nd
4/1/13	7.00	7.90	0.010	0.012	0.048	0.030	0.039	nd	nd	nd	nd	nd	nd	nd
3/1/13	6.70	7.80	0.004	0.014	0.035	0.048	0.032	nd	nd	nd	nd	nd	nd	nd
2/1/13	6.80	8.40	0.002	0.009	0.009	0.057	0.032	nd	nd	nd	nd	nd	nd	nd
1/1/13	6.60	8.00	0.010	0.111	0.010	0.432	0.108	nd	nd	nd	nd	nd	nd	nd
12/1/12	6.70	8.30	0.004	0.014	0.027	0.055	0.032	7.90	7.90	0.001	0.001	0.001	0.211	0.211
11/1/12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
11/1/12	6.90	8.30	0.004	0.013	0.012	0.039	0.028	7.30	7.30	nd	nd	nd	0.039	0.028
10/1/12	7.20	7.60	0.003	0.013	0.028	0.040	0.024	7.80	7.80	0.005	0.008	0.008	0.075	0.075
9/1/12	7.10	7.30	0.000	0.000	0.000	0.022	0.013	7.10	7.30	0.000	0.000	0.000	0.022	0.013
8/1/12	7.10	7.40	0.000	0.003	0.003	0.008	0.010	7.10	7.40	0.000	0.003	0.003	0.008	0.010
7/1/12	6.90	7.80	0.000	0.002	0.002	0.014	0.018	6.90	7.80	0.000	0.002	0.002	0.018	0.014
6/1/12	7.20	7.60	0.004	0.001	0.025	0.014	0.006	7.20	7.60	0.000	0.025	0.025	0.014	0.006
5/1/12														
4/1/12														
3/1/12														
2/1/12														
1/1/12														
12/1/11														
11/1/11														
10/1/11														
9/1/11	7.50	8.60	0.000	0.000	0.000	0.044	0.058							
8/1/11	7.90	8.20	0.000	0.000	0.000	0.050	0.066							
7/1/11	7.60	7.90	0.000	0.000	0.000	0.057	0.096							
6/1/11	7.80	8.10	0.031	0.003	0.003	0.056	0.112							

Daniel

Village of Ruidoso

July 1, 2015

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

RE: Response to the Grindstone Treatment Plant/Grindstone Dam Compliance Evaluation Inspection

Dear Mr. Yurdin,

Thank you for your June 3, 2015 letter, report and check list on the Evaluation Inspection of Village Dams. We have reviewed the inspection report and have discussed it with our Water Production Manager and Staff. Please find attached the Village of Ruidoso's response to the Grindstone Treatment Plant/Grindstone Dam Compliance Evaluation Inspection findings.

Please let me know if you have any questions or concerns, after your review of the attached.

Debi Lee
Village Manager

313 Cree Meadows Dr. • Ruidoso, NM 88345 • (575) 258-4343 • FAX (575) 258-3017
Website: www.ruidoso-nm.gov

Village of Ruidoso

Response to the Grindstone Treatment Plant /Grindstone Dam Compliance Evaluation Inspection findings on May 13, 2015 (NPDES Permit Number - NM0030392)

Findings*:* **for Permit Verification**

1. No documents were found in a file review of NMED records to disclose that a new source of water was being discharged under the existing NPDES permit. It is unknown if EPA was notified. The Village of Ruidoso is diverting water from the downstream confluence with the Carrizo Creek. Some of the diverted water is discharge upstream into the Grindstone Reservoir. The pumped water is first co-mingled with the dam seepage: The inspector was unable to get a clear description of the quality and quantity of the diverted water discharged into the Reservoir.

VOR Corrective Action: It is unclear if the Village of Ruidoso (VOR) notified NMED/EPA about adding a new discharge (two rivers diversion) to the existing NPDES permit. We were unable to locate any written documents. The flow from two rivers is metered at the pump and the pumpback station which measures the flow to the pumpback station. The flow from the pumpack is metered at the vault by the chemical storage building which measures the flow to outfall 1 (located at Grindstone Reservoir). This flow measurement is accurate if the flow is pumped to outfall #1. If the flow is pump directly to the plant, there is no accurate flow measurement until a bidirectional meter is installed. The seepage flow data is recorded at a Parshall Flume with a flow meter that is located on the Grindstone Creek located behind the decant basins. Water samples were taken at the two rivers pump site, Plant 4 clearwell, and at the Grindstone Reservoir. The water was analyzed for ph, temperature, turbidity, conductivity, total dissolved solids, salinity, and for hardness, and the results were compared at all three sites. Additional water samples will be taken and analyzed for metals at two rivers, Grindstone Reservoir, and the pumpback station.

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

1. **Per NPDES Reporting Requirement Handbook. Revised August 25, 2004, page 45 see http://www.deq.state.ok.us/wqdnew/forms/DMR-Manual.pdf**

Reporting of Loadings

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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 the sampling was done.

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

Reviewing operating procedures and notes, the flow values used in the calculation were the monthly average not the flow value on the day of the sampling. The discharge volumes may vary greatly from day to day when the pump is on or off. Operating notes should be changes so this error will not be repeated. Always use the flow value on the day the sample was taken.

VOR Corrective Action: The flow on the day (MGD) x concentration (mg/l) x8.34 (lbs/day) calculation was implemented on the June 2015 DMR's, and all future DMR's.

Findings – **Self Monitoring**

1. The permit requires a grab sample be taken twice a week for total copper measurements. The permit requires loading in lbs/day be reported. Samples must be taken following approved test procedures under 40 CFR 136, see above. The copper samples were not being acidified and preserved following Standards Methods.

2. An adequate analytical quality control program, per Laboratory Procedures and Quality Assurance Manual, page 7-9. Requires duplicate analyses with each batch of samples to be determine precision. In general, 10 percent of the samples should be duplicated. At the present time this is not being done.

VOR Corrective Action for #1: As per the permit requirements, two samples per week are being taken twice per week and measured for copper in lbs/day. The sampling procedure was changed, and all copper samples are now acidified and preserved in accordance with Standard Methods.

VOR Corrective Action for #2: The Water Production Department (WPD) will run duplicate samples on 10% of the samples to insure that the WPD is in accordance with the Laboratory Procedures and Quality Assurance Manual (Page 5-7).

Per Permit Requirements Part III.C.6. Flow Measurements

Finding – **Flow Measurements**

1. The meters throughout the system are in-line meters thus calibration is completed at the factory. In my discussions with the staff there are two ways water can go into the reservoir. It can be pumped into the cement discharge point in the reservoir or it may backflow from the storage chamber/equational basin back into the reservoir. It is unknown at the present time the volume of the unmetered discharge.

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<u>VOR Corrective Action:</u> A flow measurement issue only occurs when water is pumped from two rivers and brought directly into plant 4 via the two rivers pump and the pumpback. If the two rivers pump is pumping 500 gpm and the plant is running at 200gpm, the excess flow (300 gpm) would go directly into the Grindstone Reservoir. To solve the flow measurement issue, the Water Production Department plans on installing a bidirectional meter on the raw water line from Grindstone Reservoir.

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