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Surface Water Quality Bureau

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Director
Resource Protection Division

Certified Mail - Return Receipt Requested

January 30, 2014

Michael Sloane, Division Chief
Hatchery Management Division
New Mexico Department of Game & Fish
One Wildlife Way
P.O. Box 25112
Santa Fe, New Mexico 87504

**Re: New Mexico Department of Game & Fish / Red River State Trout Hatchery; Minor;
Individual Permit; SIC 0921; NPDES Compliance Evaluation Inspection; NPDES #
NM0030147; January 8, 2014**

Dear Mr. Michael Sloane:

Enclosed please find a copy of the report and check list for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

Introduction, treatment scheme, and problems noted during this inspection are discussed in the "Further Explanations" section of the inspection report.

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

Red River Trout Hatchery
January 30, 2014
Page 2

Diana McDonald
US Environmental Protection Agency, Region VI
Enforcement Branch (6EN-WM)
1445 Ross Avenue
Dallas, Texas 75202-2733

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

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-mail
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 II, Robert Italiano by e-mail

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED NO)

- 1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE Y N NA
- 2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES Y N NA
- 3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT Y N NA
- 4. ALL DISCHARGES ARE PERMITTED Y N NA

SECTION B - RECORDKEEPING AND REPORTING EVALUATION

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. DETAILS: S M U NA (FURTHER EXPLANATION ATTACHED No)

- 1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs. Y N NA
- 2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE. S M U NA
 - a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING Y N NA
 - b) NAME OF INDIVIDUAL PERFORMING SAMPLING Y N NA
 - c) ANALYTICAL METHODS AND TECHNIQUES Y N NA
 - d) RESULTS OF ANALYSES AND CALIBRATIONS. Y N NA
 - e) DATES AND TIMES OF ANALYSES. Y N NA
 - f) NAME OF PERSON(S) PERFORMING ANALYSES. Y N NA
- 3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE. S M U NA
- 4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR. S M U NA
- 5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA. Y N NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. 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. **Gravity flow** S M U NA
- 4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE. S M U NA
- 5. ALL NEEDED TREATMENT UNITS IN SERVICE S M U NA
- 6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED. S M U NA
- 7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED. S M U NA
- 8. OPERATION AND MAINTENANCE MANUAL AVAILABLE. Y N NA
- STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED. Y N NA
- PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED. Y N NA

SECTION C - OPERATIONS AND MAINTENANCE (CONT'D)

9. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR? Y N NA
 IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED? Y N NA
 HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS? Y N NA

10. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT? Y N NA
 IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT? Y N NA

SECTION D - SELF-MONITORING

PERMITTEE SELF-MONITORING MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED No).
 DETAILS:

1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT. Y N NA

2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES. Y N NA

3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT. Y N NA

4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT. Y N NA

5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT. Y N NA

6. SAMPLE COLLECTION PROCEDURES ADEQUATE Y N NA

a) SAMPLES REFRIGERATED DURING COMPOSITING. Y N NA

b) PROPER PRESERVATION TECHNIQUES USED. Y N NA

c) CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136.3. Y N NA

7. IF MONITORING AND ANALYSES ARE PERFORMED MORE OFTEN THAN REQUIRED BY PERMIT, ARE THE RESULTS REPORTED IN PERMITTEE'S SELF-MONITORING REPORT? Y N NA

SECTION E - FLOW MEASUREMENT

PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED YES)
 DETAILS:

1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED. Y N NA
 TYPE OF DEVICE

3ft (Outfall 001), 1 ft (Outfall 002), & 2ft (Outfall 003) Trapezoidal Cippolletti Weirs

2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED. Y N NA

3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED. Y N NA

4. CALIBRATION FREQUENCY ADEQUATE. Y N NA
 RECORDS MAINTAINED OF CALIBRATION PROCEDURES. Y N NA
 CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE. Y N NA

5. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE. Y N NA

6. HEAD MEASURED AT PROPER LOCATION. Y N NA

7. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES. Y N NA

SECTION F - LABORATORY

PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS. S M U NA (FURTHER EXPLANATION ATTACHED No)
 DETAILS:

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

**Compliance Evaluation Inspection
Red River State Fish Hatchery
NPDES Permit #NM0030147, January 8, 2014**

Introduction

On January 8, 2014, Daniel Valenta, accompanied by Chuck Dentino, both of the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB), conducted a Compliance Evaluation Inspection (CEI) at the New Mexico Department of Game & Fish (NMDG&F), Red River State Trout Hatchery approximately 3.5 miles southwest of Questa, New Mexico in Taos County, New Mexico.

The facility is classified as a major 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 NM0030147 which regulates discharge from three outfalls (001, 002 and 003) to the Red River in Segment 20.6.4.122 *State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4 New Mexico Administrative Code (NMAC)* in the Rio Grande Basin. This segment includes the designated uses of coldwater aquatic life, fish culture, irrigation, livestock watering, wildlife habitat 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 inspector, and records and reports kept by the Permittee and/or NMED.

The inspectors arrived at the facility at approximately 1125 hours on the day of this inspection. Hatchery management staff was contacted and arrived shortly. Mr. Valenta made introductions, presented credentials and explained the purpose of the inspection to Steve Hopper, Facility Manager. The inspector and Mr. Hopper toured the facility. An exit interview to discuss preliminary findings was conducted with Mr. Hopper on site. The inspector left the facility at approximately 1432 hours.

Treatment Scheme

A hatchery has been on site since 1941. Disinfection of the hatchery occurred in 2004 following discovery of whirling disease, recently renovated with now fully covered raceways. It is operating at full capacity. It produces about 1.7 million trout a year. It is the state's largest production hatchery and currently is raising triploid (sterile) trout so no interbreeding with native fish will occur.

The flow-through hatchery has a hatch house, three sets of covered raceways ("A", "B" and "C") and a public exhibition pond or "show pond." Rainbow trout eggs are incubated in the hatch house, then upon reaching certain size are transferred first to "A", then "B", then "C" raceways. A fourth un-covered raceway ("D") exists at the facility, but is no longer used. Fish mortalities are composted with wood chip or mulch materials in a separate lined pit north of the raceways approximately 550 feet from Red River. Expansion of the raceways is not planned.

**Compliance Evaluation Inspection
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Water from onsite warm springs is blended with one cold water spring located in Questa and piped to the facility. Water gravity flows from the A raceway to the B raceway to the C raceway. The water discharges from a drain line at Outfall 001, this outfall is the major discharge point to the river. A diversion is located after the “B” raceway to provide water to the show pond that has a drain line that discharges at Outfall 002. Each raceway is equipped with a standpipe that is closed except when the raceway is cleaned. Raceways are cleaned three days a week on the current schedule, Tuesday, Wednesday, and Thursday. Intake flows are not diverted from the raceways during cleaning (scraping), but the standpipe in the raceways is removed. Removing the standpipe allows the flow and waste solids to flow to two settling ponds operated in series (first upper, then lower pond). The outlet pipe from the lower pond discharges at Outfall 003.

Further Explanations

Section E - Flow Measurement – Overall Rating of “U = Unsatisfactory”

Permit Requirements for Flow Measurement

Part I.A of the permit requires reporting of weir collection system total flow at a frequency of once/day and Footnote 3 states, “*Flow shall be recorded from each outfall by measuring flow over the weir. The flow from each outfall shall be totaled...*”

Part III.C.6 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:

These are repeat finding of the July 31, 2012 inspection.

Primary flow measurement devices, in this case Trapezoidal (Cipolletti) weirs, did not appear properly installed and maintained. NMDG&F used information in Appendix D, Use of Weirs to Measure Flow, Fish Hatchery Management, Department of the Interior, U.S. Fish and Wildlife Service (USFWS) to construct weirs at outfalls. Excerpts from the above-referenced USFWS manual states:

- *The weir crest must be exactly level and the weir faces exactly vertical, or the standard head-to-discharge calibrations will not apply.*
- *The weir crest, formed with a metal plate, must be leak-proof, sharp or square-edged, and no thicker than 1/8 inch.*

**Compliance Evaluation Inspection
Red River State Fish Hatchery
NPDES Permit #NM0030147, January 8, 2014**

- *The channel above the weir must be straight, level, and clean to ensure smooth water flow.*
- *Sediment and debris should not be allowed to collect on or behind the weir.*

Facility weir crests were square edged approximately 1.5 inches wide. The Permittee did not have documentation on-site that the standard head to discharge calculations from the USFWS manual would apply to the wider crest width. Isco Open Channel Flow Measurement Handbook, Sixth Edition, Chapter 3 Weirs, Figure 3-2 also show a sharp-crested weir width of approximately 1/8 inch. The above-referenced Isco Handbook states, *"To ensure accurate discharge measurement, there are certain general weir design requirements that apply to all types: ...The weir should consist of a thin plate 1/8 to 1/4 inch thick..."* Isco Handbook states, *"The details of a particular installation may justify a deviation from these recommendations, based on sound engineering judgment."*

Flow entering the weir at Outfalls 001 was not well distributed across the channel and was not free of turbulence, (see photo 2). The flow measurement device at Outfall 001 did not appear adequate to handle expected range of flow rates and/or to allow smooth water flow.

The drain line pipe from the show ponds was leaking where it entered the constructed channel at Outfall 002. A portion of the flow did not enter the weir to be measured. The flow around the constructed channel could affect the integrity of the bank at the base of the constructed box and cause settling. Calibration checks, in this case horizontal and vertical surface levels or checks for settling, including the measuring scales, had not been conducted at Outfalls 001, 002 and 003 since installation.

Accurate flow measurement data is important, because the data is used in Aluminum loading calculations and to determine composite sample volumes. If a change to the type of flow measurement device is needed because of site conditions at the outfalls, then the Permittee would need to contact the USEPA.

**NMED/SWQB
Official Photograph Log**

Photo # 1

Photographer: Daniel Valenta	Date: 1/8/2014	Time: 1241 hours
City/County: Near Questa / Taos County		
Location: Red River State Trout Hatchery approximately 3.5 miles southwest of Questa, New Mexico in Taos County, New Mexico.		
Subject: While observing the river it appeared green algae growth greatly increased below 001 outfall, no increased growth was observed upstream of the outfall.		



**NMED/SWQB
Official Photograph Log**

Photo # 2

Photographer: Daniel Valenta	Date: 1/8/2014	Time: 1242 hours
City/County: Near Questa / Taos County		
Location: Red River State Trout Hatchery approximately 3.5 miles southwest of Questa, New Mexico in Taos County, New Mexico.		
Subject: Outfall 001, majority of discharge volume discharges here.		



**NMED/SWQB
Official Photograph Log**

Photo # 3

Photographer: Daniel Valenta	Date: 1/8/2014	Time: 1253 hours
City/County: Near Questa / Taos County		
Location: Red River State Trout Hatchery approximately 3.5 miles southwest of Questa, New Mexico in Taos County, New Mexico.		
Subject: Outfall 002, note weir edge improperly designed and some flow is leaking before entering the box.		



**NMED/SWQB
Official Photograph Log**

Photo # 4

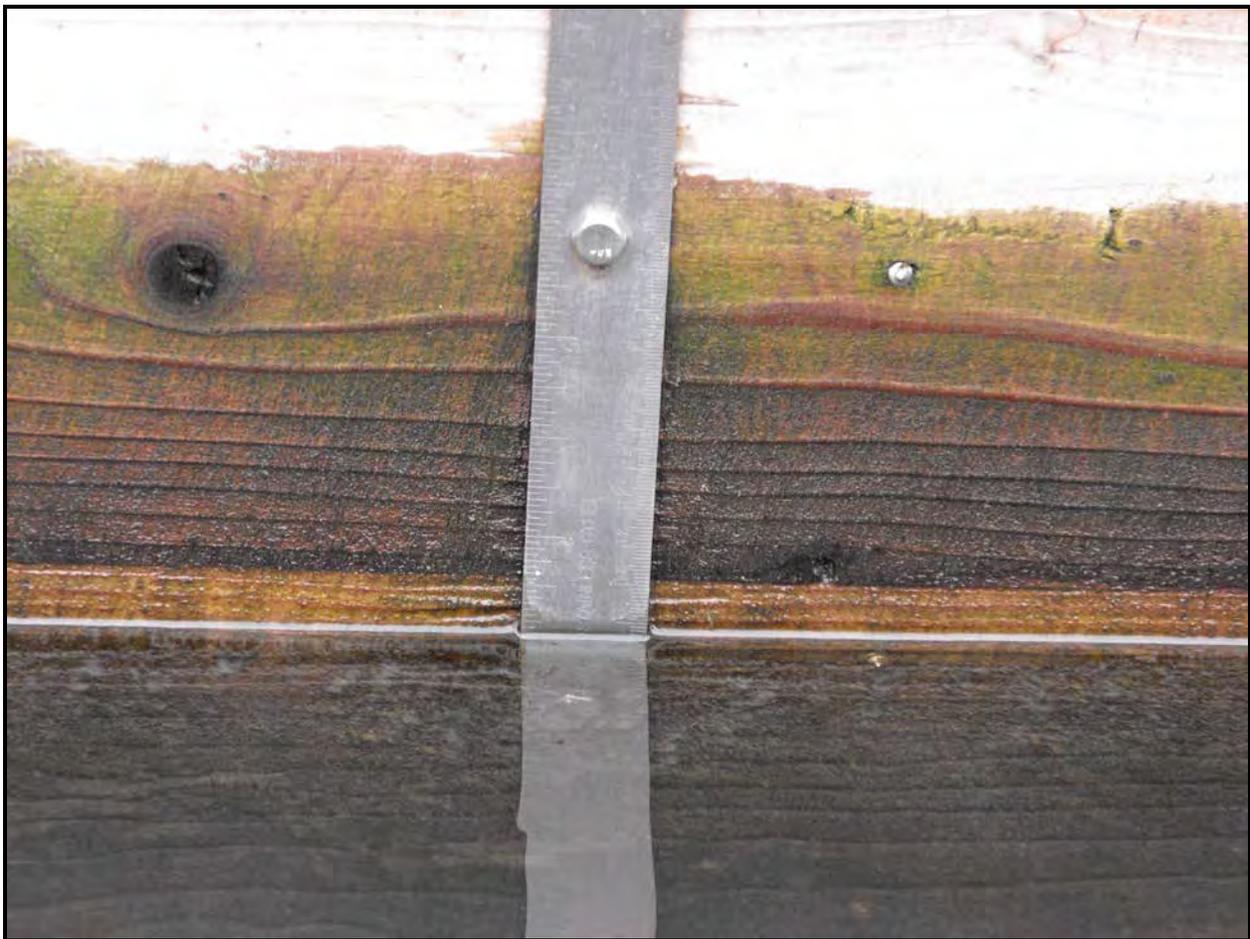
Photographer: Daniel Valenta	Date: 1/8/2014	Time: 1300 hours
City/County: Near Questa / Taos County		
Location: Red River State Trout Hatchery approximately 3.5 miles southwest of Questa, New Mexico in Taos County, New Mexico.		
Subject: Outfall 003, discharge from settling ponds.		



**NMED/SWQB
Official Photograph Log**

Photo # 5

Photographer: Daniel Valenta	Date: 1/8/2014	Time: 1253 hours
City/County: Near Questa / Taos County		
Location: Red River State Trout Hatchery approximately 3.5 miles southwest of Questa, New Mexico in Taos County, New Mexico.		
Subject: Outfall 003, type of staff gage used at all outfalls. Even at very close range with no flow reading the weathered scale is extremely difficult.		



GOVERNOR
Susana Martinez



INTERIM DIRECTOR AND SECRETARY
TO THE COMMISSION
R.J. Kirkpatrick

DEPUTY DIRECTOR
Daniel E. Brooks

STATE OF NEW MEXICO DEPARTMENT OF GAME & FISH

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February 10, 2014

Mr. Bruce Yurdin
Program Manager
Point Source Regulation Division
New Mexico Environment Department – SWQB
P.O. Box 5469
Santa Fe, NM 87502

Dear Mr. Yurdin:

The New Mexico Department of Game and Fish (NMDGF) has reviewed the NPDES Compliance Evaluation Inspection (CEI) generated on January 30, 2014 from an inspection conducted by Mr. Daniel Valenta of the New Mexico Environment Department (NMED) on behalf of the U. S. Environmental Protection Agency (USEPA) at the Red River State Trout Hatchery, NPDES Permit #NM0030147, on January 8, 2014. The following comments are in response to statements made in the Introduction, Further Explanations and Findings sections of the inspection report.

Introduction

The first sentence of the second paragraph in the Introduction refers to Red River State Trout Hatchery as a 'major industrial discharger' under Section 402 of the Clean Water Act. Red River State Trout Hatchery is a minor non-municipal discharger under Section 402 of the Clean Water Act.

Further Explanations and Findings

Section E – Flow Measurement

At the time of the inspection on January 8, 2014, the materials required to make the necessary modifications and/or repairs to the weirs in order to obtain accurate flow measurements, as noted in the CEI report, had been procured and were onsite. The needed modifications to the weirs at outfalls 002 and 003 have been completed following the inspection and are currently being performed by hatchery staff at outfall 001.

Thank you for your communication and the information provided during the inspection. Please contact Mr. Michael Sloane, Chief of Fisheries Management Division, Mr. Roderick Gallegos, Assistant Chief of Fisheries Management Division, or myself if there are any further questions or concerns.

Sincerely,



Heather Timmons
Environmental Compliance Specialist, Fisheries Division

Cc: Diana McDonald (6EN-WM), Water Enforcement Branch, USEPA
Gladys Gooden-Jackson (6EN-WC), Water Enforcement Branch, USEPA *by e-mail*
Rashida Bowlin (6EN-AS), Water Enforcement Branch, USEPA *by e-mail*
Carol Peters (6EN-WM) Water Enforcement Branch, USEPA *by e-mail*
Brent Larsen (6WQ), Water Quality Division, USEPA *by e-mail*
Robert Italiano, NMED District II *by e-mail*
Michael Sloane, Division Chief – Fisheries Division, NM Department of Game and Fish
Roderick Gallegos, Asst. Chief – Fisheries Division, NM Department of Game and Fish
Red River State Trout Hatchery, NM Department of Game and Fish