



NEW MEXICO
ENVIRONMENT DEPARTMENT



Surface Water Quality Bureau

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JAMES H. DAVIS, Ph.D.
Director
Resource Protection Division

Certified Mail - Return Receipt Requested

18 May 2012

Mr. Michael Sloane
Chief of Fisheries Division
State of New Mexico
Department of Game & Fish
P.O. Box 25112
Santa Fe, NM 87504

Re: **Minor-Non-Municipal; SIC 0921; NPDES Compliance Evaluation; Los Ojos State Fish Hatchery; NM0030139; 20 April 2012**

Dear Mr. Sloane:

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

Problems noted during this inspection are discussed in the Further Explanations section of the inspection report. You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and to modify your operational and/or administrative procedures, as appropriate.

I want to thank Mr. Peter Thompson, Hatchery Manager for his cooperation during the inspection. If you have any questions about this inspection report, please contact me at (505) 827-0212.

Sincerely,

/s/BARBARA COONEY

Barbara Cooney
Surface Water Quality Bureau

cc: Marcia Gail Adams, USEPA (6EN-AS) by e-mail
Samuel Tate, USEPA (6EN-AS) by e-mail
Carol Peters-Wagnon, USEPA (6EN-WM) by e-mail
Diana McDonald, USEPA (6EN-WM) by e-mail
Larry Giglio, USEPA (6WQ-PP) by e-mail
Hannah Branning, USEPA (6EN-WC) by e-mail
NMED District I Manager by e-mail



NPDES Compliance Inspection Report

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspec. Type	Inspector	Fac Type
1 N 2 5 3 N M 0 0 3 0 1 3 9 11 12 1 2 0 4 2 0 17 18 C 19 S 20 2					
Remarks					
S T A T E F I S H H A T C H E R Y					
Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved	
67 0 0 1 69	70 3	71 N	72 N	73	74 75 M I N O R 80

Section B: Facility Data

Name and Location of Facility Inspected (For industrial users discharging to POTW, also include POTW name and NPDES permit number) State of New Mexico Department of Game and Fish, Los Ojos State Trout Hatchery, NM0030139. From State 84/64, approximately 2 miles south of Los Ojos, south on Co Rd 340, turn left at State Hatchery Sign, to the end of the road. Rio Arriba County	Entry Time /Date 1300/ 20 April 2012	Permit Effective Date 1 September 2006
	Exit Time/Date 1700/ 20 April 2012	Permit Expiration Date 31 August 2011
Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s) Mr. Peter Thompson, Hatchery Manager, 575-588-7307	Other Facility Data SIC 0921	
Name, Address of Responsible Official/Title/Phone and Fax Number Michael Sloane//Chief-Fisheries Division State of New Mexico Department of Game & Fish, P.O. Box 25112, Santa Fe, New Mexico 87504, 505-476-8055	Contacted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> *	Outfall 001: 36 43' 09.14" N -106 34' 39.38" W Outfall 002: 36 43' 02.07" N -106 34' 36.40" W

Section C: Areas Evaluated During Inspection (S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	M	Flow Measurement	M	Operations & Maintenance	N	CSO/SSO
S	Records/Reports	M	Self-Monitoring Program	M	Sludge Handling/Disposal	N	Pollution Prevention
M	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)

SEE FURTHER EXPLANATIONS FOR DETAILS

Name(s) and Signature(s) of Inspector(s) /s/ BARBARA COONEY	Agency/Office/Telephone/Fax NMED/SWQB 505-827-0212 / 505-827-0160	Date 18 May 2012
Signature of Management QA Reviewer /s/ RICHARD POWELL	Agency/Office/Phone and Fax Numbers NMED/SWQB 505-827-2798 / 505-827-0160	Date 5/21/2012

SECTION A - PERMIT VERIFICATION

PERMIT SATISFACTORILY ADDRESSES OBSERVATION 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 Y N NA

SECTION B - RECORDKEEPING AND REPORTING EVALUATION

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

DETAILS:

1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRs. Y N NA

2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE. S M U NA

a) DATES, TIME(S) AND LOCATION(S) OF SAMPLING Y N NA

b) NAME OF INDIVIDUAL PERFORMING SAMPLING Y N NA

c) ANALYTICAL METHODS AND TECHNIQUES. Y N NA

d) RESULTS OF ANALYSES AND CALIBRATIONS. Y N NA

e) DATES AND TIMES OF ANALYSES. Y N NA

f) NAME OF PERSON(S) PERFORMING ANALYSES. Y N NA

3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE. S M U NA

4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR. S M U NA

5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA. Y N NA

SECTION C - OPERATIONS AND MAINTENANCE

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. S M U NA (FURTHER EXPLANATION ATTACHED Yes)

DETAILS:

1. TREATMENT UNITS PROPERLY OPERATED. S M U NA

2. TREATMENT UNITS PROPERLY MAINTAINED. S M U 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

No Solids Removal System

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. Bio-monitoring - see further explanations Y N NA
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES. Y N NA
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT. Sampling Does Not Take Place during scrubbing of raceways 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. Outfall 002 there is turbulence and may cause inaccurate reading Y N NA
 TYPE OF DEVICE
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 _____)
 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

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NPDES Permit NM0030139
20 April 2012
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Introduction

On 20 April 2012 a Compliance Evaluation Inspection (CEI) was conducted at the New Mexico Department of Game and Fish (NMDG&F) Los Ojos State Fish Hatchery (LOSFH) located near Los Ojos, New Mexico by Barbara Cooney of the New Mexico Environment Department (NMED). The LOSFH has a design flow of 3.32 MGD, and is classified as an industrial discharger under the Federal Clean Water Act, Section 402 National Pollutant Discharge Elimination System (NPDES) permit program and is assigned permit number NM0030139.

The LOSFH is permitted to discharge into an unnamed irrigation ditch, then to Burns Lake then to the La Puente Irrigation Ditch, thence to the Rio Chama in Segment 20.6.4.119 NMAC (State of New Mexico Standards for Interstate and Intrastate Surface Waters). Designated uses of the Rio Chama are domestic water supply, fish culture, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and secondary contact.

The NMED performs a certain number of CEI's for the U.S. Environmental Protection Agency (USEPA) each year. The purpose of this inspection is to provide USEPA with information to evaluate the permittee's compliance with the NPDES permit. This report is based on review of files maintained by the permittee and NMED, on-site observations by NMED personnel, and verbal information provided by the permittee's representatives.

Inspection Details

An entrance interview was conducted with Mr. Peter Thompson, Hatchery Manager at 1300 hours on 20 April 2012. The inspector made introductions, presented her credentials and discussed the purpose of the inspection. Following the inspection an exit interview was held at approximately 1640 hours on that day with Mr. Thompson. The inspector left the facility at 1700. The following week on 24 April 2012, Mr. Shaun Green provided (via fax) to the inspector records that were not reviewed during the site visit.

Treatment Scheme

Rainbow Trout (fry, fingerlings and subcatchables) and Kokanee Salmon (fry, fingerlings and subcatchables) are raised at this 90 acre site. Kokanee eggs are hatched from October through November and Rainbows are hatched year round. The yearly harvestable production rate for Rainbow Trout is 80,000 lbs and for Kokanee Salmon is 400 lbs according to the 23 February 2011 permit application.

Water is supplied through a series of springs that flow to an aeration tower then to a series of 10 raceways named A through J Battery. A Battery is a series of raceways for the rearing of fish. These raceways - Batteries are housed in a series of 3 open air buildings that are each fenced in for security. Above J Battery, the water is lifted to a tower by pumps to allow gravity feed through the final series of raceways. In addition to the raceways a small hatchery building for the rearing of eggs and fry is on site. This small hatchery building is where the majority of additional Drugs Medications and Chemicals (DMC) treatments are applied. The DMCs observed on site include: Chlorine, DixiChlor, Formalin and Parasite-S made by Western Chemicals. Small doses are added to the water flowing through the eggs and fry rearing chambers. There is no removal of these DMCs before final discharge. According to the facility personnel and records reviewed, all treatments are done in a manner that is approved by the Food and Drug Administration (FDA). It is unclear if these DMC treatments actually reach the discharge location. Monitoring records of effluent concentrations were not observed. Facility personnel stated that when DMCs are used, the water is sent to Outfall 001 and not to 002.

The raceways are periodically scrubbed and cleaned of solids and debris. There is no mechanism for the removal of the solids and debris from the water stream, it is simply allowed to flow through, primarily to Outfall 001 for discharge.

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Over the last several years the facility was not raising fish due to Whirling Disease caused by the *Myxobolus cerebralis* parasite, effecting salmon, trout and other similar species of fish. The disease usually causes neurological damage to young fish causing the effected fish to "whirl" in a cork screw pattern. It was determined that the facility was clear of the problem June 2011 and was able to restart production. During the unproductive years, effluent discharges were only at Outfall 001. The facility also has a second outfall so named Outfall 002. Discharge to Outfall 002 began March 2012.

Outfall 001 is a 30'x10'x 10' concrete chamber that was recently installed with a rectangular weir and metal ruler staff gauge.

Outfall 002 is also a rectangular weir approximately 6' wide, with a metal ruler staff gauge.

The facility also produces drinking water for the Village of Los Ojos. The drinking water process is entirely separate from the fish hatchery process. Chlorination and Filtration is contained and any filters used in the system are removable and disposed of at the county landfill. Chemicals kept on site for the drinking water process include liquid chlorine and hydrogen peroxide.

Sludge

The mortality fish are removed from the raceways and are buried in pits on site. These pits are uphill of the final raceway, J Battery. The unlined pits are located in an area where willows are growing indicating high natural water availability. It is possible during high spring season runoff; these pits are very near the ground water table. There is no actual solids removal of fish waste and/or uneaten fish food in the raceways. The raceways are periodically scrubbed and the scrubbed material is flushed through the system to the outfalls without being removed from the system. The settled solids in the raceways become mobilized and mixed throughout the water column as it is discharged.

Further Explanations

Note: The sections are arranged according to the format of EPA form 3560-3 and checklist, attached, rather than being ranked in order of importance.

Permit Verification

Overall Rating For Permit Verification (Satisfactory)

Findings for Permit Verification

The current permit expired on August 31, 2011 and was administratively extended after USEPA received the completed permit renewal application. The permit renewal is pending and expected to be issued in the near future.

Record Keeping & Reporting

Overall Rating For Record Keeping and Reporting (Satisfactory)

Permit Requirements for Recordkeeping & Reporting

The permit requires in Part III.C. Monitoring and Records

3. Retention of Records:

The permittee shall retain records of all monitoring information, including all calibrations and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of

at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

4. Records Content:

Records of monitoring information shall include:

- a. The date, exact place and time of sampling or measurements;*
- b. The individual(s) who performed the sampling or measurements;*
- c. The date(s) and times(s) analyses were performed;*
- d. The individual(s) who performed the analyse(s);*
- e. The analytical techniques or methods used; and*
- f. The results of such analyses.*

Findings for Record Keeping & Reporting

Records were reviewed for the period of November 2011. The permittee is now approved for NetDMR submittal.

Daily logs include information on:

Maintenance,
Uses of the DMCs,
Cleaning,
Sampling and laboratory analysis and,
Discharge Volume Readings

Effluent /Receiving Waters

Overall Rating For Effluent/Receiving Waters (Satisfactory)

Findings for Effluent / Receiving Waters

No exceedences of permit effluent limits have been recorded in the last year.

Flow Measurement

Overall Rating For Flow Measurement (Marginal)

Permit Requirements for Flow Measurement

The permit requires in Part III, Section 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 the true discharge rates throughout the range of expected discharge volumes.

Findings for Flow Measurement

Outfall 001 - the effluent measurement is over a rectangular weir that is approximately 3 feet wide. The weir has a fixed metal ruler that measures to tenths of an inch. This measurement is converted to Gallons Per Minute (GPM) then to Million Gallons Per Day (MGD). At the time of the inspection, the main flow was being diverted to Outfall 002 and a portable sump pump was operating at the 001. Operators were emptying the unit to work on it. Flow measurements

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were not being recorded at the time. The flow from the sump pump was being estimated. There is no back up flow measurement device in place.

Outfall 002 - the effluent is measured over the rectangular weir that is approximately 8 feet wide. The weir has a fixed metal ruler that measures to tenths of an inch. This measurement is converted to Gallons Per Minute (GPM) then to Million Gallons Per Day (MGD). Leading to the weir is an approximately 200 foot long rectangular channel. The water flowing in the channel is at a high volume and considerable wave action was occurring. Due to the waves, it would be difficult to take a very precise flow measurement. There are also no back up flow measurement devices in place.

Self Monitoring

Overall Rating For Self Monitoring (Marginal)

Permit Requirements for Self Monitoring

The permit requires in Part I. Section A. Limitations and Monitoring Requirements: Outfall 001

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Standard Units			
POLLUTANT		MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH		6.6	8.8	Daily	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	lbs/day, unless noted			mg/l, unless noted (*1)				
POLLUTANT	30-DAY AVG	DAILY MAX	7-DAY AVG	30-DAY AVG	DAILY MAX	7-DAY AVG	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	Report MGD	Report MGD	Report MGD	***	***	***		
Total Suspended Solids (TSS)	277 lbs/day	416 lbs.day		10 mg/L	15 mg/L		2/ month	Composite Grab
Settleable Solids (TDS)							2/month	Composite Grab

**2 Composite Grab. Obtain a grab aliquot and record the flow from each outfall during periods when discharge from Outfall 002 is occurring. After both outfalls have been sampled and flows recorded, make a composite sample by mixing each individual outfall's aliquot in proportion to the flow from each outfall to the sum of the total flow. In the event during a reporting period that discharge from Outfall 002 does not occur, submit a grab sample from Outfall 001, and note on the discharge monitoring form that no discharge from Outfall 002 occurred during the sample period, noting which reporting period the discharge from Outfall 002 did not occur.*

The permit requires in Part I. Section A. Limitations and Monitoring Requirements: Outfall 01B

2. FINAL Effluent Limits - Outfall 01B - Special Testing - Non FDA Approved Drugs, Medications and/or Chemicals

Effluent Characteristics	Discharge Monitoring Limitations		Monitoring Requirement	
Whole Effluent Toxicity Testing (7Day static Renewal)	30 -Day Avg	7-Dau Minimum	Measurement Frequency	Sample Type
Ceriodaphnia dubia	Report	Report	Once/Use	Grab
Pimephales promelas	Report	Report	Once/Use	Grab

See Permit for footnotes.

The permit requires in Part I. Section A. Limitations and Monitoring Requirements: Outfall 002

**2 Composite Grab. Obtain a grab aliquot and record the flow from each outfall during periods when discharge from Outfall 002 is occurring. After both outfalls have been sampled and flows recorded, make a composite sample by mixing each individual outfall's aliquot in proportion to the flow from each outfall to the sum of the total flow. In the event during a reporting period that discharge from Outfall 002 does not occur, submit a grab sample from Outfall 001, and note on the discharge monitoring form that no discharge from Outfall 002 occurred during the sample period, noting which reporting period the discharge from Outfall 002 did not occur.*

Finding For Self Monitoring

Outfall 001 discharges to an unnamed irrigation ditch which is released to wetlands, an irrigated field where alfalfa and hay is grown, then to Lagoon Del Compos also known as Burns Lake. Samples are taken at the effluent weir.

The permittee only discharged to Outfall 001 for the last several years due to efforts to clear the facility of whirling disease - caused by the Myxobolus cerebralis parasite effecting fish like salmon, trout and other similar species. The disease usually causes neurological damage to young fish causing the effected fish to "whirl" in a cork screw pattern. Facility representative say they have been successful in their efforts and are now able to use all the raceways that were off line.

Outfall 002 discharges to Park View Irrigation Ditch, irrigated fields and to Lagoon Del Compos also know as Burns Lake, thence to the La Puente Ditch, thence to the Rio Chama. The facility began discharging to this outfall beginning March 2012. Effluent flow measurements and sampling must be done at this Outfall as long as discharging occurs. The effluent flow channel is approximately 200 feet long and 10 feet wide. Flow measurements are taken by a metal ruler staff gauge at the rectangular weir at the end of the channel. This is also the sampling location.

Outfall 002 was not being used for discharge during the monitoring period for review of November 2011. Discharge began in March 2012, and from that time on as long as discharges occur under this current permit, the permit instructions as found in Footnote *2 in Part I Section A. Limitations and Monitoring Requirements will need to be followed.

Sampling Schedule and Cleaning Schedule - The hatchery personnel on a regular basis scrubs and cleans the raceways of algae, fish waste and other debris. This scrubbing process releases large amounts of solids to flow through the system and to the outfalls. According to Hatchery staff, NPDES sampling is normally done on days when they raceways are not being cleaned. This sampling schedule may not be an accurate representation of effluent quality. It is suggested that the facility sample at times both when cleaning is taking place and when it is not.

Laboratory

Overall Rating For Laboratory (Satisfactory)

Operation and Maintenance

Overall Rating For Operation and Maintenance (Marginal)

Permit Requirements For Operation and Maintenance

The permit requires in Part II.5. Minimum Practices Required and Implemented In The BMP

b. Material Storage

i. Ensure proper storage of drugs, pesticides, and feed in a manner designed to prevent spills that may result in the discharge of drugs, pesticides or feed to waters of the U.S.

Findings For Operation and Maintenance

1. No mechanism for Solids Removal - The hatchery personnel, on a regular basis scrub and clean the raceways to remove algae, fish waste and other debris. Dead fish are disposed of in "mortality pits" on site. As part of the cleaning process, the settled solids in the raceways becomes mobilized and mixed throughout the water column. These solids are discharged to surface waters.

The current permit does not have phosphorous requirements but it is likely that will be coming in the next permit. The receiving water is impaired for Total Nutrients, Total Nitrogen and Total Phosphorous. Developing a solids removal process may be useful in reducing the concentrations of these pollutants.

2. At the outfalls 001 and 002, new cement basins (approximate size 32'Long x10'Wide x10'Deep). Facility representative indicated the basins at Outfalls 001 and 002 are intended to act as solids settling basins. Due to the high volume of the effluent being discharged at these outfalls, the basin design appear to act more as mixing units rather than as settling units. The water flowing into the short basins is at such a velocity as to cause a degree of turbulence that does not allow for settling to occur. There is no mechanism in place for solids removal and disposal from these basins.

At the time of the inspection, a portable sump pump was set up at Outfall 001 and both solids and liquid were being discharged to the unnamed irrigation ditch. The discharge was a slightly turbid yellowish brown color. No effluent sampling was being done at the time.

3. Effluent Sampling for NPDES reporting is currently done on days when there is no scrubbing of the raceways. This sampling regime does not adequately represent the amount of pollutants actually being discharged. Effluent sampling for the NPDES permit reporting should be done on days both when cleaning is and is not taking place.

4. Onsite there are several round rearing chambers following raceways 1through 4. According to facility representatives, it is easier to contain, control and remove solids from the round chambers than from the long rectangular basins. It may be advisable for the facility to investigate this further to aid in the removal of Total Suspended Solids (TSS) and Total Dissolved Solids (TDS). Better solids removal may also be valuable when developing treatment schemes for removal of Total Phosphorous.

5. Chemical storage was in areas with no containment. Chlorine drums and other toxic chemical should be located in areas with secondary containment.

Sludge Disposal

Overall Rating For Sludge Disposal (Marginal)

Permit Requirements for Sludge Disposal

The permit requires in Part II.5. Minimum Practices Required and Implemented In The BMP

a. Solids Control

i. Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain target rates of aquatic animal growth in order to minimize potential discharges of uneaten feed and waste products to water of the U.S.

ii. In order to minimize the discharge of accumulated solids from settling ponds and basins and production systems, identify and implement procedures for routine cleaning of rearing units and off-line settling basins, and procedures to minimize any discharge of accumulated solids during the inventorying, grading and harvesting aquatic animals in production system.

iii. Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent discharge to water of the U.S., except in cases where the permitting authority authorizes such discharge in order to benefit the aquatic environment.

Findings For Sludge Disposal

The mortality fish are removed from the raceways and are buried in pits on site. These pits are uphill of the final raceway, J Battery. The unlined pits are located in an area where willows are growing indicating high natural water availability. It is possible during high spring season runoff these pits are very near the ground water table. It is advisable for the permittee to contact the New Mexico Ground Water Quality Bureau to insure this disposal practice meets those requirements.

This comment is also found in the section of this report above, " Sludge". There is no actual solids removal of fish waste and/or uneaten fish food in the raceways. The raceways are periodically scrubbed and the scrubbed material is flushed through the system to the outfalls without being removed from the system. The settled solids in the raceways become mobilized and mixed throughout the water column as it is discharged.

NMED/SWQB
Official Photograph Log
Photo # 1

Photographer: Google Earth

Date: 10 May 2012

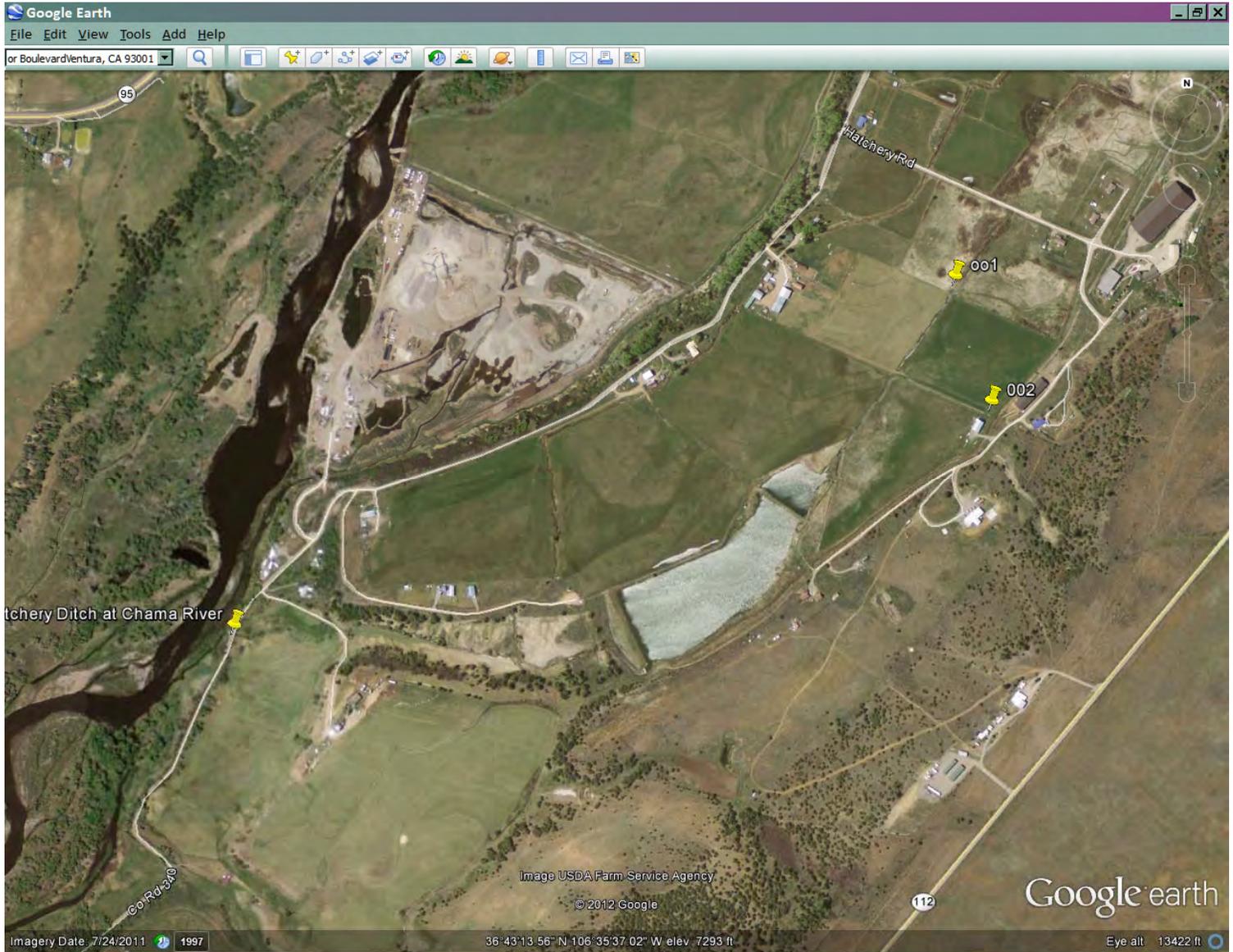
Time: NA

City/Country: Los Ojos /Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Yellow Pins on image show: Outfall Locations 001 - 002 and where the irrigation ditch reaches the Chama River



NMED/SWQB
Official Photograph Log
Photo # 2

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:41

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Outfall 001 newly installed basin



NMED/SWQB
Official Photograph Log
Photo #3

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:47

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Outfall 001 - staff gauge and sampling location.



NMED/SWQB
Official Photograph Log
Photo #4

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:43

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Discharge from Outfall 001 - sump pump to irrigation ditch.



NMED/SWQB
Official Photograph Log
Photo # 5

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:45

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Unnamed irrigation ditch at Outfall 001 from this ditch agricultural fields are irrigated before it reaches Burns Lake.



NMED/SWQB
Official Photograph Log
Photo # 6

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:02

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Outfall 002 - Water is from J Battery raceways.



NMED/SWQB
Official Photograph Log
Photo # 7

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:08

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Outfall 002 - to Parkview Irrigation Ditch



NMED/SWQB
Official Photograph Log
Photo # 8

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:10

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Outfall 002 waves make it difficult to take an accurate flow measurement.



NMED/SWQB
Official Photograph Log
Photo # 9

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:10

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Outfall 002 Staff gauge - metal ruler that measure in 1/10 ".



NMED/SWQB
Official Photograph Log
Photo # 10

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:08

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Outfall 002 to Park View Irrigation Ditch.



NMED/SWQB
Official Photograph Log
Photo # 11

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:22

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Burns Lake



NMED/SWQB
Official Photograph Log
Photo # 12

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:25

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Burns Lake Spillway



NMED/SWQB
Official Photograph Log
Photo # 13

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:51

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: La Puente Irrigation Ditch below Burn Lake - Irrigation ditch flowing towards the Chama River



NMED/SWQB
Official Photograph Log
Photo # 14

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:50

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Where La Puente Ditch reaches the Rio Chama.



NMED/SWQB
Official Photograph Log
Photo # 15

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:16

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Source Water from several springs above the hatchery. White PVC piping transports the water to the aeration tower before entering the raceways.



NMED/SWQB
Official Photograph Log
Photo # 16

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:16

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Source Water from several springs above the hatchery. White PVC piping transports the water to the aeration tower before entering the raceways.



NMED/SWQB
Official Photograph Log
Photo # 17

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:37

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Cement lined Park View Ditch above the Outfall OO2 discharge location



NMED/SWQB
Official Photograph Log
Photo # 18

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:51

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Mortality Pits for disposal of dead fish are on a slope above the Raceways and adjacent to wetland vegetation. It is likely the Mortality pits are also in a location where ground water is present at the depth of the pits.



NMED/SWQB
Official Photograph Log
Photo # 19

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:51

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Planned location for compost mixing of dead fish and shredded vegetative material.



NMED/SWQB
Official Photograph Log
Photo # 20

Photographer: B. Cooney

Date: 20 April 2012

Time: 13:52

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: From Mortality pits looking back at Raceways A,B,C enclosure. Mortality pit is up-gradient of Park View Ditch.



NMED/SWQB
Official Photograph Log
Photo # 21

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:22

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Raceways.



NMED/SWQB
Official Photograph Log
Photo # 22

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:31

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Raceways



NMED/SWQB
Official Photograph Log
Photo # 23

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:30

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Raceways - note : there is a considerable mass of solids on the bottom of the channel. According to facility representatives, cleaning was one week prior to the photo date.



NMED/SWQB
Official Photograph Log
Photo # 24

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:03

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Round Rearing Basins - make removal of solids easier for operators.



NMED/SWQB
Official Photograph Log
Photo # 25

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:33

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Above the lower battery.



NMED/SWQB
Official Photograph Log
Photo # 26

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:35

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Lower Raceways have been off line - these discharge to Outfall 002.



NMED/SWQB
Official Photograph Log
Photo # 27

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:38

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Solids build up and algae before being lifted with submersible pumps to tower.



NMED/SWQB
Official Photograph Log
Photo # 28

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:39

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Tower - flow from here is via gravity to J Battery of Raceways.



NMED/SWQB
Official Photograph Log
Photo # 29

Photographer: B. Cooney

Date: 20 April 2012

Time: 14:02

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: J Battery - Raceways and newly installed basin - for solids containment - then to the outfall channel.



**NMED/SWQB
Official Photograph Log
Photo # 30**

Photographer: B. Cooney

Date: 20 April 2012

Time: 15:01

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: Fry rearing units.



20.04.2012 15:01

**NMED/SWQB
Official Photograph Log
Photo # 31**

Photographer: B. Cooney

Date: 20 April 2012

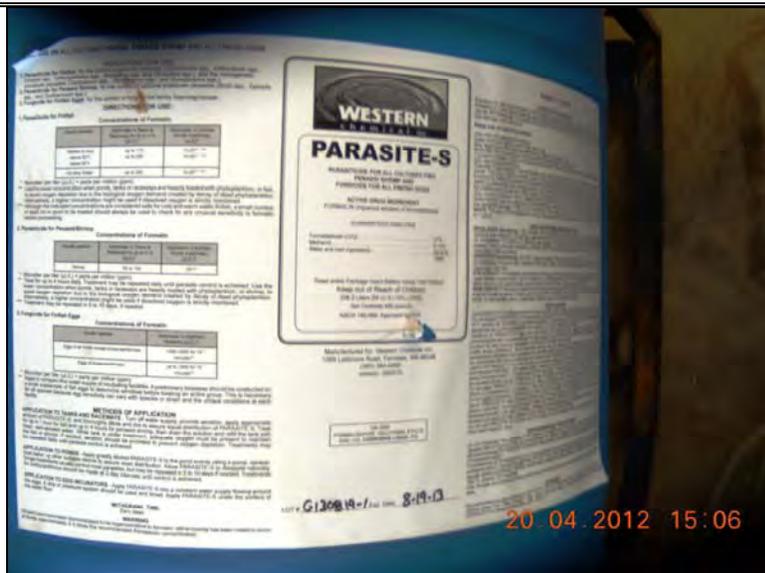
Time: 15:06

City/County: Los Ojos / Rio Arriba

State: New Mexico

Location: Los Ojos Fish Hatchery New Mexico Department of Game & Fish

Subject: DMC chemicals on site.



20.04.2012 15:06