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STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE TRIENNIAL REVIEW OF STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS, 20.6.4 NMAC

WQCC No. 14-05(R)

LOS ALAMOS NATIONAL SECURITY, LLC'S AND THE UNITED STATES DEPARTMENT OF ENERGY'S NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY

Los Alamos National Security, LLC ("LANS") and the United States Department of Energy ("DOE") (collectively "LANS/DOE"), pursuant to the Procedural Order issued July 10, 2014, submit this Notice of Intent to Present Technical Testimony. This notice includes copies of the following attached documents: (1) Direct Testimony and 12 Exhibits prepared by Michael T. Saladen.

1. Identify the person for whom the witness(es) will testify

Los Alamos National Security, LLC
United States Department of Energy

2. Identify each technical witness the person intends to present and state the qualifications of that witness including a description of their educational and work background

LANS/DOE expect to offer the following technical witness at the hearing:

Michael T. Saladen,
Los Alamos National Security, LLC
Los Alamos National Laboratory
Water Quality and RCRA Group
Team Leader, Water Quality & Compliance Team

Mr. Saladen's qualifications and background are described in detail in Exhibit 1 to his direct testimony.

3. Attach the full direct testimony of each technical witness

A copy of Mr. Saladen's direct testimony is attached to this notice.

4. **State the anticipated duration of the direct testimony of each technical witness**

LANS/DOE anticipate that the duration of Mr. Saladen's direct testimony will be approximately 30 minutes.

5. **Include the text of any recommended modification to the proposed regulatory change**

LANS/DOE do not propose any modification to the proposed changes to the Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC) for the 2013 Triennial Review.

6. **Identify and attach all exhibits to be offered by the person at the hearing**

Exhibits to be offered by Michael Saladen:

Exhibit 1 – Curriculum Vitae

Exhibit 2 – Settlement Agreement between NMED and UC/DOE (April 20, 1993)

Exhibit 3 – Amendment to April 20, 1993 Settlement Agreement (Jan. 22, 1996)

Exhibit 4 – Statement of Reasons for Amendment of Standards, WQCC 03-05(R) (May 13, 2005)

Exhibit 5 – Approval Letter and Record of Decision for EPA Review of 20.6.4 NMAC (Dec. 29, 2006)

Exhibit 6 – Approval Letter and Record of Decision for EPA Review of 20.6.4 NMAC, at 2 (Dec. 29, 2006)

Exhibit 7 – EPA Approval of Revisions to New Mexico's Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC (August, 31, 2007)

Exhibit 8 – Witness Statement for Rachel Conn Submitted on Behalf of Amigos Bravos, WQCC 08-13(R) (Aug. 27, 2009)

Exhibit 9 – Order and Statement of Reasons for Amendment of Standards, WQCC 08-13

Exhibit 10 – Record of Decision, New Mexico's Standards For Interstate and Intrastate Surface Waters, 20.6.5 NMAC (April 12, 2011)

Exhibit 11 – Map showing 20.6.2.128 Stream Segments

Exhibit 12 – Photos taken near gaging stations on 20.6.2.128 Stream Segments

7. Position on other proposed changes to the standards

LANS/DOE take the following positions on changes to the standards proposed by other parties:

A. Amigos Bravos

Amigos Bravos has proposed, among other changes, (1) a change to the designated aquatic life use in 20.6.4.128 NMAC; and (2) a change to the aquatic life criteria for Aluminum in 20.6.4.900 NMAC.

LANS/DOE Position:

(1) Changes to 20.6.4.128 NMAC – For the reasons outlined in Mr. Saladen's testimony, LANS/DOE opposes the proposed change.

(2) Changes to 20.6.4.900 NMAC. – LANS/DOE opposes the proposed change, which would return the Aluminum criteria to pre-2009 Triennial Review levels. LANS/DOE, along with Chevron Mining Inc., proposed the current hardness-based Aluminum criteria during the 2009 Triennial Review, and submitted supporting technical testimony. The current criteria, which were adopted by the Commission and approved by EPA, are scientifically supported and appropriate, and there is no reason to reinstate the former criteria as Amigos Bravos proposes.

Respectfully submitted,

MONTGOMERY & ANDREWS, P.A.

By: _____

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U. S. DEPARTMENT OF ENERGY

By: /s/ Lisa Cummings

Lisa Cummings
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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing ***Los Alamos National Security, LLC's and The United States Department of Energy's Notice of Intent to Present Technical Testimony*** was sent via U.S. mail, and/or hand-delivered on December 12, 2014, to the following:

*Kevin J. Powers
Assistant General Counsel
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* via hand delivery

Lara Katz

STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE TRIENNIAL REVIEW OF STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS, 20.6.4 NMAC **WQCC No. 14-05(R)**

DIRECT TESTIMONY OF MICHAEL T. SALADEN LOS ALAMOS NATIONAL SECURITY, LLC.

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I. Introduction

I have prepared the following direct testimony in opposition to *Amigos Bravos' Proposal Regarding Los Alamos National Intermittent and Ephemeral Waters*. *See* Amigos Bravos Proposed Changes and Statement of Basis ("Amigos Bravos Proposal"), at 6-7 (filed Sept. 30, 2014). Amigos Bravos proposes to change the designated aquatic life use for Stream Segment 20.6.4.128 from "limited aquatic life" to "marginal warmwater aquatic life."

The current designated aquatic life use for Stream Segment 20.6.4.128 ("Segment 128") was adopted by the New Mexico Water Quality Control Commission ("WQCC") in the 2003 Triennial Review of Surface Water Quality Standards, and was approved by the United States Environmental Protection Agency ("EPA") in 2007 based on a Use Attainability Analysis (the "2007 UAA") prepared by the New Mexico Environment Department ("NMED") with technical assistance by EPA. The WQCC rejected a challenge by Amigos Bravos to the current designated aquatic life use during the 2009 Triennial Review based on similar arguments raised here, finding that the current designated use for Segment 128 was appropriate, and no change was warranted.

As discussed in this testimony, I have reviewed the information submitted in the 2003 and 2009 Triennial Reviews, EPA's approvals regarding Segment 128, the 2007 UAA for this segment, and other relevant information as discussed herein. It is my opinion that the current designated aquatic life use for Segment 128 is appropriate, and there is no basis for changing that designation as proposed by Amigos Bravos.

II. Qualifications

I am a Team Leader for the Water Quality & Compliance Team of the Environmental Compliance Programs Group (ENV-CP), Los Alamos National Security, LLC at Los Alamos National Laboratory. Among other duties, I am responsible for compliance and monitoring

oversight of Clean Water Act programs (i.e. NPDES Outfall Permit, SPCC Plans, Dredge and Fill, WQCC regulations, Storm Water Permits, etc.), including surface water quality issues, at Los Alamos National Laboratory ("LANL" or "Laboratory"). I have served in this position for seventeen years.

I previously served as a Technical Staff Member for the Laboratory's Water Quality and Hydrology Group for 5 years. Prior to that time, I served for approximately 4 years as an Environmental Scientist in the NMED Surface Water Quality Bureau. During my employment at NMED, I was responsible for reviewing and certifying draft NPDES permits for compliance with state water quality standards and I worked on other surface water quality issues. Thus, I have approximately twenty-seven years of experience in the field of water quality compliance and regulations. I have a Bachelor of Science degree in Environmental Science and a Master of Science degree in Biology from the New Mexico Highlands University.

For additional detail, my full *curriculum vitae* is attached as Exhibit 1 to this Direct Testimony.

III. History of the Stream Segment 128 Aquatic Life Use Designation

The history of the Stream Segment 20.6.4.128 NMAC aquatic life use designation commenced approximately twenty-two years ago in September of 1992, when NMED issued a conditional certification of a draft NPDES Permit for the Laboratory published by EPA. NMED's conditional certification set forth effluent limits based on designated uses of Stream Segments 2-111 and 2-118 of the Rio Grande (i.e. including, but not limited to, marginal coldwater fishery and warmwater fishery).

The University of California and the Department of Energy ("UC/DOE") filed a petition for review of NMED's conditional certification with the WQCC. The petition challenged NMED's identification of Rio Grande Stream Segments 2-111 and 2-118 as receiving waters,

and challenged the application of Rio Grande fishery-related designated uses to LANL discharges. LANL's petition identified the receiving waters at LANL as "ephemeral streams" or alternatively, "interrupted" streambeds.

On April 20, 1993, NMED and UC/DOE entered into a settlement agreement on the petition, which directed that "a study shall be conducted for the purposes of identifying the stream uses associated with the watercourses in the canyons into which the petitioners discharge waters subject to NPDES regulation." Settlement Agreement entered April 20, 1993 ("Settlement Agreement"), at 3, attached hereto as Exhibit 2. In January 1996, the Settlement Agreement was amended to clarify that an unbiased third party, the U.S. Fish and Wildlife Service ("USFWS"), would conduct the study. *See* Amendment to Settlement Agreement, at 2 (Jan. 22, 1996), attached hereto as Exhibit 3. This "Use Study" initiated the process of identifying the proper stream uses, and eventually was used as support in the establishment of LANL stream segments 20.6.4.126 NMAC and 20.6.4.128 NMAC. The USFWS completed the Use Study in 2002.

During the 2003 WQCC Triennial Review process, NMED proposed the classification of three new stream segments in the LANL area. On May 13, 2005, the WQCC adopted Sections 20.6.4.126 (perennial portions of streams in and close to LANL), 20.6.4.127 (perennial portions of Upper Los Alamos Canyon), Segment 128 (ephemeral and intermittent portions of watercourses within lands managed by the DOE and LANL) as part of the amendments to the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC, in May 2005. For Stream Segment 128, the aquatic life use was designated as "limited aquatic life." *See* Statement of Reasons for Amendment of Standards, WQCC 03-05(R), at 58-61 (May 13, 2005), attached hereto as Exhibit 4.

While EPA stated that it strongly supported the concept used by NMED in developing standards for unclassified ephemeral, intermittent, and perennial surface water, EPA indicated that "adequate supporting documentation (such as a use attainability analysis) was not available." Approval Letter and Record of Decision for EPA Review of 20.6.4 NMAC, at 2 (Dec. 29, 2006), excerpts attached hereto as Exhibit 5. EPA provided an explanation of the type of documentation that was necessary to support EPA approval of Stream Segments 126 and 128 in its Record of Decision. *See id.* at 65.

With technical assistance provided by EPA, NMED prepared the 2007 UAA to satisfy CWA and EPA requirements for segments 126 and 128. *See* Approval Letter and Record of Decision for EPA Review of 20.6.4 NMAC, at 2 (Dec. 29, 2006), attached hereto as Exhibit 6. The UAA, published in August 2007, provided documentation regarding the attainable recreation and aquatic life uses for Segments 126 and 128. The 2007 UAA concluded that "a limited aquatic life use is attainable in Segment 128," and "[n]atural conditions of low flow and water level, factors identified in 40 CR 131.10(g)(2), prevent the attainment...of a Section 101(a)(2) aquatic life use in Segment 128." *Id.* at 1.

The 2007 UAA referenced data from the USFWS Use Study to conclude that that there is no source population of fish for the segment, and, furthermore, intermittent and ephemeral streams do not have the habitat requirements to support a fishable use. *Id.* at 4-5. According to the 2007 UAA, Appendix A of the 2006-2008 303(d)/305(b) Integrated Report (NMED/SWQB 2007) states that seven assessment units in Segment 128 have water quality that does *not* support attainment of the limited aquatic life use based on storm water data, but due to the high tolerance levels of certain species, "[t]he aquatic life use may be significantly altered, but still attainable under these conditions." *Id.* at 5. EPA reviewed the UAA for segments 126 and 128 and approved the new Sections 20.6.4.126 and 20.6.4.128 NMAC in August 2007. *See* EPA

Approval of Revisions to New Mexico's Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC (August, 31, 2007), attached hereto as Exhibit 7.

At the beginning of the next Triennial Review process in 2009, Amigos Bravos proposed that the designated use for Segment 128 be changed from "limited aquatic life" to "aquatic life", and provided technical testimony in support of the proposal. Witness Statement for Rachel Conn Submitted on Behalf of Amigos Bravos, WQCC 08-13(R) (Aug. 27, 2009), attached hereto as Exhibit 8. The Amigos Bravos testimony appeared to ignore the fact that a UAA for Segment 128 existed and had been approved by EPA.

In any event, the WQCC did not adopt the Amigos Bravos proposal to change the designated aquatic life use from "limited aquatic life" to "aquatic life." In its October 2010 Order and Statement of Basis for Amendment of Standards, the WQCC gave the following reasons for not adopting Amigos Bravos' proposed change to the standard:

(1) The segment was created and uses assigned during the last triennial,

(2) Amigos Bravos presented no new evidence regarding current water quality conditions to support changing the standard,

(3) the UAA for this segment was completed and approved by the US EPA,

(4) the 2002 LANL Use Study relied on by Amigos Bravos, had already been considered in assigning the 'limited aquatic life" use by the WQCC,

(5) the US EPA had approved the provision based on the hearing record and the UAA, and did not indicate any problem with the decision, and

(6) the UAA for Segment 128 does acknowledge the presence of aquatic invertebrates and amphibians, but not fish, concluding that the waters can't attain the CWA section 101(a)(2) goal of water providing for the "protection and propagation of fish, shellfish and wildlife."

Order and Statement of Reasons for Amendment of Standards, WQCC 08-13 (, at 81-82, excerpt attached hereto as Exhibit 9.

EPA reviewed and approved the WQCC's amendments to the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC, including Segment 128. In its April 2011, Record of Decision EPA confirmed the UAA and the WQCC's decisions regarding Segment 128 stating, "Given that these streams do not flow for varying periods throughout the year and the lack of upstream source populations, it is unlikely that this segment could support a higher use." Record of Decision, New Mexico's Standards For Interstate and Intrastate Surface Waters, 20.6.5 NMAC, at 49-50 (April 12, 2011), attached hereto as Exhibit 10.

IV. The 2007 Use Attainability Analysis is Adequate to Support the Current Designated Aquatic Life Use For Segment 128.

Amigos Bravos asserts that the 2007 UAA is "fatally flawed" because it was "drafted to justify a decision that had already been made," and that LANL should therefore be required to "complete an adequate and timely [UAA]" to demonstrate that marginal warmwater is not attainable in some ephemeral waters. Amigos Bravos Proposal, at 7. Amigos Bravos made a similar argument in the 2009 Triennial Review. The Commission rejected that argument and did not adopt the 2009 Amigos Bravos proposal to change the designated aquatic life use from "limited aquatic life" to "aquatic life." As discussed previously, the Commission's October 2010 Order and Statement of Basis for Amendment of Standards gave reasons for not adopting Amigos Bravos' proposed change to the standard. Nothing has changed that would call those reasons into question. Based on my review, the 2007 UAA is valid and adequate to support the existing designated aquatic life use for Segment 128.

During the 2003 Triennial Review, NMED proposed new stream segments, designated uses and criteria for perennial, intermittent and ephemeral streams on LANL property. In 2005, the WQCC amended the State's surface water quality standards (20.6.4 NMAC) to include

Segment 128 (*Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE)*) located on LANL property, as newly classified surface waters. The segment descriptions, designated uses, and criteria can be found at 20.6.2.128 NMAC. A map showing the segments is attached to this testimony as Exhibit 11. The map also identifies the location of gaging stations in these segments. Photos taken near each gaging station are presented in Exhibit 12 hereto.

Segment 128 uses are designated as secondary contact (recreation) and limited aquatic life uses. "Limited aquatic life" as a designated use, means that surface water is capable of supporting only a limited community of aquatic life. This subcategory includes surface waters that support aquatic species selectively adapted to take advantage of naturally occurring rapid environmental changes, ephemeral or intermittent water, high turbidity, fluctuating temperature, low dissolved oxygen content or unique chemical characteristics. "Secondary contact" means any recreational or other water use in which human contact with the water may occur in which the probability of ingesting appreciable quantities of water is minimal. These uses are defined in 20.6.4.7 NMAC and remain appropriate for Segment 128 assessment units.

Because the secondary contact and limited aquatic life uses were not considered by EPA to satisfy the goal in Section 101(a)(2) of the Clean Water Act to provide for "the protection and prorogations of fish, shellfish, and wildlife" and for "recreation on the water," the ***State*** prepared the UAA pursuant to 40 CFR 131.10(j) with technical assistance from EPA. The UAA was approved by EPA Region 6, Water Quality Protection Division in August 2007. There is no scientific basis to prepare another UAA for Segment 128.

V. The Current Designated Aquatic Life Use for Segment 128 Does Not Reflect Unfair or Preferential Treatment of LANL

Amigos Bravos further suggests that LANL was given "unfair and preferential treatment" in the use designation for Segment 128. Amigos Bravos Proposal, at 7. Amigo Bravos made a

similar argument in the 2009 Triennial Review, and the Commission rejected that argument. Segment 128, and its designated uses, were developed after substantial field research, input, and technical assistance from NMED, USFWS and EPA. Moreover, LANL is one of the most, if not the most, monitored and studied facilities in New Mexico, and the limited aquatic use was, and is, fully supported by extensive data. There is no basis for Amigos Bravos' claim of unfair or preferential treatment.

VI. Regular Monitoring and Assessment of Segment 128 Shows No Changes in Conditions to Support a Change in the Designated Aquatic Life Use

Amigos Bravos claims that the designated uses for Segment 128 are past due for review under CWA regulations mandating review every three years for water bodies that are not meeting fishable/swimmable goals. Amigos Bravos Proposal, at 7. 40 C.F.R. § 131.20(a) provides, in pertinent part:

> Any water body segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act shall be re-examined every three years to determine if any new information has become available. If such new information indicates that the uses specified in section 101(a)(2) of the Act are attainable, the State shall revise its standards accordingly.

Compliance with the requirement for review of water body segments that do not include 101(a)(2) uses is for the State to ensure. In any event, the designated uses for Segment 128 were reexamined in the past two Triennial Reviews. Moreover, Segment 128 is subject to regular monitoring and assessment that has not revealed any new information that would indicate that the aquatic life designated use should be revised.

Under the New Mexico Water Quality Act (WQA), the WQCC adopts standards for surface waters of the state. As required by Section 303(c) of the Clean Water Act, the WQCC conducts a triennial review of its surface waters quality standards. NMED is responsible for initiating the triennial review; however, anyone may propose new or revised standards to the WQCC at any time under the WQA. The designated uses for Stream Segment 128 were

reviewed by the WQCC during the last two triennial reviews (2003 and 2009) as a result of petitions submitted by NMED, LANL, Amigos Bravos, and others. The decisions made by the WQCC in those proceedings were based on sound scientific evidence presented during public hearings, and were approved by EPA.

Segment 128 is also subject to regular monitoring and assessment that would reveal changes to the water body if there were any. NMED conducts monitoring and assessments throughout the state pursuant to the State of New Mexico Statewide Management Plan and Continuing Planning Process document (WQMP/CPP). NMED relies upon these activities to identify and characterize water quality problems, revise water quality standards, and develop and evaluate the results of control actions. NMED also heavily relies on monitoring data collected by the public and the regulated communities. LANL is one of the most monitored facilities in the state. Point source discharges are covered under the Laboratory's NPDES permit programs for outfalls and storm water. These programs require the Laboratory to monitor and report water quality to NMED and EPA.

The Laboratory also maintains an extensive program to manage non-point-source pollutants in surface water and sediment in the major canyon systems. Surface water run-on from above the Laboratory and runoff within and below the Laboratory is sampled from a network of gage stations. Surface water samples are also collected away from the Laboratory to help establish appropriate background concentrations. Sediment samples collected from drainages that have flooded in the past year are used to evaluate potential pollutant transport. The Laboratory publishes this information in its annual Environmental Surveillance Report (ESR). The information from the point source and non-point source programs are reviewed as part of NMED assessment protocol and are used in the development of the 303(d) Impaired Waters List and for preparation of the NMED's biennial Integrated Report.

NMED's Surface Water Quality Bureau conducted a special study of the Pajarito Plateau in 2006 and 2007. Although it was primarily a storm water study, the information from that study was used in developing the 2010 303(d)-305(b) Integrated List. The study was conducted with the assistance and cooperation from the NMED Department of Energy Oversight Bureau ("DOE OB") and LANL. Water quality data, including flow data, continues to be collected by LANL and NMED/DOE OB, and evaluated by the NMED/SWQB for assessment purposes.

The twenty-three assessment units that make up Segment 128 are thus evaluated on a more or less continuous basis. I have reviewed the relevant monitoring data and assessments, and there are no changes in conditions or new information which would warrant assignment of a marginal warmwater aquatic designated use.

VII. Conclusion

In my opinion, there is no technical basis to support a change in the current designated aquatic life use for Segment 128. Therefore, I recommend that the WQCC reject Amigos Bravos's latest proposal to change the designated aquatic life use in 20.6.4.128 from "limited aquatic life" to "marginal warmwater aquatic life."

STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE TRIENNIAL REVIEW OF STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS, 20.6.4 NMAC **WQCC No. 14-05(R)**

AFFIDAVIT OF MICHAEL T. SALADEN

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Michael T. Saladen, being first duly sworn, depose and state that I am the individual whose prepared Direct Testimony accompanies this Affidavit, and that said Direct Testimony is true and correct to the best of my knowledge and belief.

Michael T. Saladen

SUBSCRIBED AND SWORN TO before me this 12th day of December 2014.

Notary Public

My Commission Expires: April 19, 2017

KAREN J. LEPIC NOTARY PUBLIC STATE OF NEW MEXICO

Michael T. Saladen

HIGHLIGHTS OF QUALIFICATIONS

- Accomplished team leader and effective communicator with approximately 27 years of experience developing and implementing water quality compliance programs and projects.
- Technical expertise in interpreting, evaluating, and applying environmental regulations; building and directing diverse teams; managing human resources; planning strategically; implementing quality management; and, applying business administration principles.

EDUCATION

M.S. Biology, New Mexico Highlands University, 1989
B.S. Environmental Science, New Mexico Highlands University, 1984

PROFESSIONAL CERTIFICATIONS

- Region 6 NPDES Inspector's Workshop, U. S. Environmental Protection Agency, 2005
- McCoy RCRA Hazardous Waste Regulations, 2002
- NPDES Permit Writers' Training Program, U.S. Environmental Protection Agency, 1997
- CDC Epidemiology Certificate, 1983

EMPLOYMENT HISTORY

1995 – Present Team Leader, ENV-CP, Los Alamos National Laboratory (LANL)

- Served as the Environmental Compliance Programs Group (ENV-CP), Water Quality Permitting and Compliance Team Leader. Provided leadership of Laboratory programs that assure protection of surface water. Programs include: NPDES Permit Program, Storm Water Programs, Dredge and Fill Permit Program, Spill Response Program, Above-ground Storage Tank and SPCC Programs, and other related surface water compliance programs and projects.
- Developed and implemented institutional water quality compliance programs, projects, policies, and work activities in compliance with regulatory requirements, DOE directives, Laboratory policies, and procedures.
- Developed expert testimony during New Mexico Water Quality Control Commission Public Hearings and Triennial Reviews regarding the development of state water quality standards.
- Provided technical and administrative leadership for meeting programmatic, operational, and administrative objectives. Provided strategic planning and continuous improvement of work products and services to internal and external customers.
- Managed resources (human, facility, property, budget/finance, and information).

SALADEN TESTIMONY EXHIBIT 1

1991 – 1995 Technical Staff Member (TSM), ESH-18, LANL

- Responsible Program Lead for the Laboratory's NPDES Outfall Permit Program and New Mexico Water Quality Control Commission Program. Provided technical and regulatory support to NPDES outfall owners to implement new NPDES Permit effluent requirements as required under the Clean Water Act and New Mexico Water Quality Act.
- Executed activities associated with the NPDES Permit Re-Application Project and Outfall Reduction Program, including ES&H, technical acceptability, scheduling, cost and document control, supervision of staff, and providing status reports to management, Facility Managers, operating groups, DOE, and contractors.
- Planned, implemented, and completed activities to eliminate more than 100 wastewater discharge outfalls from the Laboratory's NPDES Outfall Permit. Assisted facility personnel with critical regulatory and technical information to determine current and future operational needs and waste water treatment options. Accomplished significant water conservation, decreased potential for contaminants entering into the environment, and reduced the Laboratory's liability for potential fines and penalties for permit violations and environmental non-compliance.
- Managed LANL corrective actions taken to meet EPA Administrative Order and Federal Facilities Compliance deadlines for the Waste Stream Characterization Program and Corrections Project, NPDES Outfall Permit Compliance Program, and Storm Water Program for Discharges at SWMUs and AOCs.
- Served as an active team member of the Laboratory's Emergency Response Team, investigating wastewater and water releases, chemical spills, and uncontrolled discharges.
- Interacted and communicated with regulators, line organizations, DOE, and the public on water quality issues. Participated as a counterpart in DOE Environmental Tiger Team Audits, EPA Multi-Media Inspections, NPDES Outfall Inspection, AST and SPCC Program Inspections, and other formal on-site visits.

1986 – 1991 Environmental Scientist, New Mexico Environment Department, Surface Water Quality Bureau

- Conducted compliance inspections at industrial and municipal wastewater treatment facilities regulated under the NPDES Permit Program.
- Participated in the development of New Mexico water quality standards, and environmental regulation rulemaking processes.
- Supported the development and implementation of guidelines and policies with water quality related permits and water quality programs.
- Expertise in evaluating water and wastewater treatment technologies.
- Reviewed and approved individual Notices of Intent (NOI) to Discharge and unplanned release notifications pursuant to New Mexico Water Control Commission Regulations.

- Participated in natural and cultural resource management planning, including wetlands construction, environmental assessments, and environmental impact studies.

1986 Laboratory Technician, Controls for Environmental Pollution, Inc.

- Performed radiological analyses on soil, water, vegetation and air filters.
- Operated, maintained, and calibrated instrumentation for monitoring and measuring concentration of chemicals.
- Participated in laboratory audits, EPA and NMED Inspections, and other formal on-site visits.
- Provided training and supervision of new employees in biological and biochemical techniques for the radiation counting department.

PUBLICATIONS

Buckley, Kevin J., Lisa J. Henne, Mike T. Saladen, Marc Bailey, and Richard Meyerhoff, *Evaluation of Macroinvertabrate Communities and Habitat for Selected Stream Reaches at Los Alamos National Laboratory* (LA-UR-03-8336)

Moss, David, Mike Saladen, et. al, *Elimination of Liquid Discharge to the Environment from the TA-50 Radioactive Liquid Waste Treatment Facility* (LA-13452-MS)

Veenis, Steven J., and Michael T. Saladen, *Implementation of the Los Alamos National Laboratory's Multi-Sector General Permit for Storm Water Discharges* (LA-UR 03-1893)

Reynolds, Robin P., Michael T. Saladen, et al. *Los Alamos National Laboratory Comprehensive Tank Survey* (LA-UR-03-4943)

Gonzales, G. J., M. T. Saladen, and T. E. Hakonson, *Effects of Pocket Gopher Burrowing on Cesium-133 Distribution on Engineered Test Plots, J. Environ. Qual.* (26)(6:1056-1062), November-December 1995

Contributing author to SWEIS Yearbook and Environmental Surveillance Report (1991-2005)

BEFORE THE NEW MEXICO WATER QUALITY CONTROL COMMISSION

IN RE: CONDITIONAL CERTIFICATION OF DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. NM0028355

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA and the UNITED STATES DEPARTMENT OF ENERGY,

Petitioners.

SETTLEMENT AGREEMENT

The United States Department of Energy, The Regents of the University of California (collectively, the "Petitioners"), and the New Mexico Environment Department ("NMED"), agree:

1. Recitals. On October 14, 1992, Petitioners filed a Petition for Review with the New Mexico Water Quality Control Commission ("Commission") appealing the conditional certification dated September 11, 1992, by NMED (the "Conditional Certification") of the draft NPDES Permit published May 16, 1992 (the "1992 Draft NPDES Permit") by the United States Environmental Protection Agency ("USEPA"). Pursuant to an order of the Hearing Officer, the parties met on March 17, 1993 for purposes of negotiation of a possible settlement of this proceeding. At the settlement conference, the parties agreed to certain points of settlement and agreed to continue settlement negotiations. Settlement negotiations have been ongoing since that date, and an agreement in principle with respect to settlement of this matter has been reached.

2. Purpose. The purpose of this agreement is to set forth all of the terms and conditions of the settlement among Petitioners and NMED in this proceeding.

3. Conditional Certification. NMED will withdraw the Conditional Certification and issue a new certification certifying the 1992 Draft NPDES Permit based upon effluent limitations that protect livestock and wildlife watering, as set forth in Section 3-101 and other applicable sections of the New Mexico Water Quality Standards for Interstate and Intrastate Streams in New Mexico ("The New Mexico Water Quality Standards") and other applicable state and federal laws and regulations. The effluent limitations in the certification shall be those set forth in Exhibit 1 to this agreement. Exhibit 1 to this agreement is incorporated into this agreement as if fully set forth in this agreement. The new certification shall provide for a term of the 1992 NPDES Permit of five years from the date issued and shall provide for a reopener clause containing the provisions set forth in paragraph 4 below.

4. Reopener Clause. The 1992 NPDES Permit shall contain a reopener clause to allow the permit to be modified, as required, under the following circumstances:

(A) to reflect any applicable changes to the New Mexico Water Quality Standards;

(B) to impose new or additional permit limitations as allowed by law or regulation that

arise as a result of the information obtained from the study referred to below in Section 6;

(C) as provided by law. For the purpose of this paragraph 4C, Petitioners will provide NMED with copies of its annual environmental surveillance reports, the addition and deletion of new outfalls, its waste stream characterization final studies, and its NPDES discharge monitoring reports.

5. Voluntary Dismissal of Petition for Review and Withdrawal of Motions. Petitioners shall file a voluntary dismissal of their Petition for Review and the parties shall withdraw all pending motions after NMED has withdrawn the Conditional Certification and issued the new certification.

6. Study. A study shall be conducted for the purpose of identifying the stream uses associated with the watercourses in the canyons into which Petitioners discharge waters subject to NPDES regulation. The study shall be prepared by a neutral, unbiased, third party who shall be selected as provided under the New Mexico Procurement Code for the provision of services by professional consultants. A four-person selection committee composed of two representatives of Petitioners and two representatives of NMED shall be established. The selection committee shall prepare a request for proposals ("RFP"), including a statement of work, and select the consultant to conduct the study. The parties shall have the right to fully

participate in drafting the RFP, including the scope of workplans and required studies necessary to accomplish the purpose of the study and to review all drafts of the study and provide comments on all drafts.

If the selection committee cannot agree on any matter within its responsibility, the matter shall be referred to a dispute resolution committee whose members shall be the Secretary or Deputy Secretary of NMED, the Associate Director for Operations of the Los Alamos National Laboratory and the Manager of the Los Alamos Area Office of the Department of Energy. The dispute resolution committee shall make a good faith effort to resolve the matter. If the dispute resolution committee cannot unanimously agree on a resolution of the matter, the Secretary of NMED shall make the final decision concerning the matter.

7. NMED Review of Data and Studies. After NMED issues the new certification, the parties shall have the right to submit data and studies, including water quality, hydrological and ecological data and studies, to the consultant selected under the RFP only after prior NMED determination that the water quality data for use by the consultant adheres to the methods authorized under 40 C.F.R. § 136 and Section 1-103 of the New Mexico Water Quality Standards, to the extent that 40 C.F.R. § 136 and Section 1-103 are applicable to the data being submitted. Copies of any data or studies provided to the consultant by NMED shall be provided to Petitioners.

8. Access to Data. The parties shall have the right to access and copy, during normal business hours, all raw and validated data associated with any data or studies submitted to or prepared by the consultant for purposes of conducting the study.

9. Cost of the Study. Petitioners shall contribute up to $180,000 for fees and costs of the consultant that conducts the study described in paragraph 6.

10. Approval by Commission. Pursuant to paragraph 12 of the Procedural Order entered by the Commission in this proceeding, this agreement is subject to approval of the Commission.

11. Entire Agreement - Binding Effect. This agreement constitutes the entire agreement of the parties and the obligations hereunder shall be binding on the parties and their successors jointly and severally after approval by the Commission.

DATED: April 20, 1993.

VIRTUE, WILSON & NAJJAR

By _____
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UNITED STATES DEPARTMENT OF ENERGY

By _____
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4-20-13

NEW MEXICO ENVIRONMENT DEPARTMENT

By _____
Susan McMichael, Esq.
Counsel for the New Mexico
Environment Department
P.O. Box 26110
Santa Fe, NM 87501

APPROVED:

_____
William R. Hendley
Hearing Officer

APPROVED:

NEW MEXICO WATER QUALITY
CONTROL COMMISSION

By _____
Chairperson

We hereby certify that we have
mailed a copy of the foregoing
pleading to the following persons
this 21st day of April, 1993, except as noted below

Ms. Gloria Miller by hand delivery on April 20
Hearing Clerk
New Mexico Environment Department
P. O. Box 26110
Santa Fe, NM 87501

William R. Brancard, Esq.
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VIRTUE, WILSON & NAJJAR

By _____
Richard L. C. Virtue

stlmnt.agr

April 20, 1993

EXHIBIT

Parameter [1]	Adjusted WQS/Effluent Limit[2]
Aluminum	5.0 mg/l
Arsenic	0.04 mg/l
Boron	5.0 mg/l
Cadmium	0.2 mg/l
Chromium	5.1 mg/l
Cobalt	1.0 mg/l
Copper	1.6 mg/l
Lead	0.4 mg/l
Mercury	0.01 mg/l
Radium 226 + 228	30.0 pCi/l
Selenium	0.05 mg/l
Tritium[3]	$3X10^{-3}$ µCi/ml (3,000,000 pCi/l)
Vanadium	0.10 mg/l
Zinc	95.4 mg/l
fecal coliform bacteria[4]	500/100 ml
Chemical Oxygen Demand[5]	125 mg/l
pH[6]	between 6.0 and 9.0 S.U.

[1]All values based upon Water Quality Standards for Interstate and Intrastate Streams in New Mexico (WQS) §3-101.K. unless otherwise noted. All values are expressed as "total." Federal regulation 40 CFR 122.45(c) requires effluent limit values for metals to be expressed as "total." In order to make the transition from dissolved WQS to total effluent limits, the WQS values are translated to "total" utilizing partition coefficients from the EPA document entitled Technical Guidance Manual for Performing Wasteload Allocations, Book II Streams and Rivers Chapter 3 Toxic Substances, EPA-440/4-84-022, June 1984. For parameters with no coefficient in the cited document, the total value is considered to be the same as the dissolved.

[2]Standards adjusted as necessary to TSS=15 mg/l, where partition coefficients are available. TSS value represents average of ambient TSS data collected by NMED May 5-7, 1992.

[3]Based upon WQS §1-102.G. Applicable where meets definition of "pollutant" at 40 CFR 122.2.

[4]In accordance with Work Element 6 of the NM Water Quality Management Plan. Applies only to sanitary outfalls.

[5]As delineated in the July 16, 1992 State certification enclosure pg. 3, ¶ 3, attached hereto as exhibit A.

[6]In accordance with Work Element 6 of the NM Water Quality Management Plan. Applies at

EXHIBIT

A

State Certification
NPDES Permit # NM0028355
Los Alamos National Laboratory
July 16, 1992

The fecal coliform limit for these outfalls must be 500/100ml daily maximum.

It is understood that LANL was supposed to eliminate all sanitary outfalls by July, 1992, with the exception of 05S and 13S. However, this has not occurred and fecal coliform limitations apply to all discharges of treated domestic wastewater in New Mexico. Compliance with these limitations can be addressed in the permittee's Federal Facility Compliance Agreement (FFCA) or through a compliance schedule developed by EPA's Enforcement Branch. A waiver for sources without chlorination shall not be written into the permit as currently proposed by the permit writer; especially one that includes a schedule which terminates on a date that violates the permittee's current FFCA and Administrative Order. (See endnotes: 1, 2 & 3).

3. A Chemical Oxygen Demand (COD) effluent limitation of 125 mg/l shall be included in the permit for those outfall categories which exhibited COD values in excess of this value in samples taken either for the permit application or for past Discharge Monitoring Reports. These categories should include, but are not limited to, 051, 045*, 05S, 09S and all other categories which have a probability of exceeding this value. This limit for these outfalls is necessary in order for conditions of this permit to be compatible with appropriate State regulation which may be found at § 2-101 of the New Mexico Water Quality Control Commission Regulations, as amended through August 11, 1991. (See endnotes: 2 & 3)

4. Mass based effluent limits for Biochemical Oxygen Demand (BOD5) and Total Suspended Solids must be included at outfall 12S. Mass-based effluent limits are required for NPDES permits at 40 CFR 122.45. Mass-based limits should be calculated using 'long term daily average' and 'design maximum' flows at this facility. (See endnote: 3)

5. Limitations and monitoring requirements for radium, tritium, or other naturally occurring and accelerator produced radiological contaminants contributed to the wastewater treatment facilities at TA-50 (outfalls 050 and 051) and TA-53 (outfall 09S) should be included in the permit. We agree with the draft permit that tritium needs to be limited at TA-53; however, we feel the discharge limitation should be 20,000 pCi/l (see above table of WQS). This number should also be applied at Outfalls 050 and 051. (See endnotes: 1, 2 & 3).

* should read 051 and 05S 09S

BEFORE THE NEW MEXICO WATER QUALITY CONTROL COMMISSION

IN RE: CONDITIONAL CERTIFICATION OF DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. NM0028355	)
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA and the UNITED STATES DEPARTMENT OF ENERGY,	)
Petitioners.	)

AMENDMENT TO SETTLEMENT AGREEMENT

The United States Department of Energy, The Regents of the University of California (collectively, the "Petitioners"), and the New Mexico Environment Department ("NMED"), (collectively the "Parties") agree:

1. Recitals. The Parties in this matter entered into a Settlement Agreement dated April 20, 1993 (the "Settlement Agreement"). The New Mexico Water Quality Control Commission ("Commission") and the Hearing Officer in this matter subsequently approved that Settlement Agreement. In association with furthering the goals of the Settlement Agreement, the Parties have reached an agreement in principal with respect to certain amendments to the Settlement Agreement.

2. Purpose. The purpose of this Amendment is to modify certain terms and conditions of the Settlement Agreement among Petitioners and NMED in this proceeding.

3. Paragraph 6 of the Settlement Agreement shall be deleted in its entirety and the following language shall be substituted in its place:

SALADEN TESTIMONY
EXHIBIT 3

6. Study. A study shall be conducted for the purpose of identifying the stream uses associated with the watercourses in the canyons into which Petitioners discharge waters subject to NPDES regulation. The study shall be prepared by the Fish and Wildlife Service of the United States Department of Interior ("U.S. Fish and Wildlife"). The parties believe that U.S. Fish and Wildlife is the most cost effective and technically qualified organization to conduct this study because of its technical expertise, its experience in conducting similar studies for other state and federal agencies, its knowledge of the subject matter covered by the scope of this study and its familiarity with the facility and the surrounding area.

The parties shall have the right to fully participate in and approve the statement of work, scope of workplans and required studies necessary to accomplish the purpose of the study to be conducted by U.S. Fish and Wildlife. If the parties cannot agree upon any of these matters, the dispute shall be referred to a dispute resolution committee whose members shall be the Secretary or Deputy Secretary of the NMED, the Director or Deputy Director of the ESH Division of the Los Alamos National Laboratory and the Manager of the Los Alamos Area Office of the Department of Energy. The dispute resolution committee shall make a good faith effort to resolve the matter. If the dispute resolution committee cannot unanimously agree on a resolution of the matter, the Secretary of NMED shall make the final decision concerning the matter. The parties shall also have the right to review and comment on all drafts of the study prepared by U.S. Fish and Wildlife.

4. Paragraph 7 of the Settlement Agreement shall be deleted in its entirety and the following language shall be substituted in its place:

7. NMED Review of Data and Studies. After NMED issues the new certification, the parties shall have the right to submit data and studies, including water quality, hydrological and ecological data and studies, to U.S. Fish and Wildlife only after prior NMED determination that the water quality data for use by the consultant adheres to the methods authorized under 40 C.F.R. S 136 and Section 1103 of the New Mexico Water Quality Standards, to the extent that 40 C.F.R. S 136 and Section 1103 are applicable to the data being submitted. Copies of any data or studies provided to U.S. Fish and Wildlife by NMED shall be provided to Petitioners.

5. Paragraph 9 of the Settlement Agreement shall be deleted in its entirety and the following language shall be substituted in its place:

9. Cost of the Study. Petitioners shall pay to U.S. Fish and Wildlife up to $180,000 for the fees and costs of conducting the study described in Paragraph 6 of the Settlement Agreement, as said paragraph is modified by Paragraph 3 of this Amendment to the Settlement Agreement.

6. Approval by Commission. Pursuant to paragraph 12 of the Procedural Order entered by the Commission in this proceeding, this Amendment is subject to approval of the Commission.

7. Entire Agreement - Binding Effect. The Settlement Agreement, as modified by this Amendment to Settlement Agreement, constitutes the entire agreement of the Parties and the obligations hereunder shall be binding on the Parties and their successors jointly and severally after approval by the Commission.

Los Alamos National Laboratory

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APPROVED:

New Mexico Water Quality
Control Commission

By _____
Chairperson

STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE TRIENNIAL REVIEW OF STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS, 20.6.4 NMAC

WQCC 03-05(R)

STATEMENT OF REASONS FOR AMENDMENT OF STANDARDS

I. INTRODUCTION

A. Clean Water Act

1. The federal Clean Water Act (CWA), Section 101(a)(2), states its objective as the restoration and maintenance of the chemical, physical and biological integrity of the Nation's waters.
2. The CWA achieves this objective by ensuring "wherever attainable, water quality which provides for the protection and propagation of fish, shellfish and wildlife, and provides for recreation in and on the water be achieved."
3. CWA Section 303(c)(2) establishes the purpose of water quality standards ("WQS" or "standards") as "serv[ing] the purposes of the Clean Water Act." Generally speaking, this language means that the WQS should fulfill the objectives, goals and policies of the CWA.
4. The Environmental Protection Agency's (EPA's) *Water Quality Standards Handbook* (Handbook) provides more specific guidance regarding the meaning of "serv[ing] the purposes of the Clean Water Act." To "serve the purposes of the Clean Water Act", WQS must (a) include provisions for restoring and maintaining chemical, physical, and biological integrity of state waters; (b) wherever attainable, achieve a level of water quality that provides for the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water; and (c) consider the use and value of state waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial purposes, and navigation.
5. WQS serve two important purposes: (a) to "define the goals for a water body, or portion, thereof, by designating the use or uses to be made of the water, by setting criteria necessary to protect the uses"; and (b) to "serve as the regulatory basis for the establishment of water-quality-based treatment controls and strategies beyond technology-based levels of treatment required by sections 301(b) and 306 of the Act" in National Pollutant Discharge Elimination system (NPDES) and Dredge-or-Fill permits.

SALADEN TESTIMONY
EXHIBIT 4

233. The Commission rejects AB's proposal to replace "limited aquatic life" with "aquatic life" and to exclude the chronic criteria in Section 20.6.4.900.J for the reasons stated in Section 20.6.4.HH, and there is no reason to adopt the second proposal if the first is not adopted.

20.6.4.125 RIO GRANDE BASIN - Perennial reaches of San Pedro creek.

A. Designated Uses: coldwater aquatic life, irrigation, livestock watering, wildlife habitat and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 25°C (77°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.125 NMAC - N, XX-XX-05]

234. The Commission adopts this new segment for San Pedro Creek for the reasons set out above in paragraph 210, above; see Segment 111.

20.6.4.126 RIO GRANDE BASIN - Perennial portions of Cañon deValle from Los Alamos national laboratory (LANL) stream gage E256 upstream to Burning Ground spring, Sandia canyon from Sigma canyon upstream to LANL NPDES outfall 001, Pajarito canyon from Arroyo de La Delfe upstream into Starmers gulch and Starmers spring and Water canyon from Area-A canyon upstream to State Route 501.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 24°C (75.2°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.126 NMAC - N, XX-XX-05]

235. Both UC and NMED proposed to segment and adopt segment-specific standards for waters within or near LANL. The segments, set out now as segments 126, 127 and 128, are identical, but different designated uses and criteria were urged in this segment.

236. The Commission adopts this new segment to classify waters based upon an intensive study by the USFWS. The study supports the designated uses of coldwater aquatic life, wildlife habitat, secondary contact, and livestock watering. The aquatic life, wildlife habitat and recreation uses are required by CWA Section 101(a)(2) unless a UAA supports not designating them. For this segment, coldwater is the appropriate subcategory of aquatic life use because it is supported by the USFWS report and is consistent with the aquatic life use in adjacent Section 20.6.4.121, which includes tributaries of the Rio Grande in Bandelier National Monument (where high quality coldwater is the designated use). For this segment, secondary contact is the appropriate

subcategory of recreation because full-body contact in these small streams is unlikely and infrequent, and if it does occur the proposed criteria offer a proper level of protection. Finally, the uses of wildlife habitat and livestock watering are appropriate. The WQCC has historically presumed these uses for all unclassified surface waters. There is no question about wildlife using these streams. There also is evidence that livestock watering is an existing use. Laboratory publications acknowledge the presence of livestock on or adjacent to this segment, including horseback riding, cattle grazing and free-range chickens and dairy goats. The designation of livestock watering is based on both the existing use of these waters by livestock, as well as for the protection of downstream livestock watering uses.

237. The Commission rejects UC's proposal to designate just limited aquatic life because USFWS demonstrated that shellfish typically found in coldwater aquatic communities is present in these streams. The coldwater subcategory is intended for "the protection and propagation of fish, shellfish and wildlife." Accordingly, the presence of shellfish indicative of a coldwater aquatic community establishes an existing use, even in the absence of fish. In addition, the USFWS documented existing macroinvertebrate communities in all of these streams (except Water Canyon). These macroinvertebrate communities (except Sandia Canyon) compare favorably (only slightly impaired or full support - impacts observed) to Upper Los Alamos Canyon, a coldwater fishery at the time of the study. The USFWS also determined that eight species in Los Alamos and Pajarito Canyons (identified by NMED) were classified by the Idaho Department of Environmental Quality (DEQ) as preferring coldwater. Moreover, the Laboratory's invertebrate data included several species that prefer coldwater in Los Alamos, Pajarito, Sandia and Chaquehui Canyons. Finally, to the extent that the absence of fish is relevant to the subcategory designation, the term "existing use" has a broader meaning than "existing on this date". The absence of fish in 2003 is not the benchmark for designation of an aquatic life use.

238. The Commission rejects UC's proposal not to designate the livestock watering use on the basis that it is not an existing or attainable use because livestock are not permitted on Laboratory property and will not be in the foreseeable future, pointing to fencing and security patrols as evidence of an intent to exclude livestock. The evidence indicates that livestock continue to use

streams on Laboratory property despite UC's intent to exclude them; NMED has observed tracks, feces, wallows, and overgrazing, and has discussed the impacts of livestock grazing on surface water on Laboratory property with UC representatives. Accordingly, livestock watering is an existing use, and cannot be removed without a UAA.

239. At the hearing, UC suggested the streams in this segment could be divided between lower reaches used by livestock and upper reaches that are not used by livestock. It suggested that the division points could be based on "breaks in the slopes and positions of the springs." UC did not make any proposal to this effect, however, and the Commission will not adopt such a division after the hearing in the absence of an earlier proposal.

240. The Commission rejects UC's proposed dissolved oxygen (DO) criterion of 5 mg/l for Pajarito Canyon, Starmers Gulch and Water Canyon, and 4 mg/l for Canon de Vale and Sandia Canyon, and adopts NMED's proposed DO criterion of 6 mg/l for all waters in this segment in order to protect the designated use of coldwater aquatic life.

20.6.4.127 RIO GRANDE BASIN - Perennial portions of Los Alamos canyon upstream from Los Alamos reservoir and Los Alamos reservoir.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat, irrigation and primary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 20°C (68°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.127 NMAC - N, XX-XX-05]

241. The Commission adopts another new segment proposed by NMED and UC, for the same reasons as set out above in paragraphs 235-236. The proposed uses are appropriate, as discussed above. The only difference involves the designated use of primary contact, which is based on evidence of swimming in Los Alamos Reservoir.

242. The Commission has adopted NMED's proposed "aquatic life" designation elsewhere, so rejects UC's retention of the "fishery" designation.

20.6.4.128 RIO GRANDE BASIN - Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within Los Alamos national laboratory, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)

A. **Designated Uses**: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

B. **Criteria:**

(1) The use-specific criteria in 20.6.4.900 NMAC, except the chronic criteria for aquatic life are applicable for the designated uses listed in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

(3) The acute total ammonia criteria set forth in section 20.6.4.900.K (Salmonids Absent) are applicable to this use.

[20.6.4.128 NMAC - N, XX-XX-05]

243. The Commission adopts another new segment proposed by NMED and UC, for the same reasons as set out above in paragraphs 235-236. The proposed uses are appropriate, as discussed above.

244. The Commission adopts UC's proposed acute total ammonia criteria for this segment in order to identify the applicable criteria.

20.6.4.129 RIO GRANDE BASIN - Perennial reaches of the Rio Hondo.

A. **Designated Uses:** domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and secondary contact.

B. **Criteria:**

(1) In any single sample: specific conductance 400 µmhos/cm or less, pH within the range of 6.6 to 8.8, total phosphorous (as P) less than 0.1 mg/L and temperature 20°C (68°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.129 NMAC - N, XX-XX-05]

245. The Commission adopts NMED's proposal to create a new segment and to restore the phosphorous criterion removed inadvertently in the 1998 triennial review. The designated uses and associated criteria have been carried forward from the original segment; see segment 123, above.

20.6.4.130 - 20.6.4.200: [RESERVED]

20.6.4.201 PECOS RIVER BASIN - The main stem of the Pecos river from the New Mexico-Texas line upstream to the mouth of the Black river (near Loving).

A. **Designated Uses**: irrigation, livestock watering, wildlife habitat, secondary contact[,] and warmwater [~~fishery~~]aquatic life.

B. **[~~Standards~~]Criteria**:

(1) In any single sample: pH [~~shall be~~] within the range of 6.6 to 9.0 and temperature [~~shall not exceed~~] 32.2°C (90°F) or less. The use-specific numeric [~~standards~~]criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) [~~The monthly geometric mean of fecal coliform bacteria shall not exceed 200/100 mL; no single sample shall exceed 400/100 mL~~]The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of [~~20.6.4.13~~]20.6.4.14 NMAC).

(3) At all flows above 50 cfs: TDS [~~shall not exceed~~]20,000 mg/L or less, sulfate [~~shall not exceed~~]3,000 mg/L[,] or less and chloride [~~shall not exceed~~]10,000 mg/L or less.

[20.6.4.201 NMAC - Rp 20 NMAC 6.1.2201, 10-12-00; A, XX-XX-05]

246. The Commission adopts changes proposed by NMED and already described above.

[C]E. United States geological survey. 1987. *Methods for the determination of organic substances in water and fluvial sediments, techniques of water-resource investigations of the U.S. geological survey.* Washington, D.C. 80 p.

[D]F. United States environmental protection agency. 1974. *Methods for chemical analysis of water and wastes.* National environmental research center, Cincinnati, Ohio. (EPA-625-/6-74-003). 298 p.

[E]G. New Mexico water quality control commission. [1978]2003. *(208) state of New Mexico water quality management plan* [(updated 1988)]. Santa Fe, New Mexico. [226.]85 p.

[F]H. Colorado river basin salinity control forum. [1993]2002. *[1993]2002 Review, water quality standards for salinity, Colorado river system.* Phoenix, Arizona. [154]176 p.

[G]I. United States environmental protection agency. [1991]2002. *Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms.* Office of research and development, Washington, D.C. ([4th Ed., EPA/600/4-90/027]5th Ed., EPA 821-R-02-012). 293 p. http://www.epa.gov/ost/WET/disk2/atx.pdf

[H]J. United States environmental protection agency. 1989. *Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms.* Environmental monitoring systems laboratory, Cincinnati, Ohio. (2nd Ed., EPA 600/4-89/001). 250 p. http://www.epa.gov/ost/WET/etf/pdf.

[I]K. Ambient-induced mixing, in United States environmental protection agency. 1991. *Technical support document for water quality-based toxics control.* Office of water, Washington, D.C. (EPA/505/2-90-001). 2 p.

[J]L. United States environmental protection agency. 1983. *Technical support manual: waterbody surveys and assessments for conducting use attainability analyses.* Office of water, regulations and standards, Washington, D.C. 251 p. http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf

[K]M. United States environmental protection agency. 1984. *Technical support manual: waterbody surveys and assessments for conducting use attainability analyses, volume III: lake systems.* Office of water, regulations and standards, Washington, D.C. 208 p. http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf

[20.6.4.901 NMAC – Rp 20 NMAC 6.1.4000, 10-12-00; A, XX-XX-05]

344. The Commission adopts NMED's proposal to update the references, and add new references and correct web addresses.

Dated: 5/13/05

CHAIR, WATER QUALITY CONTROL COMMISSION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

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SURFACE WATER
QUALITY BUREAU

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NM ENVIRONMENT DEPARTMENT
OFFICE OF THE SECRETARY

Mr. Ron Curry
Chairman
Water Quality Control Commission
Harold Runnels Building
1190 Saint Francis Drive
Santa Fe, NM 87502

Subject: EPA Approval of Revisions to New Mexico's Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC

Dear Mr. Curry:

I am pleased to inform you that we have completed our review of the State's triennial revisions. As always, I thank you for the efforts of the New Mexico Water Quality Control Commission and particularly the New Mexico Environment Department in the development of these revisions.

The new and revised water quality standards include a number of important amendments. These include the development of standards for non-classified ephemeral, intermittent and perennial waters; revisions to the State's bacteriological criteria, specifying *E. coli* as the indicator organism consistent with the Environmental Protection Agency's (EPA) recommendation; revision of rules for the applicability of criteria to prevent inappropriate attainment decisions; revisions to use attainability analyses procedures; and revised classified segments. The Commission and the Environment Department should be commended for making these important revisions to New Mexico's water quality standards.

EPA's review was of amendments to the *Standards for Interstate and Intrastate Surface Waters* 20.6.4. NMAC. These revisions where adopted by the Commission and became effective as State law on May 23, 2005, with revisions effective on July 17, 2005. The amendments were certified by the Assistant Attorney General by letter dated July 1, 2005, and were submitted to EPA as required under federal regulations at 40 CFR 131.20(c). EPA received the documents on July 7, 2005.

In today's action, EPA is approving the majority of these amendments. However, based on a review of the record, EPA was unable to take action on a few provisions because they did not meet the minimum requirements for a water quality standards submission. See 40 CFR 131.6(b) and (f). Specifically, EPA was unable to take action on the limited aquatic life, aquatic life and/or secondary contact recreation use designations for Sections 20.6.4.97, 20.6.4.98 and

SALADEN TESTIMONY
EXHIBIT 5

20.6.4.99. EPA strongly supports the concept the State has used in developing standards for unclassified ephemeral, intermittent and perennial surface waters; however, adequate supporting documentation (such as a use attainability analysis) was not available which would allow us to take action on all portions of these provisions. Similarly, EPA was unable to take action on the new and/or revised use designations and modifications for six classified segments because adequate supporting documentation (such as a use attainability analysis) was not available to support the modifications. See segments 20.6.4.126, 128, 221, 310, 701 and 702.

The enclosed detailed Record of Decision explains EPA's basis for the approval action taken and provides an explanation of the type of documentation that is necessary for EPA to be able to approve the remaining provisions. We would be glad to work with you and provide technical assistance regarding the needed supporting documentation.

It is important to note that EPA's approval of the State's water quality standards is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the Endangered Species Act (ESA).[1] Section 7(a)(2) of the ESA states that "each federal agency ... shall ... insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical..."

EPA's approval of the water quality standards revisions, therefore, may be subject to the results of consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the ESA. Nevertheless, EPA also has a Clean Water Act obligation, as a separate matter, to complete its water quality standards action. Therefore, in approving New Mexico's water quality standards revisions today, EPA is completing its CWA Section 303(c) responsibilities. However, should the consultation process with the U.S. Fish and Wildlife Service identify information that supports a conclusion that one or more of these revisions is likely to jeopardize the continued existence of any endangered or threatened species, EPA will revisit and amend its approval decision for those revised or new water quality standards.

Pursuant to the *Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act* (66FR11202, February 22, 2001), EPA Headquarters and the Services have initiated a national consultation on all of EPA's published water quality criteria for the protection of aquatic organisms. As explained in the MOA, the national consultation provides Endangered Species Act Section 7 consultation coverage for any water quality criteria included in State water quality standards, approved by EPA, that are identical to or more stringent than EPA's recommended CWA Section 304(a) criteria. EPA Region 6, therefore, will defer to the national consultation on questions of

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[1] Where EPA concludes that its approval action will have "no effect" on listed endangered or threatened species, or is otherwise not subject to ESA consultation, EPA can issue an unconditional approval.

protectiveness for aquatic life criteria. In the unlikely event that the national consultation discovers EPA's published CWA Section 304(a) criteria (and by extension, the State standards) are likely to cause jeopardy to listed species or the adverse modification or destruction of designated critical habitat, EPA has retained its authority to revise its approval decision.

As mentioned earlier, I appreciate both the Commission's and the Environment Department's efforts in the development of these important revisions to New Mexico's water quality standards, and commend the Commission for its action. I also appreciate the cooperative and constructive way in which the Environment Department staff has worked with my staff as it developed its proposal for this triennial review of the State's water quality standards.

If you need additional detail and if you would like to schedule a meeting to work through the issues outlined in this letter, please call me at (214) 665-7101, or have the Environment Department staff contact Russell Nelson, my Regional Water Quality Standards Coordinator, at (214) 665-6646.

Sincerely,

Miguel I. Flores, Director
Water Quality Protection Division

Enclosure

cc: Denise Keehner, Director, SHPD
Amy Newman, Chief, RSTSSB
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RECORD OF DECISION
FOR
EPA REVIEW OF

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 6 WATER QUALITY
PART 4 STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS

The revisions to the New Mexico standards are extensive, ranging from simple punctuation, adding terms for clarity to update definitions and phrasing, to more substantive changes such as establishing new provisions, physically relocating and merging others and establishing narrative and numeric criteria. Repetitive and/or non-substantive changes may not be addressed in detail after initial discussion. As seen here, EPA's discussion and action will be italicized to differentiate it from the State's provisions.

20.6.4.6 Objective:
B.

Paragraph B discusses modified to read ...water contaminants resulting from these activities will not be permitted to lower the quality of surface waters of the state below that [~~which is~~] required for [~~recreation and maintenance of a fishery and protection of wildlife~~] protection and propagation of fish, shellfish and wildlife and recreation in and on the water. The change maintains the State's prohibition on lowering water quality and provides greater consistency with Clean Water Act (CWA) Section 101(a)(2) goals.

This change reflects the goals established in Section 101(a)(2) of the Clean Water Act.

***Action:** EPA approves the modifications to this section.*

20.6.4.7 Definitions:

Changes range from new and modified definitions as well as a substantial re-lettering, retaining alphabetical order. Re-lettering is not considered a significant modification.

> **B. "Adjusted gross alpha"** means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample, including radium-226, but excluding radon-222 and uranium. Also excluded are source, special nuclear and by-product material as defined by the Atomic Energy Act of 1954.

This new definition of "adjusted" gross alpha is intended to reflect that it is does not include all alpha emissions. The word "adjusted" has also been added to those places in the standards where the term appears.

20.6.4.125 RIO GRANDE BASIN - Perennial reaches of San Pedro creek.

A. Designated Uses: coldwater aquatic life, irrigation, livestock watering, wildlife habitat and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 25°C (77°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.125 NMAC - N, 05-23-05]

This new segment for the perennial reaches of San Pedro Creek was broken out of Rio Grande Section 20.6.4.111, which previously contained the perennial reaches of both Las Huertas and San Pedro Creeks. As seen in that discussion, Las Huertas Creek has been shown to be capable of supporting a high quality coldwater aquatic life designation. The Commission indicates in its SoR (paragraph 217), that no evidence was presented to indicate that San Pedro Creek is capable of supporting that high quality coldwater use. Since this segment simply breaks San Pedro Creek out from segment 111, retaining its coldwater aquatic life and secondary contact uses and associated criteria, no supporting documentation is necessary.

***Action:** EPA approves this new Section.*

20.6.4.126 RIO GRANDE BASIN - Perennial portions of Cañon deValle from Los Alamos national laboratory (LANL) stream gage E256 upstream to Burning Ground spring, Sandia canyon from Sigma canyon upstream to LANL NPDES outfall 001, Pajarito canyon from Arroyo de La Delfe upstream into Starmers gulch and Starmers spring and Water canyon from Area-A canyon upstream to State Route 501.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 24°C (75.2°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.126 NMAC - N, 05-23-05]

This new segment was established to classify perennial waters within or near Los Alamos National Labs (LANL) property. The State based use designations for these segments on an intensive study by US Fish and Wildlife Service (Lusk and MacRae 2002). The US Fish and Wildlife Service's (Service) study demonstrated the presence of shellfish, which is indicative of a coldwater aquatic community although fish are not present in these segments. The Service's

study documented existing macroinvertebrate communities in all of the streams in this segment with the exception of Water Canyon. The study also indicated that these macroinvertebrate communities generally compare favorably to the coldwater aquatic community in the upper reaches of Los Alamos Canyon, further supporting the coldwater designation.

Although a waterbody may not support a reproducing fishery, it does not mean that it may not be supporting an aquatic life protection function. EPA agrees that an existing cold water aquatic community composed of invertebrates like that found in this stream should be protected whether or not the stream supports a fishery. The coldwater aquatic life designation is consistent with the 101(a)(2) interim goal of the Act, providing for protection of aquatic life uses. See 40 CFR 131.10(k). The State also established default uses of livestock watering and wildlife habitat. The use designations for these segments are consistent with the use in adjacent tributaries of the Rio Grande in Bandelier National Monument.

The basis for designating a secondary contact recreation use is unclear given that the Service's study indicates that there is evidence of pools of sufficient size for primary contact in the Sandia canyon stream. As discussed previously, EPA's current water quality regulation effectively establishes a rebuttable presumption that "fishable/swimmable" uses are attainable unless it can be demonstrated that such uses are not attainable. A secondary contact use does not meet that presumption.

Based on a review of the 2005 Triennial Submission record supplied by the State, the secondary contact use is not adequately supported. 40 CFR 131.6(b) and (f) requires the submission of supporting analyses and other general information that will assist EPA in determining the adequacy of standards that don't include uses specified in Sec. 101(a)(2) of the Act. To comply with the regulation, New Mexico must submit a UAA to demonstrate why attaining the secondary contact recreation uses are not feasible based on one of the factors listed in 40 CFR 131.10(g). The most logical factor is 40 CFR 131.10(g)(2) - natural, ephemeral, intermittent, or low-flow conditions or water levels prevent attainment of the use. Although the Service's intensive study is not a UAA in itself, the State could draw on information in that and other related intensive studies or information to support the secondary contact recreation use designation.

Action: EPA takes no action on this Section.

20.6.4.127 RIO GRANDE BASIN - Perennial portions of Los Alamos canyon upstream from Los Alamos reservoir and Los Alamos reservoir.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat, irrigation and primary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 20°C (68°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.127 NMAC - N, 05-23-05]

As with the previous segment, this new segment was also established to classify perennial waters within or near LANL property. The use designations for this segment were also based on the Service's study of these waters. (Lusk and MacRae 2002). The reaches in this segment have been designated for coldwater aquatic life and primary contact recreation uses. The historical livestock watering and that wildlife habitat have been designated for this segment. The coldwater aquatic life designation and primary contact designations are consistent with the 101(a)(2) interim goals of the Act.

***Action:** EPA approves this new Section.*

20.6.4.128 RIO GRANDE BASIN - Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

B. Criteria:

(1) The use-specific criteria in 20.6.4.900 NMAC, except the chronic criteria for aquatic life are applicable for the designated uses listed in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

(3) The acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent) are applicable to this use.

[20.6.4.128 NMAC - N, 05-23-05]

As with the two previous Sections, New Mexico has established this segment, classifying waters within LANL property. The State based use designations for this segment on the same intensive study by the Service (Lusk and MacRae 2002) mentioned in the previous sections. This segment has been designated for limited aquatic life and secondary contact based on likelihood of exposure by ingestion and a light frequency of use, as well as the State's default livestock watering and wildlife habitat uses that have been applied.

The limited aquatic life and secondary contact uses may be the highest uses that can be attained in this segment. However, as discussed in Section 20.6.4.126, such designations are not compatible with the uses specified in section 101(a)(2) of the Act and must be supported by a UAA based on one of the factors listed in 40 CFR 131.10(g). Again, the most logical factor is 131.10(g)(2) - natural, ephemeral, intermittent, or low-flow conditions or water levels prevent attainment of the use. The supporting UAA for waters in this segment and Section 20.6.4.126 may be combined.

***Action:** EPA takes no action on this Section.*

20.6.4.129 RIO GRANDE BASIN - Perennial reaches of the Rio Hondo.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and secondary contact.

B. Criteria:

(1) In any single sample: specific conductance 400 µmhos/cm or less, pH within the range of 6.6 to 8.8, total phosphorous (as P) less than 0.1 mg/L and temperature 20°C (68°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

[20.6.4.129 NMAC - N, 05-23-05]

The State has established a new segment for the Rio Hondo in the Rio Grande Basin, breaking this tributary out of Section 20.6.4.123. The total phosphorus 0.1 mg/L total phosphorus criterion that was re-established for segment 123 is being carried over to this new segment. The coldwater aquatic life designation and secondary contact designations are also being carried over from the original segment designation.

The secondary contact designation is supported by revised bacteriological criteria sufficient to support primary contact recreation based on a light frequency of use. EPA recognizes that primary contact recreation may not be attainable or appropriate in all waters and that States may designate secondary contact recreation, but set bacteriological criteria sufficient to support primary contact based on frequency of use as New Mexico has done here.

***Action:** EPA approves this new Section.*

20.6.4.130 - 20.6.4.200: [RESERVED]

No response is required for this reserved section.

USE ATTAINABILITY ANALYSIS

for Waters Located on Los Alamos National Laboratory as described in Sections 20.6.4.126 and 128 NMAC New Mexico Water Quality Standards, July 17, 2005

Prepared by the New Mexico Environment Department
Surface Water Quality Bureau
August 2007

INTRODUCTION

The New Mexico Water Quality Control Commission's 2005 amendments to the State's surface water quality standards (20.6.4 NMAC) added Segments 126 and 128, both located on Los Alamos National Laboratory (LANL) property, as newly classified surface waters. The segment descriptions, designated uses and criteria from the 2005 amendments are included as Attachment 1. A map showing these segments is presented in Attachment 2.

For Segment 126, the recreational use was designated as secondary contact. For Segment 128, the recreational use was designated as secondary contact and the aquatic life use was designated as limited aquatic life. These uses are defined in 20.6.4.7 NMAC. Because secondary contact and limited aquatic life uses are not considered by EPA to satisfy the goal in Section 101(a)(2) of the Clean Water Act to provide for "the protection and propagation of fish, shellfish, and wildlife" and for "recreation in and on the water," the State is required by 40 CFR 131.10(j) to conduct a use attainability analysis (UAA).

The New Mexico Environment Department (NMED) has prepared this UAA to provide documentation as to the attainable recreation and aquatic life uses in Segments 126 and 128. The UAA relies on analyses of flow data from LANL stream gages, literature regarding the habitat requirements of fish species in the ecoregion, and the findings of an assessment of the physical, chemical and biological characteristics of LANL streams conducted by Lusk and MacRae (2002).

The UAA concludes that a secondary contact use is attainable in the two segments, and that a limited aquatic life use is attainable in Segment 128. Natural conditions of low flow and water level, the factor identified in 40 CFR 131.10(g)(2), prevent the attainment of primary contact uses in both segments as well as the attainment of a Section 101(a)(2) aquatic life use in Segment 128.

RECREATIONAL USES

Data collected by Lusk and MacRae (2002) and LANL stream gage data indicate that recreational use of Segments 126 and 128 is limited by low flows and water levels. Lusk and MacRae established six sampling stations on stream reaches included in Segment 126. Measurements (converted to English units) of stream discharge, wetted width and water depth at these stations are summarized in Table 1. These data indicate a maximum pool depth of approximately 9 inches and an average depth less than 5 inches. Photographs of typical pools and water levels at Lusk and MacRae sampling stations are shown in Attachment 3. Photographs, taken by representatives of the NMED Department of Energy Oversight Bureau, of stream reaches in Segment 128 are shown in Attachment 4.

Streamflow data from LANL gaging stations confirm that flow regimes in this area are dominated by low flows. Table 2 presents data from gaging stations on two streams in Segment 126. Mean and median daily flows are 0.1 cfs or lower for both streams. The data indicate that flows are very low on most days in the average year: less than 0.1 cubic feet per second (cfs) on 79% and 84% of days in the two streams respectively, and less than 0.2 cfs on 90% and 88% of days.

Table 3 presents data from gaging stations on stream reaches in Segment 128. Similar to the streams in Segment 126, these data also indicate low mean and median daily flows. In the average year, flows in these streams were less than 0.1 cfs on 77% to 100% of days.

Table 1
Dimensions of Streams in Segment 126

Stream Reach	Flow, cubic feet per second	Ave. Wetted Width, Feet	Max. Depth, inches	Mean Depth, inches
Segment 126				
Upper Cañon de Valle	0.1	2.3	7.1	2.0
Lower Cañon de Valle	0.15	2.3	4.7	2.4
Upper Sandia	0.55	4.3	9.1	3.5
Lower Sandia	0.3	4.4	8.9	4.7
Upper Pajarito	0.32	3.3	8.7	3.2
Lower Pajarito	0.3	5.2	5.1	2.4

Adapted from Lusk and MacRae (2002), pp. 230-231

Table 2
Streamflow data, Segment 126

Gaging Station	Period of Record	Mean Daily Disch., cfs	Median Daily Disch., cfs	Max. Daily Disch., cfs	% of days per year	
					Flow < 0.1 cfs	Flow < 0.2 cfs
Cañon de Valle below MDA-P	10/1/03 - 9/30/05	0.10	0.00	2.75	79%	90%
Water Canyon at SR-501	10/1/94 - 9/30/05	0.08	0.01	28.00	84%	88%

From LANL Water Quality Database, http://wqdbworld.lanl.gov

Table 3
Streamflow Data, Segment 128

Gaging Station	Period of Record	Mean Daily Disch., cfs	Median Daily Disch., cfs	Max. Daily Disch., cfs	% of days per year	
					Flow < 0.1 cfs	Flow < 0.2 cfs
Mortandad Canyon above Sediment Traps	10/1/96 - 9/30/05	0.00	0.00	1.70	99.9%	100%
Los Alamos Canyon above SR-4	10/1/94 - 10/1/05	0.31	0.00	15.91	78%	79%
Water Canyon at SR-4	1/1/95 - 9/30/05	0.05	0.00	10.64	94%	94%
Pajarito Canyon above Starmers Gulch	3/22/99 - 9/30/05	0.10	0.01	72.43	77%	80%

From LANL Water Quality Database, http://wqdbworld.lanl.gov

Higher flows do occur in these streams in response to rainfall and snowmelt events. Water levels tend to rise and then fall again very quickly, creating hazardous and sometimes destructive flash flood conditions. Lusk and MacRae (p. 49) discuss the effects of high-flow events on the fish cages they placed in the streams: "Cages frequently had large amounts of sediment deposited in them, were thrown from the stream, were ripped, or broken." Stream gaging data provide the quantitative record of these events. The maximum daily discharge shown for Water Canyon in Table 2 is 28 cfs. The flow recorded for the previous day was only 0.02 cfs. Figures 1 depicts the hydrograph at this station in Water Canyon for a month in the summer of 2001. Figure 2 shows the spring 2005 hydrograph for Los Alamos Canyon near State Road 4. The pattern of rapidly changing water levels quickly returning to a low-flow condition is clearly evident in both hydrographs.

Figure 1

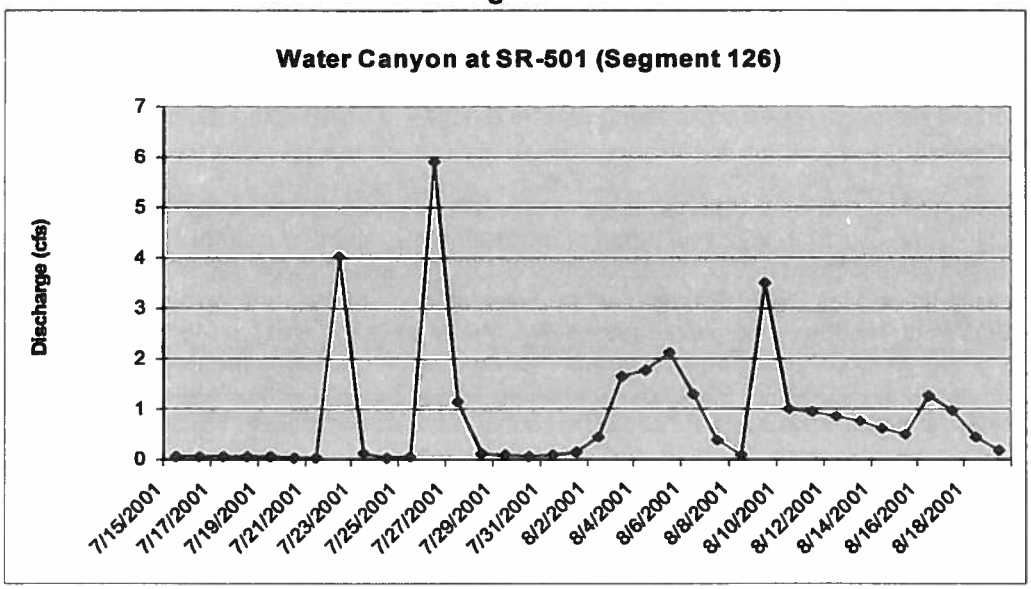
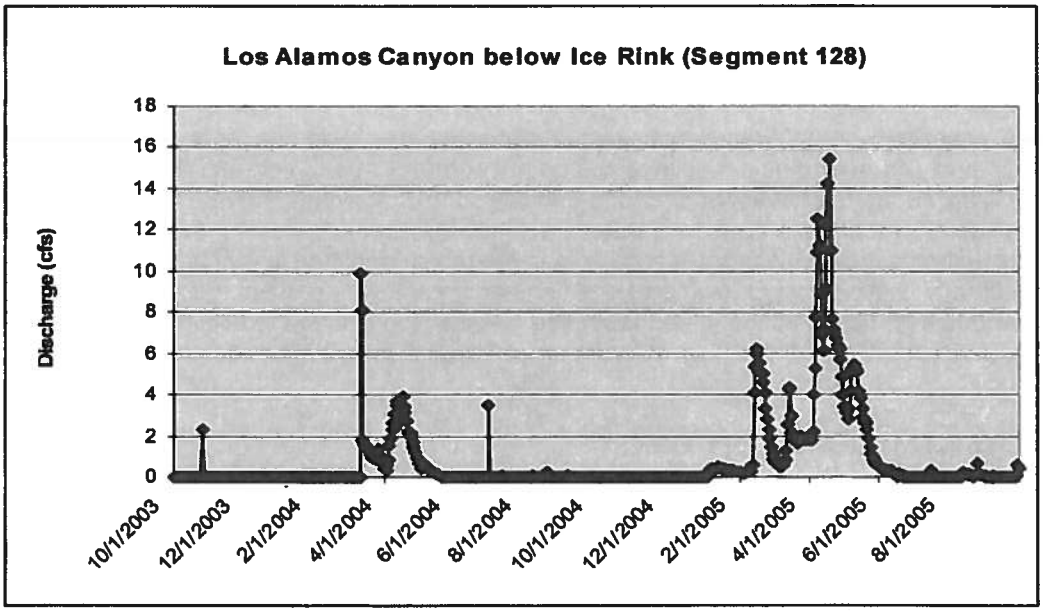


Figure 2



The term "primary contact" in 20.6.4.7 NMAC is defined as "any recreational or other water use in which there is prolonged and intimate human contact with the water, such as swimming and water skiing, involving considerable risk of ingesting water ...." Guidance developed by EPA Region 6 on recreation standards (http://www.epa.gov/earth1r6/6wq/ecopro/watershd/standard/recguide.htm) recommends that water bodies with sufficient flow and depth to provide for total body immersion, generally 18 inches of water depth, be presumed to support primary contact activities. The flows and depths presented here for Segments 126 and 128 are too low on most days to provide either for total body immersion or for prolonged and intimate contact with the water. Occasional higher flows are of short duration and typically create conditions hazardous for recreational activities involving immersion.

Recreational use of the waters in Segments 126 and 128 is also limited by difficult and restricted access as the streams are located in narrow canyons on property owned by the Department of Energy. Access by the general public is not permitted in any of the streams and is restricted by fencing, signs and, in some areas, security patrols (Fisher 2005). Based on observations made by Lusk and MacRae, some secondary contact recreation does occur along stream reaches in both segments, but primary recreation was not observed.

With the exception of Los Alamos Canyon, none of the watercourses in Segments 126 and 128 is subject to human modifications such as impoundments or diversions that alter the natural flow regime. However, Los Alamos reservoir is located in the upper reaches of Los Alamos Canyon above Segment 128. Since the Cerro Grande fire in May 2000, the reservoir has operated as a pass-through system because the drain at the bottom of the dam is not working properly. Water exits the reservoir through the currently open drain and by flow over the spillway when the reservoir is full. Because the reservoir is operating as a pass-through system, it currently does not significantly affect the natural flow regime of the stream and is not considered to impair downstream uses. The county plans to rehabilitate the dam for recreational and water supply uses, although no timeframe has been established. If the dam is again operational at some point in the future, its impact on the downstream flow regime and uses may need to be reevaluated.

The waters of Segments 126 and 128 have not been assessed by the State for bacterial contamination nor did Lusk and MacRae sample for pathogens, but it is expected that water quality is generally not impaired for recreational uses. The surrounding area supports wildlife, including elk and deer; however, livestock grazing is not permitted on LANL property. Bacterial contamination resulting from the presence of wildlife or incidental livestock is not expected to exceed primary contact criteria, except perhaps during high flows. Sandia Canyon in Segment 126 receives treated effluent from a LANL wastewater treatment plant. Review of the 2006 and 2007 Discharge Monitoring Reports for this outfall revealed a maximum fecal coliform bacteria concentration (13 colonies/100 mL) that does not impair primary contact use.

In conclusion, secondary contact recreation is an existing and attainable use for the stream reaches in Segments 126 and 128. Hydrologic modifications do not currently affect recreational opportunities, and water quality likely supports both secondary and primary contact activities. Nevertheless, primary contact is not an attainable use because flows and water levels are generally too low for full body immersion or prolonged and intimate contact with the water. This is the factor identified in 40 CFR 131.10(g)(2): "Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use..." Hazardous high-flow conditions and restricted access also limit the feasibility of primary contact recreation.

SEGMENT 20.6.4.128 AQUATIC LIFE USE

Lusk and MacRae (2002) provide information from numerous sources indicating that ephemeral and intermittent streams in the Jemez mountains support aquatic life that includes aquatic invertebrates and perhaps amphibians, but not fish. Their electrofishing surveys in the Sandia, Pajarito and Valle Canyon stream reaches did not locate fish. These sampling stations were on Segment 126 stream reaches that are continuous with Segment 128 watercourses (see map in Attachment 2). The water bodies included in

Segment 128 are identified as ephemeral and intermittent and therefore do not flow for varying periods throughout the year. Support of a fishable use in these types of water bodies would require a source population of fish that could enter and occupy these waters during wet periods. Lusk and MacRae's data indicate there is no source population existing in upstream perennial waters in the canyons they surveyed, and the 700-ft drop from the Pajarito Plateau into White Rock Canyon is too steep for fish to migrate up from the Rio Grande.

Hatch, et al. (1998) and Sublette, et al. (1990) were reviewed to identify native species of fish that might inhabit waters in this region. Hatch, et al. list 27 fish species that are native to the Rio Grande drainage. Review of the literature and a corresponding map of Level III Ecoregions (Griffith, et al. 2006) shows that six of these native species might be found in the ecoregion that includes Segment 128 (Ecoregion 21). Habitat requirements for these six species are shown in Table 4.

Table 4
Distinctive Fish Species Native to the Rio Grande Drainage and Level III Ecoregion 21[1]

COMMON NAME	SCIENTIFIC NAME	HABITAT[2]
Rio Grande cutthroat trout	*Oncorhynchus clarki virginalis*	Prefers clear, cold streams and lakes.
Rio Grande chub	*Gila pandora*	Found in impoundments and pools of small to moderate streams.
fathead minnow	*Pimephales promelas*	Found in a wide variety of habitats in rivers, streams, lakes, and ponds.
longnose dace	*Rhinichthys cataractae*	Seeks the interstices between stones in gravel-rock substrates of riffle areas of streams or in the surge zone or deeper water of lakes.
Rio Grande sucker	*Catostomus plebeius*	Lives in small to large, middle elevation (2,000 - 2,600 m) streams usually over gravel an cobble, but also in backwaters and in pools below riffles.
white sucker	*Catostomus commersoni*	Inhabits lakes, streams, and rivers in New Mexico, usually above 1,372 m in elevation.

[1] *Adapted from Hatch, et al. (1998)*
[2] *Adapted from Sublette, et al. (1990)*

Lusk and MacRae list nine "Fish of the Jemez Mountains." Table 5 reproduces this list. Three of the species, rainbow trout, brown trout and brook trout, are not native to the Jemez mountains.

Based on the habitat requirements shown in Table 4 and the guild assignments in Table 5, populations of these species do not survive and propagate in ephemeral or intermittent streams. The waters in Segment 128, therefore, cannot support a Section 101(a)(2) aquatic life use. Because a number of non-fish aquatic life populations are sustained along these streams, the "limited aquatic life" use subcategory is appropriate to protect both existing and attainable aquatic life uses.

According to Appendix A of the 2006-2008 303(d)/305(b) Integrated Report (NMED/SWQB 2007), water quality in seven assessment units in Segment 128 was not supporting attainment of the limited aquatic life use. The listings related to limited aquatic life use were based on exceedence of criteria for four metals: aluminum, cadmium, copper, and zinc. The listings were based on stormwater data. Investigation into the probable sources of these metals continues. When metals occur in water in higher than natural concentrations they can be highly toxic and cause major disruptions of aquatic ecosystems; however, numerous aquatic life populations, e.g., Diptera, have been shown to be highly tolerant of contamination from metals. The aquatic life use may be significantly altered, but still attainable under these conditions. At this point, there is not enough information to conclude that these exceedences prevent eventual attainment of the limited aquatic life use or other subcategories of aquatic life use.

Table 5
Fish of the Jemez Mountains

COMMON NAME	SCIENTIFIC NAME	GUILD			
		Fully Aquatic	Semi Aquatic	Riparian	Terrestrial
Fish of the Jemez Mountains					
Rio Grande cutthroat trout	*Oncorhynchus clarki virginalis*	Yes	No	No	No
rainbow trout	*Oncorhynchus mykiss*	Yes	No	No	No
brown trout	*Salmo trutta*	Yes	No	No	No
brook trout	*Salvelinus fontinalis*	Yes	No	No	No
Rio Grande chub	*Gila pandora*	Yes	No	No	No
fathead minnow	*Pimephales promelas*	Yes	No	No	No
longnose dace	*Rhinichthys cataractae*	Yes	No	No	No
Rio Grande sucker	*Catostomus plebeius*	Yes	No	No	No
white sucker	*Catostomus commersoni*	Yes	No	No	No

Adapted from Lusk and MacRae (2002), p. 127

As discussed for recreational uses, the dam in Los Alamos Canyon is currently operating as a pass-through system. As such, it does not significantly affect the natural flow regime of the stream and is not considered to impair downstream uses. There are no other dams or diversions affecting the waters in Segment 128.

In conclusion, a limited aquatic life use is attainable on stream reaches in Segment 128. Because fish species in Ecoregion 21 cannot survive in ephemeral and intermittent streams, Segment 128 streams cannot attain the Section 101(a)(2) aquatic life use due to the factor identified in 40 CFR 131.10(g)(2).

REFERENCES:

Fisher, Frederick M. 2005. Direct Testimony in the Matter of the Triennial Review of Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC. WQCC 03-05 (R).

Griffith, G. E., Omernik, J. M., McGraw, M. M., Jacobi, G. Z., Canavan, C. M., Schrader, T. S., Mercer, D., Hill, R., and Moran, B. C. 2006. Ecoregions of New Mexico (color poster with map, descriptive text, summary tables and photographs). Reston, Virginia. United States Geological Survey (map scale 1:1,400,000). http://www.epa.gov/wed/pages/ecoregions/nm_eco.htm.

Hatch, M.D., Cowley, D.E., Sublette, J.E., Jacobi, G.Z. and Hermann, S.J. 1998. *Native Fish Faunal Regions in New Mexico*, 54p (Appendix to Development of an Index of Biotic Integrity for Use in Water Resource and Fishery Management, Project No. 01, Federal Aid Grant F-59-R-7).

Lusk, J.D. and MacRae, R.K. 2002. *A Water Quality Assessment of Four Intermittent Streams in Los Alamos County, New Mexico*. United States Fish and Wildlife Service, New Mexico Ecological Services Field Office, Environmental Contaminants Program, Albuquerque, NM. 262p.

NMED/SWQB New Mexico Environment Department / Surface Water Quality Bureau.2007. *2006-2008 State of New Mexico Integrated Clean Water Act §303(d) / §305(b) Report*, Santa Fe, NM.

Sublette, J.E., M.D. Hatch and M. Sublette. 1990. *The Fishes of New Mexico*, University of New Mexico Press, Albuquerque, NM.

Attachment 1

SEGMENT DESCRIPTIONS, DESIGNATED USES, AND CRITERIA

20.6.4.126 RIO GRANDE BASIN - Perennial portions of Cañon deValle from Los Alamos national laboratory (LANL) stream gage E256 upstream to Burning Ground spring, Sandia canyon from Sigma canyon upstream to LANL NPDES outfall 001, Pajarito canyon from Arroyo de La Delfe upstream into Starmers gulch and Starmers spring and Water canyon from Area-A canyon upstream to State Route 501.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat and secondary contact.

B. Criteria:

(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 24°C (75.2°F) or less. The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses listed above in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

20.6.4.128 RIO GRANDE BASIN - Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

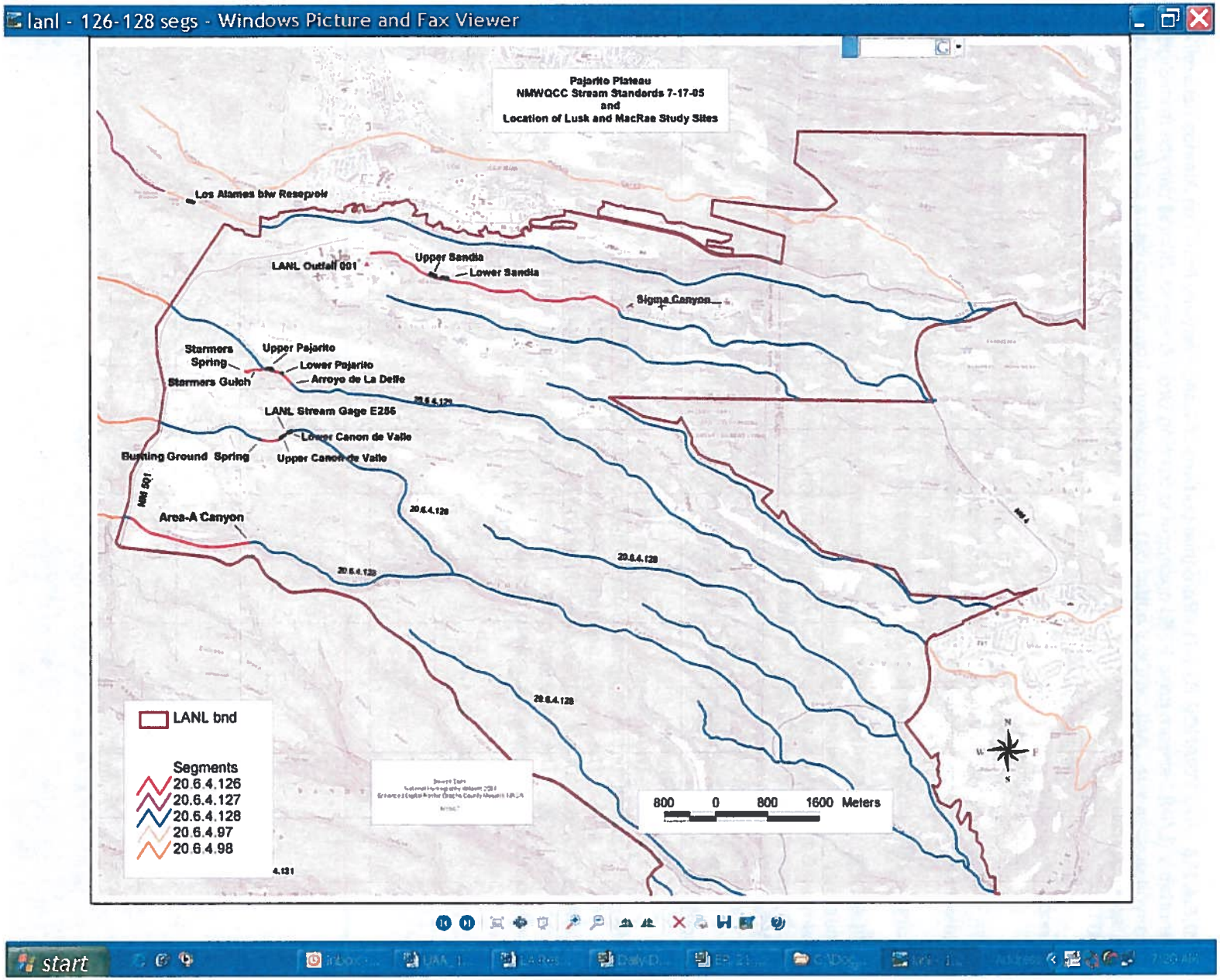
B. Criteria:

(1) The use-specific criteria in 20.6.4.900 NMAC, except the chronic criteria for aquatic life are applicable for the designated uses listed in Subsection A of this section.

(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).

(3) The acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent) are applicable to this use.

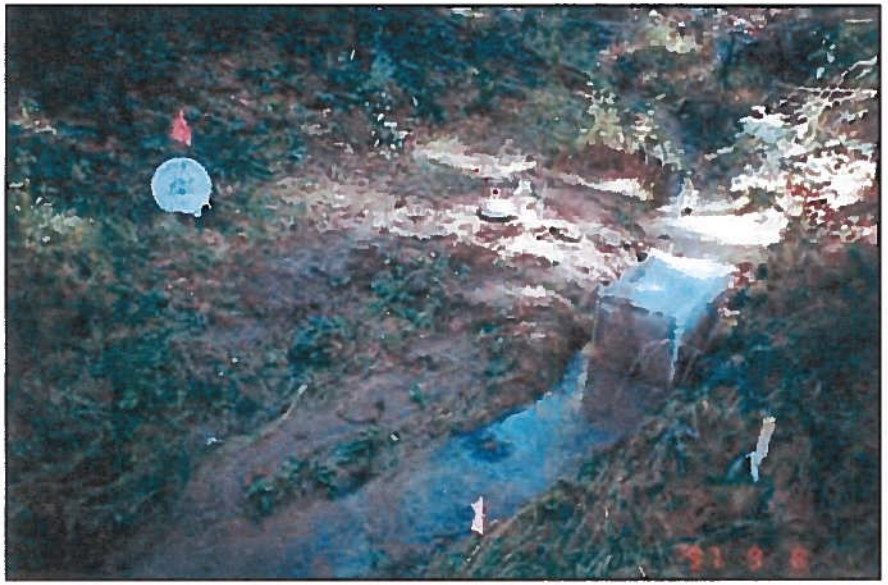
Attachment 2
Map of Segments 126 and 128



Attachment 2

Attachment 3
Photos of Lusk and MacRae Sampling Stations in Segment 126

Cañon de Valle Creek



Sandia Canyon Creek

Pajarito Canyon Creek

Attachment 3

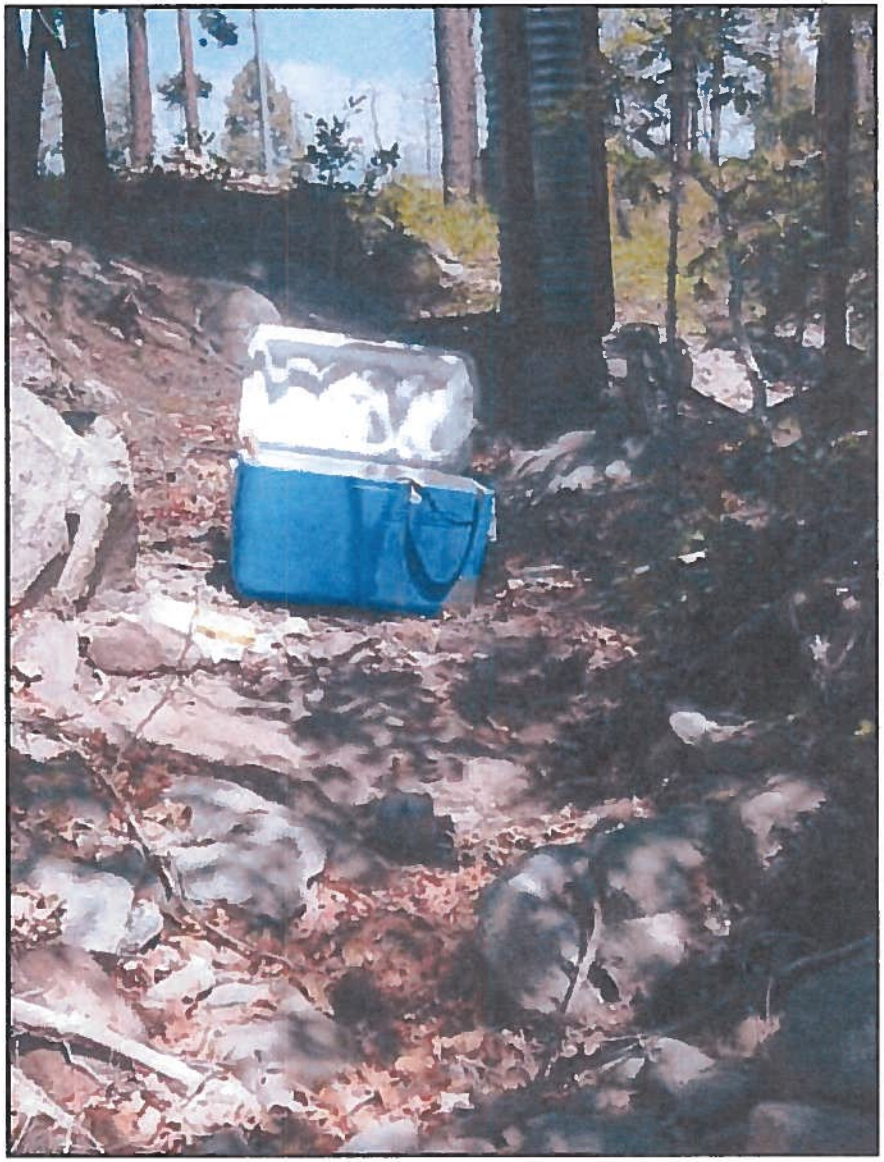
Attachment 4
Photos of Stream Reaches in Segment 128

Single-stage Sampler in Ancho Canyon, July 2006

Installing Single-stage Sampler in Ancho Canyon July 2006

Attachment 4

Single-Stage Sampler in Cañon de Valle, July 2006



Attachment 4

Installing Single-stage Sampler in Water Canyon, July 2006

Attachment 4

Installing Single-Stage Sampler in Pueblo Canyon, July 2006

Attachment 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

Mr. Ron Curry
Chairman
Water Quality Control Commission
Harold Runnels Building
1190 Saint Francis Drive
Santa Fe, N.M., 87502

Subject: EPA Approval of Revisions to New Mexico's Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC

Dear Mr. Curry:

I would like to inform you that we have completed our review of supporting documentation related to the State's 2005 triennial revisions. I would also like to express my appreciation for the efforts of the New Mexico Environment Department in the development of this documentation.

EPA's review was of a use attainability analysis, supporting the addition of sections 20.6.4.126 and 128 of the *Standards for Interstate and Intrastate Surface Waters* 20.6.4. NMAC. These revisions where adopted by the Commission and became effective as State law on May 23, 2005, with revisions effective on July 17, 2005. The original amendments were certified by the Assistant Attorney General by letter dated July 1, 2005, and were submitted to EPA as required under federal regulations at 40 CFR 131.20(c). EPA received this supporting use attainability analysis (UAA) on August 17, 2007. In today's action, EPA is approving sections 20.6.4.126 and 128 NMAC.

As detailed in my December 29, 2006, letter, EPA's approval of Sections 20.6.4.126 and 128 of the State's water quality standards is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the Endangered Species Act (ESA).[1] EPA's approval of these sections of the water quality standards may be subject to the results of consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the ESA. EPA also has a Clean Water Act obligation, as a separate matter, to complete its water quality standards action. Therefore, in approving these revised sections of the New Mexico's water quality standards, EPA is completing its CWA Section 303(c) responsibilities for these sections. Should the consultation process with the U.S. Fish and Wildlife Service, as part of our consultation on the 2005 triennial submission, identify information that supports a conclusion that one or more of the revisions related to these sections is likely to jeopardize the continued existence of any endangered or threatened species, EPA will revisit and amend its approval decision for those revised or new water quality standards.

1 Where EPA concludes that its approval action will have "no effect" on listed endangered or threatened species, or is otherwise not subject to ESA consultation, EPA can issue an unconditional approval.

SALADEN TESTIMONY
EXHIBIT 7

As mentioned earlier, I appreciate both the Commission's and the Environment Department's efforts in the development of these important revisions to New Mexico's water quality standards, and commend the Commission for its action. I also appreciate the cooperative and constructive way in which the Environment Department staff has worked with my staff as in developing this UAA to support the 2005 amendments. If you need additional information, please call me at (214) 665-7101, or have the Environment Department staff contact Russell Nelson, my Regional Water Quality Standards Coordinator, at (214) 665-6646.

Sincerely,

Jon F. Waber
for

Miguel I. Flores
Director
Water Quality Protection Division

cc: Denise Keehner, Director, SHPD
Amy Newman, Chief, RSTSSB
Lee Schroer, Office of General Counsel
Claudia Hosch, 6WQ-P
Marcy Leavitt, Chief,
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Albuquerque, NM 87113-1001

STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE TRIENNIAL REVIEW OF STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS, 20.6.4 NMAC	)	WQCC No.08-13 (R)

WITNESS STATEMENT FOR RACHEL CONN

Submitted on Behalf of Amigos Bravos
August 27, 2009

Estimated Time for Direct Testimony: 35 minutes

Please Note: *Proposed materials to be deleted are indicated by **bold strikethrough (red in color copies)** and proposed new language is indicated by **bold underlining (blue in color copies)**. NMED's proposed changes are included here as non-bolded (and non-colored) underlined and strikethrough text.*

Rachel Conn is the Clean Water Circuit Rider for Amigos Bravos, a non-profit river conservation organization dedicated to protecting the ecological and cultural richness of the Rio Grande and other wild rivers in New Mexico. Ms. Conn has a BA in Environmental Biology from Colorado College. She has worked for the past 11 years in the environmental field. She worked for the Massachusetts Department of Environmental Protection as a consultant assessing the data management needs of the various bureaus in the department. Ms. Conn also worked for a non-profit in Colorado assessing and addressing water quality problems associated with gold mining. For the past seven years she has worked for Amigos Bravos on water quality issues. She is a Clean Water Act trainer and in this capacity gives trainings around the state on water quality standards, TMDLs, and other Clean Water Act topics. As Clean Water Circuit Rider for Amigos Bravos Ms. Conn helps New Mexico communities learn about and then use the Clean Water Act to clean up their rivers.[1]

1. COMPLIANCE WITH WATER QUALITY STANDARDS

Currently section 20.6.4.12 states, "The following provisions apply to determining compliance for enforcement purposes; they do not apply for purposes of determining attainment of uses." Because this section is entitled "Compliance With Water Quality Standards" it is assumed that

[1] A resume is attached to this testimony.

the enforcement purposes are related to enforcing water quality standards. Compliance with water quality standards is inextricably linked to attainment of uses. In fact, water quality standards are designated uses. As an experienced Clean Water Act trainer, I have given many trainings on the components of water quality standards. These components include designated uses, criteria and antidegradation. These are the basic requirements, as set out by the Clean Water Act, for setting water quality standards. Amigos Bravos urges the Commission to revise this section to accurately reflect the relationship between complying with water quality standards and the attainment of use.

Amigos Bravos' proposal:

20.6.4.12 - Compliance with Water Quality Standards

> 20.6.4.12 COMPLIANCE WITH WATER QUALITY STANDARDS: The following provisions apply to determining compliance **with 20.6.4 NMAC.** ~~**for enforcement purposes; they do not apply for purposes of determining attainment of uses. The department has developed assessment protocols for the purpose of determining attainment of uses that are available for review from the department's surface water quality bureau.**~~

2. FLOW CRITERIA

In many stretches of river in New Mexico, the applicable criteria are not adequately protecting the designated uses because of lack of flow. To ensure that New Mexico's standards are ensuring that state's criteria protect the state's designated uses (a required component of water quality standards) it is recommended that the state consider including a general criterion for flow in the standards to meet designated uses. Implementation of this general criterion will take some work and guidelines will need to be developed to identify the appropriate adequate flow for each use. For example, to meet the designated use of irrigation, water only needs to be flowing during irrigation season and to meet the wildlife habitat use, flow may not be necessary year round as long as there are pools remaining to provide drinking water to wildlife. EPA regulations require that states set criteria that are "necessary to protect the uses". 40 C.F.R. § 131.2. Seasonal flow is essential to attain the use of irrigation and thus flow is "necessary to protect the uses." Many other states have implemented flow criteria to protect the designated uses of their waters. For example, both the states of Washington and Minnesota have adopted flow criteria.

Amigos Bravos' proposal:

20.6.4.13.N – Flow

N. Flow: If waters of the state are not attaining designated uses due to lack of adequate flow they shall be considered impaired and appropriate planning documents and steps shall be taken.

3. PRIMARY CONTACT

The policy of having secondary contact listed as a designated use and then have site-specific primary contact standards should be stopped. Waters that have primary contact as an existing use should also have it as a listed designated use. The former policy causes undue confusion to the public, and I would assume to the regulators and policy makers as well. This practice makes it especially difficult to review the 303(d) list because there is no indication what is meant when a segment says that secondary contact is "fully supported". There is no way for the public to know if the primary contact criterion is being supported. This has come up time and time again in the trainings and work I have done across the state. Numerous people have come to me saying that they are concerned because their river is not protected for swimming and their family, kids, or neighbors are immersing themselves in the water. Upon closer inspection many of these rivers are indeed protected for primary contact but people are confused because it states secondary contact under the designated uses. In implementing the policy of having waters that are protected by primary contact criteria have a designated use of primary contact, care must be taken to ensure that if there is segment specific criteria that applied previously that was more protective than the criteria that are associated with primary contact, those more protective criteria continue to apply. For example, 20.6.4.115 currently has a designated use of secondary contact but has segment specific criteria for E.coli (monthly geometric mean of 126cfu/100mL or less; single sample 235cfu/100mL or less) that is more protective than the criteria associated with the primary contact use (monthly geometric mean of 120cfu/100mL or less; single sample 410 cfu/100mL). Downgrading of criteria can only occur if a UAA is performed. Care must be taken to ensure that section 20.6.4.115 and any other segment that has more protective criteria than those associated with primary contact maintain the more protective segment specific criteria.

Amigos Bravos' proposal:

> 20.6.4.115 RIO GRANDE BASIN - The perennial reaches of Rio Vallecitos and its tributaries, and perennial reaches of Rio del Oso and perennial reaches of El Rito creek above the town of El Rito.
> A. Designated Uses: domestic water supply, irrigation, high quality coldwater aquatic life, livestock watering, wildlife habitat and [~~secondary~~] primary contact; public water supply on the Rio Vallecitos and El Rito creek.
> B. Criteria:
> [~~(1) In any single sample: specific conductance 300 µmhos/cm or less, pH within the range of 6.6 to 8.8 and temperature 20°C (68°F) or less.~~] The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses [~~listed above in Subsection A of this section~~], except that the following segments specific ~~criterion~~ **criteria** ~~applies~~ **apply**: specific conductance 300 µS/cm or less; **the monthly geometric mean of E.coli 126 cfu/100mL or less; single sample of 235 cfu/100mL or less**
> [~~(2) The monthly geometric mean of E. coli 126 cfu/100 mL or less; single sample 235 cfu/100 mL or less (See Subsection B of 20.6.4.14NMAC.)~~]

4. CONTACT STANDARDS FOR PERENNIAL / INTERMITTENT WATERS

One of the key aspects of the Clean Water Act (CWA) that I always include in my trainings is the Clean Water Act requirement to provide fishable and swimmable waters. This requirement has been clearly expressed by EPA in their comments on New Mexico's water quality standards. As stated by EPA, a use attainability analysis is required before a downgrading of uses from these baseline standards is permitted.

5. KLAUER SPRING

As Clean Water Circuit Rider for Amigos Bravos I have been approached by concerned citizens about the lack of appropriate standards for Klauer Spring, a small spring located about 20 yards from the banks of the Rio Grande near the Taos Junction Bridge. This spring is used by many Taos County residents as their drinking and domestic water supply (see photos attached as Exhibit 1). Clean Water Act regulations require that existing uses be protected (40 CFR131.10(h) and 40 CFR131.12(a)(1)). Because domestic water supply is an existing use as demonstrated by the photos, it should be included as a designated use.

Amigos Bravos' proposal:

20.6.4.114- Klauer Spring

> 20.6.4.114 RIO GRANDE BASIN - The main stem of the Rio Grande from the ~~[headwaters of~~] Cochiti [~~reservoir~~] pueblo boundary upstream to Rio Pueblo de Taos, Embudo creek from its mouth on the Rio Grande upstream to the [~~junction of the Rio Pueblo and the Rio Santa Barbara~~] Picuris Pueblo boundary, the Santa Cruz river [~~below~~] from the Santa Clara pueblo boundary upstream to the Santa Cruz dam, the Rio Tesuque [~~below the Santa Fe national forest~~] except waters on the Tesuque and Pojoaque pueblos, ~~and the~~ Pojoaque river [~~below Nambe dam~~] from the San Ildefonso pueblo boundary upstream to the Pojoaque pueblo boundary**, and Klauer Spring.**
> A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, primary contact and warmwater aquatic life; **domestic water supply on Klauer Spring** and public water supply on the main stem Rio Grande.

6. LOS ALAMOS INTERMITTENT AND EPHEMERAL WATERS

All intermittent waters on LANL property are given weaker protections (those associated with the limited aquatic life use) than all other intermittent waters in the state (which receive the aquatic life use). If EPA had issues with applying limited aquatic life to ephemeral waters in section 20.6.4.97, than they certainly would have a problem with applying the limited aquatic life use to both ephemeral and intermittent waters as is done in section 20.6.4.128. The standards

should be consistently applied unless a UAA has been conducted for a specific segment. If a UAA analysis is conducted that shows that the aquatic life use is not attainable in some ephemeral waters under this segment then a separate segment should be created for those waters. At this point, without an UAA for segment 20.6.4.128, to ensure that all waters are given "fishable/swimmable" protections, an "aquatic life" (rather than a "limited aquatic life" use) is necessary for all waters in 20.6.4.128. There is data that indicates that both intermittent and ephemeral streams on LANL property deserve protection of both the chronic and acute criteria. The US Fish and Wildlife provided testimony in the 2004 Triennial Review that showed many species of aquatic life thrived in these stretches. (Testimony attached as Exhibit 2). In addition, a 2002 study conducted by USFW and USGS found that "[b]ased on location, measure of air and water temperatures, and the presence of coldwater indicator species of aquatic life, these intermittent streams were considered coldwater in nature." (Study attached at Exhibit 3) The four intermittent streams on LANL property that were studied included Los Alamos Canyon, Sandia Canyon, Pajarito Canyon and Valle Canyon.

Amigos Bravos' proposal:

<u>20.6.4.128 - Los Alamos Intermittent and Ephemeral Waters</u>

> 20.6.4.128 RIO GRANDE BASIN - Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)
> A. Designated Uses: livestock watering, wildlife habitat, ~~limited~~ aquatic life and secondary contact.

7. COOLWATER CRITERIA

The current water quality standards allow for five categories of temperature criteria: high quality coldwater, coldwater, marginal coldwater, warmwater, and marginal warmwater. Adding more categories brings up that waters will be placed into whatever category it presently fits rather than classifying for the appropriate designated use, i.e. its historical or appropriate use, and then working toward achieving that condition. In particular, as climate change causes New Mexico's waters to become more limited, and thus more susceptible to temperature change, there is a risk that the addition of another category will enable the categorizing what are appropriately coldwater streams as coolwater.

8. LIMITED AQUATIC LIFE

The designated use of "limited aquatic life," set forth at 20.6.4.900(H)(7), is ambiguous and confusing. The standards would be clearer and more in line with the goals of the Clean Water Act if there was a return to the pre-2005 policy of setting segment specific uses in the rare case where the other aquatic life uses are not attainable. For instance, in the case of Sulphur Creek, Section 20.6.4.124 it would be simple to say under paragraph B(3) that, "except for subsections I and J of 20.6.4.900, the chronic aquatic life criteria do not apply." The limited aquatic life use adds one more layer of confusion to the standards requiring members of the public to flip back and forth between the segment and the back of the standards. In addition, the limited aquatic life use could be abused to lower water quality standards. It is more appropriate to make segment specific changes in cases where the natural conditions have resulted in an impairment associated with either the chronic or acute aquatic life criteria. This method would allow for more fine tuned standards. For example, in some cases it may be that none of the chronic life criteria are attainable, and therefore all the criteria could be listed as not applying, but, in some other cases, it may be that only a couple of the chronic life criteria do not apply and in those cases these constituents could be listed individually. Returning to the pre-2005 policy also ensures that water quality standards are applied equitably and that standards are modified only when natural conditions necessitate such changes. Getting rid of the limited aquatic life use would not require a large overhaul to the standards as presently only three segments have the limited aquatic life designated use.

EPA's disapproval of the use of the limited aquatic life use for ephemeral waters is consistent with this point. EPA noted that "this limited use does not 'serve the purposes of the [CWA], as defined in CWA sections 101(a)(2) and 303(c)." *See* Discussion Draft, § 20.6.4.97 NMAC, Basis for Change. Although NMED has addressed this concern in part by requiring that ephemeral waters shall be classified as such by a hydrology protocol, it did not address the concern that such waters automatically include a limited aquatic life use, when they may qualify for a more protective standard. Organisms in ephemeral waters are often especially sensitive to changes, and thus ensuring that chronic life criteria are applied can be crucial to the survival of those species. As such, a separate limited aquatic life designation is inappropriate. At most, the criteria specified in the limited aquatic life designation should be applied on a segment-specific basis.

Amigos Bravos' proposal:

20.6.4.900(H)(7) - Limited Aquatic Life Use

~~[(6)](7) Limited Aquatic Life: [Criteria shall be developed on a segment-specific basis.] The acute aquatic life criteria of Subsections I and J of this section [shall] apply to this subcategory. Chronic aquatic life criteria do not apply unless adopted on a segment-specific basis. Human health-organism only criteria apply only for persistent pollutants unless adopted on a segment-specific basis.~~

9. HARDNESS TABLE FOR ACUTE AND CHRONIC CRITERIA FOR METALS

The Department's proposal of a hardness table for acute and chronic criteria for metals (20.6.4.900.I) will greatly increase the public's ability to understand the standards. This addition will also help me, as a Clean Water Act Trainer, to help people understand the standards.

10. DOMESTIC WATER SUPPLY CRITERIA

The Department's proposed changes to the domestic water supply use in most cases weaken the associated criteria because the proposed changes disregard the potential health effects to people who both drink the water and eat fish from the same water source. The EPA recommended criteria for consumption of water plus organism (these were the standards that the WQCC currently applies to the domestic water supply use) should continue to apply to the domestic water supply use. These criteria can be found in the November 2002 EPA Human Health Criteria Calculation Matrix. As a Clean Water Act trainer and through my work on New Mexico water policy issues, to my knowledge, all waters that have a domestic water supply use also has an aquatic life use and thus it is likely that some people both fish and drink from these waters. In fact, it is much more likely that both uses are conducted on the same waters than not. Many of the waters where people fish are also waters where people hike and camp and consume water. To protect these existing uses the more sensitive criteria for consumption of water and organism should apply. In addition, if protections are downgraded from consumption of water and organisms to only protecting for consuming water, a UAA is required. To my knowledge, UAAs for the multiple segments impacted have not been conducted.

11. 6T3 AND 4T3

The Department's 7/6/09 proposal to include these new definitions and temperature criteria under the designated uses is of concern. Unfortunately the on the ground impacts of these additions appears to be a lowering of water quality standards. For example, the previous maximum standard for the marginal coldwater use was 25 degrees C but now the maximum temperature is 29 degrees C and the 6T3 temperature is 25 degrees C. I question whether the Department rarely, if ever, is out sampling the same location for 4 consecutive hours on four or more consecutive days. If these sampling conditions are rarely, if ever, met then the end result is basically increasing the maximum temperature criteria (since this will be the only criteria for which there will be monitoring data) for each designated aquatic use.

Submitted by:
Rachel Conn
August 27, 2009

RACHEL L. CONN
1201 Estrella Rd.
Taos, NM 87571
Email: rconn@amigosbravos.org

Education

Colorado College, Colorado Springs, CO May 1997
Bachelor of Arts in Environmental Biology
Related Course work: Entomology, Environmental and Organic Chemistry, Advanced Ecology, Public Policy

Experience – Water Quality and Environmental Policy

Clean Water Circuit Rider, Amigos Bravos, Friends of the Wild Rivers, Taos, NM, 2002-Present
Provides training on the Clean Water Act including topics such as water quality standards, total maximum daily loads (TMDLs), nation pollutant discharge elimination system (NPDES), and antidegradation. Provides capacity building support to individuals and communities who want to protect rivers. Helps coordinate legal and technical resources for watershed and community groups. Tracks and comments on state and national water regulations and policies. Organizes and facilitates multiple community coalitions, including coordinating and facilitating meetings, tracking budget items, communicating with the media and assisting with strategic planning.

Project Associate, Amigos Bravos, Friends of the Wild Rivers, Taos, NM 2001-2002
Coordinated a project that examined the economic benefits of mine reclamation. Assisted with an investigation into the potential health impacts of mining practices in a community impacted by molybdenum mining. Assisted with writing press releases, coordinating meetings and representing Amigos Bravos at community events. Organized annual art auction that grossed over $15,000.

Project Director, Costilla County Committee for Environmental Soundness, San Luis, CO, 1999-2000
Directed year long project, related to water contamination from a gold mine, funded through an environmental justice grant from the EPA. Analyzed water quality data, coordinated experts and drafted a plan outlining options to the town in the event of contamination of their drinking water. Edited and wrote articles for the group's monthly newsletter. Performed accounting and grant reporting tasks. Served as an interface between the state and federal government to ensure that community needs and concerns were addressed. Organized and facilitated monthly meetings including creating agenda, writing minutes and monthly financial reports, and sending out meeting announcements.

Environmental Analyst, Massachusetts Department of Environmental Protection, Boston, 1998- 1999
Worked on information management practices in the four different bureaus within the Department. Conducted interviews and facilitated meetings to determine what information was necessary for the many different programs including the toxic use reduction program, the air quality programs, and the solid waste program.

Research Assistant, Summer 1996
Assisted Dr. Val Viers, chair of the environmental science program at Colorado College.
Researched and wrote response to a draft environmental impact statement put out by the Air National Guard on low-level military aircraft flights over wilderness areas.

Research Assistant, Fall 1996
Assisted Dr. Sally Meyers, professor of chemistry at Colorado College. Studied alternatives to herbicides for weed management in El Paso County Parks Colorado. Concentrated on biological controls, specifically insects and fungi.

Canvasser for the Sierra Club, Boston MA, Summer 1994
Lobbied for environment including door to door activism. Focused on issues surrounding wetlands and the Clean Water Act.

Earth Train, 1992
Chosen to participate in a train expedition across the United States promoting youth leadership in environmental issues. Trained in leadership skills and presented workshops to high school students on how to be leaders in protecting the environment.

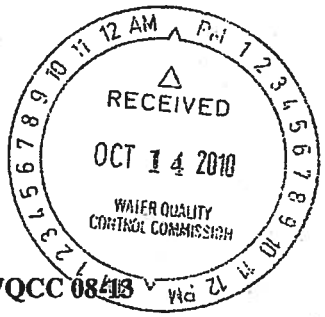
Field Research

Field Researcher, Sevielleta National Wildlife Refuge, 1997
Worked and lived on the refuge at the University of New Mexico's field station. Measured percent cover, and did transects as part of the plant research crew. Learned to identify by sight over a hundred different species of plants.

Field Researcher, Department of Biology, Colorado College, 1995
Collected and successfully keyed over 75 terrestrial and aquatic arthropods.

Field Researcher, Department of Biology, Colorado College, 1994
Measured water stress and growth rate of Montane Pinus ponderosa. Co-designed independent field ecology research project. Utilized tree coring, diameter at breast height and the modern pressure chamber for data collection. Presented results and conclusions in both oral and written form.

Wildlands Studies Program in Nepal, 1993
Participated in three months of trekking and gathering biological data to help in setting up a National Park. Measured slope, aspect, DBH and diversity in hundreds of ten meter squared plots.



STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF THE PETITION TO AMEND 20.6.4 NMAC - STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS, THE TRIENNIAL REVIEW

WQCC 08-13

ORDER AND STATEMENT OF REASONS FOR AMENDMENT OF STANDARDS

I. INTRODUCTION

A. Clean Water Act

1. The federal Clean Water Act (CWA), 42 U.S.C. Section 1251(a), states its objective as the restoration and maintenance of the chemical, physical and biological integrity of the Nation's waters.
2. The CWA achieves this objective by ensuring "wherever attainable, water quality which provides for the protection and propagation of fish, shellfish and wildlife, and provides for recreation in and on the water be achieved."
3. CWA Section 1313(c) establishes the purpose of water quality standards ("WQS" or "standards") as "serv[ing] the purposes of the Clean Water Act." The WQS should fulfill the objectives, goals and policies of the CWA.
4. The Environmental Protection Agency's (EPA's) *Water Quality Standards Handbook* (Handbook) provides more specific guidance. To "serve the purposes of the Clean Water Act", WQS must (a) include provisions for restoring and maintaining chemical, physical, and biological integrity of state waters; (b) wherever attainable, achieve a level of water quality that provides for the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water; and (c) consider the use and value of state waters for public water supplies, propagation of fish and wildlife, recreation, agriculture and industrial purposes, and navigation.
5. WQS serve two important purposes: (a) to "define the goals for a water body, or portion, thereof, by designating the use or uses to be made of the water, by setting criteria necessary to protect the uses"; and (b) to "serve as the regulatory basis for the establishment of water-quality-based treatment controls and strategies beyond

SALADEN TESTIMONY
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B. Criteria:

[~~(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 20°C (68°F) or less.~~] The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses [~~listed above in Subsection A of this section.~~

~~(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC)~~].

[20.6.4.127 NMAC - N, 05-23-05, A, XX-XX-XX]

367. The Commission adopts the Department's proposal to restructure subsection B for the reasons given in section 101.

20.6.4.128 RIO GRANDE BASIN - Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

B. Criteria:

[~~(1)~~] The use-specific criteria in 20.6.4.900 NMAC[~~, except the chronic criteria for aquatic life~~] are applicable [~~for~~] to the designated uses [~~listed above in Subsection A of this section~~], except that the following segment-specific criteria apply: the acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent).

[~~(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).~~

~~(3) The acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent) are applicable to this use.~~]

368. The Commission adopts the Department's proposal to strike the phrase "except the chronic criteria for aquatic life" because chronic criteria are not applicable to the limited aquatic life use in section 900.H.

369. The Commission adopts the Department's proposal to revise the first sentence in subsection B to read "applicable to the designated uses" for consistency with other sections and to restructure subsection B for the reasons given in section 101.

370. The Commission does not adopt Amigos Bravos' proposal to replace limited aquatic life use with aquatic life use because this segment was created and designated uses were assigned in the last triennial review; Amigos Bravos presented no new evidence regarding current water quality conditions that would support a change in the standards.

371. A UAA was completed and approved by EPA for this segment. The UAA noted that the 2002 study referenced by Amigos Bravos "provide[s] information from numerous sources indicating that ephemeral and intermittent streams in the Jemez Mountains

support aquatic life that includes aquatic invertebrates and perhaps amphibians, but not fish." Amigos Bravos relies on information that the Commission already considered in assigning the limited aquatic life use.

372. EPA approved this provision based on the hearing record and the UAA submitted by the Department, and has not indicated any problem with that decision.

373. The UAA for this segment acknowledges the presence of aquatic invertebrates, and even amphibians, but not fish, and therefore concludes that the waters cannot attain the CWA section 101(a)(2) goal of water quality providing for the "protection and propagation of fish, shellfish and wildlife."

20.6.4.129 RIO GRANDE BASIN - Perennial reaches of the Rio Hondo.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and [~~secondary~~] primary contact.

B. Criteria:

[~~(1) In any single sample: specific conductance 400 µmhos/cm or less, pH within the range of 6.6 to 8.8, total phosphorous (as P) less than 0.1 mg/L and temperature 20°C (68°F) or less.~~] The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses [~~listed above in Subsection A of this section~~], except that the following segment-specific criteria apply: specific conductance 400 µS/cm or less and phosphorus (unfiltered sample) less than 0.1 mg/L.

[~~(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).~~]

[20.6.4.129 NMAC - N, 05-23-05; A, XX-XX-XX]

374. The Commission adopts the Department's proposal to change secondary contact to primary contact for consistency with the assigned criteria for the reasons explained in section 101, change µmhos/cm to µS/cm for the reasons given in section 7.A, replace "total" preceding phosphorus and delete the parenthetical "(as P)" for the reasons given in section 109, and restructure subsection B for the reasons given in section 101.

20.6.4.130 RIO GRANDE BASIN – The Rio Puerco from the Rio Grande upstream to Arroyo Chijuilla, excluding the reaches on Isleta, Laguna and Cañoncito Navajo pueblos. Some waters in this segment are under the joint jurisdiction of the state and Isleta, Laguna or Cañoncito Navajo pueblos.

A. Designated Uses: irrigation, warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

(2) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS 1,500 mg/L or less, sulfate 500 mg/L or less and chloride 250 mg/L or less.

[20.6.4.130 NMAC – N, XX-XX-XX]

J. United States environmental protection agency. [~~1989~~] 2002. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Environmental monitoring systems laboratory, Cincinnati, Ohio. ([~~2nd~~] 4th Ed., EPA [~~600/4-89/001~~] 821-R-02-01). [~~250~~] 335 p.

566. The Commission adopts the Department's proposal to correct the edition because a later edition has been issued.

567. The Commission directs the Department to prepare the amended surface water standards in a format acceptable to Records and Archives for filing as part of the New Mexico Administrative Code. This preparation may include re-numbering and re-lettering of existing sections of the standards and the correction of errata consistent with the findings above.

CHAIR, WATER QUALITY CONTROL COMMISSION

RECORD OF DECISION

New Mexico's Standards For Interstate and Intrastate Surface Waters 20.6.4 NMAC

U.S. EPA REGION 6
WATER QUALITY PROTECTION DIVISION
APRIL 12, 2011

SALADEN TESTIMONY
EXHIBIT 10

*It's important to understand that unclassified waters of the State are presumed capable of supporting CWA §101(a)(2) uses, until it has been demonstrated that such uses are not feasible as described in 40 CFR 131.3(g). In instances where NMED has developed a UAA showing that §101(a)(2) uses are not feasible, there may be a significant delay - possibly years - before the results of that UAA are adopted by the WQCC during the State's next triennial revision, submitted and then acted on by EPA. The process outlined here allows those UAAs for ephemeral waters that have been approved by the WQCC to be made available for public review and comment once completed. If NMED believes the UAA supports a designated use change, the UAA and the public comments can be provided to EPA. If EPA agrees with the State's determination, the UAA will be given technical approval. EPA's technical review will be the same as it would be if the UAA where submitted as part of a triennial submission. If technical approval is granted, the uses and criteria described in 20.6.4.97 NMAC will apply for all regulatory purposed under the CWA. The outcome will then be posted on the department's water quality standards website. These waters will then be listed in section **20.6.4.97 NMAC**, once the next triennial review is submitted, formalizing the designated use change.*

(Reordered) Section D and (deleted) Section E:
Although the language changes in this section provide useful clarifications specific to UAAs or assessments developed by entities other than NMED, EPA has some concerns with the revised approach.

The federal regulation at 40 CFR 131.10(j) refers specifically to States carrying out a UAA or assessment but does not speak to other entities carrying out such studies. However, the regulation does not prohibit third-parties from carrying out such studies. In response, the State's provision outlines a process for third-parties developing a UAA. It specifically requires that the third-party to develop a workplan and submit it to NMED and EPA for review and comment. However, EPA does not have oversight authority over third-parties and does not have the resources to review early draft Quality Assurance Project Plan (QAPP) or equivalent document and subsequent workplans. EPA looks to NMED as the first line of review for such projects. Given NMED's role as the WQCC's technical arm, EPA believes it is important that third-parties work closely with NMED in the development of both QAPPs and workplans prior to initiating field work on any UAA project. EPA will review QAPPs/workplans for those projects that NMED has reviewed and believes are well designed and will have a high likelihood of success if brought before the WQCC.

***EPA Action:** EPA approves the modifications to Section **20.6.4.15 NMAC**.*

20.6.4.97. Ephemeral Waters

*In its 2005 triennial revision, New Mexico took a significant step in addressing a long-standing EPA concern by developing provisions that designated uses for unclassified non-perennial and perennial waters as required by the CWA. EPA approved the majority of the revisions to sections **20.6.4.97, 20.6.4.98 and 20.6.4.99 NMAC** its December 2006 action. However, EPA took <u>no action</u> on the designation of limited aquatic life, aquatic*

Table of Contents

I. Introduction

Background

As described in §303(c) of the Clean Water Act (CWA) and in the Standards Regulation at 40 CFR Part 131.20, States and authorized Tribes have primary responsibility to develop and adopt water quality standards to protect their waters. State and Tribal water quality standards consist of three primary components: beneficial uses, criteria to support those uses, and an antidegradation policy. In addition, CWA §303(c)(1) and 40 CFR 131.20 require States to hold public hearings at least once every three years to review and, as appropriate, modify and adopt standards. Under 40 CFR 131.21, EPA reviews new and revised surface water quality standards that have been adopted by States and authorized Tribes. Authority to approve or disapprove new and/or revised standards submitted to EPA for review has been delegated to the Water Quality Protection Division Director in Region 6. Tribal or State water quality standards are not considered effective under the CWA until approved by the Environmental Protection Agency (EPA)[1].

The purpose of this Record of Decision is to provide the basis for the Environmental Protection Agency's (EPA) action on the New Mexico Standards for Interstate and Intrastate Waters (20.6.4 NMAC).

Chronology of Events

The New Mexico Environment Department (NMED) initiated a triennial review of the New Mexico Standards for Interstate and Intrastate Waters in 2008. This review included an extensive public participation process, including public comment periods, public notices and meetings on its initial discussion draft. NMED revised its initial discussion draft to take into account both the public and EPA comments received during the public participation process. NMED filed its petition to amend the standards on December 1, 2008, formally initiating the 2008 triennial review. The New Mexico Water Quality Control Commission Administrator docketed the petition on December 2, 2008. The Commission's Hearing Officer entered a Scheduling and Procedural Orders on April 15, 2009, and the Commission Administrator published public notice for the orders on May 4, 2009. NMED received a number of petitions from the public to amend the Standards.

NMED filed an amended petition on July 6, 2009. Interested parties filed written testimony and exhibits regarding the various proposed amendments to the Standards. The Commission Administrator published public notice for the hearing on or before August 10, 2009. The Commission held the hearing on December 8, 2010, continuing through December 11, 2010. At the hearing, all interested parties were given an opportunity to submit data, written and oral arguments and to examine witnesses testifying at the hearing following the State's procedures. In addition to testimony from interested parties, 55 written comments and oral comments were accepted from the general public.

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[1] Alaska rule" [Federal Register: April 27, 2000 (Volume 65, Number 82)]

Following the hearing, the Hearing Officer developed a report to provide a better understanding of the basis for each change and citations to the specific supporting testimony and evidence in the hearing record. The Hearing Officer's Report was submitted to the Commission prior to its deliberations in its July 2010 meeting, where the Commissioners came to agreement or to a vote of the majority on the following changes to the standards. The revised standards became effective on December 1, 2010. EPA initiated its review of the new/revised standards on December 1, 2010.

Summary of Proposed Revisions

The Commission has adopted numerous revisions to the State's standards. These range from simple grammatical changes and rephrasing provision language changes for clarity to more substantive changes including new/revised definitions, provision related to natural background and site-specific criteria, hardness-based and radionuclide criteria. The Commission established new provisions, striking others, and modifying provisions originally adopted in the State's 2005 action related to unclassified waters. In addition, the Commission revised use designations and applicable criteria for most classified segments and modified narrative and numeric criteria. Provisions that EPA is disapproving will be noted in the initial determination and will be identified and discussed separately in Section III. Provisions that EPA is taking no action on will also be noted in the initial determination and will be identified and discussed separately in Section IV. All revisions are presented in the final adopted regulations are located in Attachment A.

II. New or Revised Provisions EPA is Approving

What follows are those sections of 20.6.4 NMAC which have been amended and EPA's discussion and determination. The modified provisions are presented in an underline/strikeout format to aid the reader in following the State's revisions. Those sections in which the only change would be re-numbering or re-lettering to accommodate amendments made in other sections may not be shown. After initially addressing nonsubstantive and/or repetitive modifications, they may not be discussed again beyond referring to the initial comment. EPA's discussion and determination are in italics to allow them to be easily identified.

EPA has determined that the new or revised provisions in New Mexico's Water Quality Standards 20.6.4 NMAC described below or otherwise contained in this Record of Decision are approved unless noted otherwise. In some determinations, EPA has indicated how it interprets a particular provision.

life and/or secondary contact recreation use designations for waters that would be categorized in these Sections. EPA stated the presumption that CWA §101(a)(2) uses are attainable for all unclassified ephemeral, intermittent and perennial surface waters of the State, until supporting documentation was provided to demonstrate that CWA §101(a)(2) uses are not attainable.

The latest revisions to these Sections and the adoption of related provisions are intended to address the concerns EPA raised in its 2006 action. As explained in that action, EPA supported the Commission's expressed intent to ensure that all unclassified non-perennial waters in New Mexico are protected in compliance with the CWA. However, EPA disagreed with the Commission's interpretation that adopting a limited aquatic life use subcategory satisfies the CWA and EPA regulations. EPA's fundamental concern with the State's approach was that it failed to presume that the uses specified in Section 101(a)(2) of the CWA were attainable and provide support to show that these presumed uses where not attainable as required by federal regulation.

*Although the State has significantly revised section **20.6.4.97 NMAC** from its 2005 submission, the specific modifications that are essential to addressing EPA's concerns are found in the closely related Section **20.6.4.11 H. NMAC**. As noted in our earlier discussion of that provision, that provision specifically states that "unclassified" perennial, intermittent or ephemeral waters of the State are presumed to be capable of supporting the uses specified in section 101(a)(2) of the federal CWA, clearly addressing EPA's critical concern with the language in this provision from 2005.*

Although it may appear counterintuitive, presuming that all unclassified waters in New Mexico are capable of supporting CWA §101(a)(2) uses, it is a practical necessity. Designating or presuming less than §101(a)(2) uses, as in the State's 2005 approach, meant that the State would have had to support those lower use presumptions through UAA(s) as required by 40 CFR 131.10(j) and review those designations at least once every three years as required by 40 CFR 131.20(a). Although a significant number of these waters may have ultimately proved to be ephemeral, given that EPA estimates indicated that there are just below 100,000 non-perennial stream miles in New Mexico, that approach would have required a significant initial and continuing commitment of time and resources by the State.

*The presumption that CWA §101(a)(2) uses are attainable for the large universe of non-perennial stream miles in the State may be rebutted by UAA. Since the §101(a)(2) use presumption meets the requirements of the CWA, the only time it may be necessary to rebut that presumption is when regulatory activity, associated with the State's normal assessment activities and/or the need for an NPDES permit would drive the need to development a UAA. Most UAAs for non-perennial waters would likely be based on the Department's hydrologic protocol, to ensure that the appropriate designated uses and associated controls are put in place to protect the receiving water(s). As described in section **20.6.4.11 H. NMAC**, if a UAA shows that a less than §101(a)(2) use is appropriate, that unclassified surface water may be identified under this section. This provision requires the State's limited aquatic life, secondary contact, wildlife habitat and livestock watering uses and associated criteria to be applied to ephemeral waters listed on the State's website and those specifically included in section **20.6.4.97 C.** over time. By requiring the inclusion of those waters listed on the State's website by reference in this*

*provision, it ensures that those waters that may have been assessed between State triennial or interim revisions are protected by appropriate designated uses. The specific revisions for sections **20.6.4.97, 20.6.4.98 and 20.6.4.99 NMAC** will be discussed below.*

20.6.4.97 EPHEMERAL WATERS – [~~All ephemeral~~] Ephemeral unclassified [~~surface~~] waters of the state [~~that are not included in a classified water of the state in 20.6.4.101 through 20.6.4.899 NMAC~~] as identified below and additional ephemeral waters as identified on the department's water quality standards website pursuant to Subsection C of 20.6.4.15 NMAC.

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

B. Criteria:

[~~(1)~~]The use-specific criteria in 20.6.4.900 NMAC[~~, with the exception of the chronic criteria for aquatic life,~~] are applicable [~~for~~] to the designated uses [~~listed in Subsection A of this section~~].

[~~(2) The monthly geometric mean of E. coli bacteria shall not exceed 548 cfu/100 mL, no single sample shall exceed 2507 cfu/100 mL (see Subsection B of 20.6.4.14 NMAC).~~]

C. Waters:

*The provision language describing the waters that may be identified and placed in this category have been modified to be specific to unclassified ephemeral waters of the State that have been shown not to be capable of supporting CWA §101(a)(2) uses following the procedures outlined in **20.6.4.15 NMAC**. This description is consistent with section **20.6.4.11 H. NMAC** which has been discussed previously. Those waters to be categorized here will initially be identified on the State's website as noted, but will eventually be included under section **C. Waters** in the standards document, typically during the State's next rulemaking.*

*The changes in section **B. Criteria (1)** make it clear that the criteria found in section **20.6.4.900 NMAC** are "use-specific," and apply to waters that are categorized under this provision. Given this, it should be clear that the deleted language in paragraph **B.(2)** does not mean that the applicable bacteria criteria found in section **20.6.4.900 NMAC** do not apply to waters that may be categorized under this provision, but simply that the associated implementation language has been removed from the provision itself. Another distinction here makes it clear that waters that are categorized under this provision will not be included in a classified segment (**20.6.4.101-899**).*

***EPA Action:** EPA approves the modifications to Section **20.6.4.97 NMAC**. As required by 40 CFR 131.20(a), any segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act must be re-examined every three years to determine if any new information has become available. If such new information indicates that the uses specified in §101(a)(2) of the Act are attainable, the State must revised its standards accordingly.*

20.6.4.98. Intermittent Waters

20.6.4.98 INTERMITTENT WATERS - All [~~intermittent surface~~] non-perennial unclassified waters of the state [~~that are not included in a classified water of the state in 20.6.4.101 through 20.6.4.899 NMAC~~], except those ephemeral waters included under 20.6.4.97 NMAC.

A. Designated Uses: livestock watering, wildlife habitat, marginal warmwater aquatic life and [~~secondary~~] primary contact.

B. Criteria:

[~~(1)~~]The use-specific criteria in 20.6.4.900 NMAC[~~.~~] are applicable to the designated uses, except that the following site-specific criteria apply:

[~~(2) The~~] the monthly geometric mean of E. coli bacteria [~~shall not exceed 548~~] 206 cfu/100 mL or less, [~~no~~] single sample [~~shall exceed 2507~~] 940 cfu/100 mL or less [~~(see Subsection B of 20.6.4.14 NMAC)~~].

*The modifications to this provision are similar to those discussed in preceding section, **20.6.4.97 NMAC**. It's important to note that this provision may include non-perennial intermittent waters of the State, and specifically excludes those ephemeral waters that will be categorized under section **20.6.4.97 NMAC**. Waters categorized here are capable of supporting the State's marginal warmwater aquatic life use, which EPA considers equivalent to a CWA §101(a)(2) use, as well as capable of supporting primary contact recreation.*

***EPA Action:** EPA approves the modifications to Section **20.6.4.98 NMAC**.*

20.6.4.99. Perennial Waters

20.6.4.99 PERENNIAL WATERS - All perennial [~~surface~~] unclassified waters of the state [~~that are not included in a classified water of the state in 20.6.4.101 through 20.6.4.899 NMAC~~].

A. Designated Uses: warmwater aquatic life, livestock watering, wildlife habitat and [~~secondary~~] primary contact.

B. Criteria:

[~~(1) Temperature shall not exceed 34°C (93.2°F).~~] The use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses [~~listed in Subsection A of this section.~~], except that the following site-specific criteria apply:

[~~(2) The~~] the monthly geometric mean of E. coli bacteria [~~shall not exceed 548~~] 206 cfu/100 mL or less, [~~no~~] single sample [~~shall exceed 2507~~] 940 cfu/100 mL or less [~~(see Subsection B of 20.6.4.14 NMAC)~~].

The modifications to this provision are similar to those in the two preceding sections. This provision may include any unclassified perennial waters of the State. The State's warmwater aquatic life and primary contact uses will apply.

***EPA Action:** EPA approves the modifications to Section **20.6.4.99 NMAC**.*

20.6.4.127 RIO GRANDE BASIN - Perennial portions of Los Alamos canyon upstream from Los Alamos reservoir and Los Alamos reservoir.

A. Designated Uses: coldwater aquatic life, livestock watering, wildlife habitat, irrigation and primary contact.

B. Criteria:

[~~(1) In any single sample: pH within the range of 6.6 to 8.8 and temperature 20°C (68°F) or less.~~] The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses [~~listed above in Subsection A of this section.~~

(2) ~~The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC)~~].

*See section 20.6.4.101 NMAC for a discussion of the restructuring of section **B. Criteria (1) and (2).***

***EPA Action:** EPA approves the modifications to this segment.*

20.6.4.128 RIO GRANDE BASIN - Ephemeral and intermittent portions of watercourses within lands managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to tribal, state or local authorities are specifically excluded.)

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

B. Criteria:

[~~(1) The~~] the use-specific criteria in 20.6.4.900 NMAC[~~, except the chronic criteria for aquatic life~~] are applicable [~~for~~] to the designated uses [~~listed in Subsection A of this section~~], except that the following segment-specific criteria apply: the acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent).

[~~(2) The monthly geometric mean of E. coli bacteria 548 cfu/100 mL or less; single sample 2507 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).~~

~~(3) The acute total ammonia criteria set forth in Subsection K of 20.6.4.900 NMAC (salmonids absent) are applicable to this use.~~]

In its 2005 action, New Mexico designated limited aquatic life and secondary contact uses for this segment. In 2006, EPA took no action on this new segment, noting that the State had not provided adequate support justifying the limited aquatic life or the secondary contact use designation. EPA noted that 40 CFR 131.6(b) and (f) requires the submission of supporting analyses and other general information that would assist EPA in determining the adequacy of standards that don't include uses specified in §101(a)(2)

of the Act. EPA noted that to comply with the regulation, New Mexico must submit a UAA to demonstrate why attaining the limited aquatic life and secondary contact recreation uses are not feasible based on one of the factors listed in 40 CFR 131.10(g).

Following that recommendation, NMED developed a UAA in August 2007, to support the limited aquatic life and secondary contact use designations for this segment. The State's UAA identified the streams included in this segment as ephemeral and intermittent. Given that these streams do not flow for varying periods throughout the year and the lack of upstream source populations, it is unlikely that this segment could support a higher use. EPA approved the limited aquatic life and secondary contact use designations for this segment on August 31, 2007.

*See section **20.6.4.101 NMAC** for a discussion of the restructuring of section **B. Criteria (1) and (2).***

***EPA Action:** EPA approves the modifications to this segment.*

As required by 40 CFR 131.20(a), any segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act must be re-examined every three years to determine if any new information has become available. If such new information indicates that the uses specified in section 101(a)(2) of the Act are attainable, the State must revise its standards accordingly.

20.6.4.129 RIO GRANDE BASIN - Perennial reaches of the Rio Hondo.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and [~~secondary~~] primary contact.

B. Criteria:

[~~(1) In any single sample: specific conductance 400 µmhos/cm or less, pH within the range of 6.6 to 8.8, total phosphorous (as P) less than 0.1 mg/L and temperature 20°C (68°F) or less. The~~] the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses [~~listed above in Subsection A of this section~~], except that the following segment-specific criteria apply: specific conductance 400 µS/cm or less and phosphorus (unfiltered sample) less than 0.1 mg/L.

[~~(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).~~]

*See section **20.6.4.7 A NMAC** for a discussion of abbreviations specific to conductance. See section **20.6.4.101 NMAC** for a discussion of the restructuring of section **B. Criteria (1) and (2).***

***EPA Action:** EPA approves the modifications to this segment.*

20.6.4.130 RIO GRANDE BASIN - The Rio Puerco from the Rio Grande upstream to Arroyo Chijuilla, excluding the reaches on Isleta, Laguna and

20.6.4.806 CLOSED BASINS - Bear canyon reservoir.

A. Designated Uses: coldwater aquatic life, irrigation, livestock watering, wildlife habitat and [~~secondary~~] primary contact.

B. Criteria:

[~~(1) In any single sample: specific conductance 300 µmhos/cm or less, pH within the range of 6.6 to 8.8 and temperature 22°C (72°F) or less. The~~] the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses [~~listed above in Subsection A of this section~~], except that the following segment-specific criterion applies: specific conductance 300 µS/cm or less.

[~~(2) The monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less; single sample 410 cfu/100 mL or less (see Subsection B of 20.6.4.14 NMAC).~~]

[20.6.4.806 NMAC - N, 05-23-05; A, 12-01-10]

*In addition, see section **20.6.4.101 NMAC** for a discussion of addition of the primary contact use and the restructuring of section **B. Criteria (1) and (2).***

***EPA Action:** EPA approves the modifications to this segment.*

20.6.4.900 Applicable Criteria

20.6.4.900 CRITERIA APPLICABLE TO [~~ATTAINABLE OR DESIGNATED~~] EXISTING, DESIGNATED OR ATTAINABLE USES UNLESS OTHERWISE SPECIFIED IN 20.6.4.97 THROUGH 20.6.4.899 NMAC.

*New Mexico's, like other State and Tribal standards, typically do not identify existing uses, but identify designated and attainable uses. In specifying that criteria in section **20.6.4.900** apply to existing uses as well as designated or attainable uses in this provision title, the standards insure protection as required by its antidegradation provisions and others within this section itself.*

A. Fish Culture[~~,~~] and Water Supply [~~and Storage~~]: Fish culture, public water supply [~~and municipal~~] and industrial water supply [~~and storage~~] are designated uses in particular classified waters of the state where these uses are actually being realized. However, no numeric criteria apply uniquely to these uses. Water quality adequate for these uses is ensured by the general criteria and numeric criteria for bacterial quality, pH and temperature [~~that are established to for all classified waters of the state listed in 20.6.4.97 through 20.6.4.899 NMAC~~].

*This provision has been modified, changing the term "municipal and industrial" to "public water supply" and "industrial water supply," and deleting the term "storage." These modifications are intended to provide consistency with the State's drinking water regulations; see discussion in section **20.6.4.7 Definitions**. The State has*

*also struck the last phrase referring to criteria applicable to sections 97 – 899, since they apply on a segment-specific basis; otherwise, the criteria listed in section **20.6.4.900** are applicable.*

D. Primary Contact: the monthly geometric mean of E. coli bacteria of 126 cfu/100 mL and single sample of 410 cfu/100 mL[~~, apply to this use~~] and pH [~~shall be~~] within the range of 6.6 to 9.0 apply to this use.

The minor language changes here are not substantive.

F. Livestock Watering: the criteria listed in Subsection J of this section for livestock watering apply to this use.

The minor language changes here are not substantive.

G. Wildlife Habitat: Wildlife habitat shall be free from any substances at concentrations that are toxic to or will adversely affect plants and animals that use these environments for feeding, drinking, habitat or propagation; can bioaccumulate; or might impair the community of animals in a watershed or the ecological integrity of surface waters of the state. [~~The discharge of substances that bioaccumulate, in excess of levels listed in Subsection J for wildlife habitat is allowed if, and only to the extent that, the substances are present in the intake waters that are diverted and utilized prior to discharge, and then only if the discharger utilizes best available treatment technology to reduce the amount of bioaccumulating substances that are discharged.~~] The numeric criteria listed in Subsection J for wildlife habitat apply to this use [~~except when a site-specific or segment-specific criterion has been adopted under 20.6.4.101 through 20.6.4.899 NMAC~~].

*The Commission's Statement of Reasons (paragraph 481) explains that the second sentence in this provision has been deleted because it is unnecessary and may be inconsistent with federal regulations. EPA agrees. Although the sentence is similar to federal requirements for setting of technology-based effluent limitations when a pollutant is present in the intake water (see 40 CFR 122.45(g)), the federal provision is not specific to use. While the federal provision can be applied to the State's wildlife habitat provision, it is not limited to that use. Given the Commission's statement, it is clear the State understands that deleting this language has not changed the applicability of the federal regulation for establishing technology-based effluent limitations. The last sentence has been deleted because it was inconsistent with the language in the title of section **20.6.4.900** which did not previously reference sections **20.6.4.97 - 20.6.4.99 NMAC** of the standards.*

H. Aquatic Life: Surface waters of the state with a designated, existing or attainable use of aquatic life shall be free from any substances at concentrations that can impair the community of plants and animals in or the ecological integrity of surface

waters of the state. Except as provided in Paragraph [~~6 below~~] (7) of this subsection, the acute and chronic aquatic life criteria set out in Subsections I, [~~and~~] J, K and L of this section and the human health-organism only criteria set out in Subsection J of this section are applicable to [~~this use~~] all aquatic life use subcategories. In addition, the specific criteria for aquatic life subcategories in the following paragraphs [~~shall~~] apply to waters classified under the respective designations.

In the State's 2005 triennial, the term "aquatic life" was adopted as a designated use. In it's Statement of Reasons for that revision, the Commission explained that using the term "aquatic life" in this way was intended to addresses the CWA objectives of restoring and maintaining biological integrity noting that the goal of protection and propagation requires the consideration of all the organisms comprising the aquatic community, not just the fish and shellfish. Although EPA agreed with the premise, as we explained in our 2006 action, unlike other use subcategory definitions that the State holds, it does not in and of itself define a subcategory of use because it does not describe characteristics such as flow, temperature, habitat or other factors that would be necessary for the support and/or propagation of an aquatic community.

In response, the State has modified the provision, clarifying that the term "aquatic life" is not describing a defined a designated use. However, the modified provision is useful in that it expresses the CWA goals of protection of the aquatic community as a whole, establishing overall protection as well as the referenced criteria applicable to all of the State's designated use subcategories.

(1) **High Quality Coldwater**: dissolved oxygen 6.0 mg/L or more, 4T3 temperature 20°C (68°F) [~~or less~~], maximum temperature 23°C (73°F), pH within the range of 6.6 to 8.8 and specific conductance a segment-specific limit [~~varying~~] between 300 [~~µmhos/cm~~] µS/cm and 1,500 [~~µmhos/cm~~] µS/cm depending on the natural background in the particular surface [~~waters~~] water of the state (the intent of this criterion is to prevent excessive increases in dissolved solids which would result in changes in community structure). [~~The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria for pollutants listed in Subsection J of this section are applicable to this use.~~] Where a single segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature and no 4T3 temperature applies.

*The modifications to this use, in addition to the coldwater and marginal coldwater aquatic life use categories are primarily intended to incorporate NMED's recently developed temperature criteria which are defined in section **20.6.4.7 A. (1) and (2).***

Given the importance of lethal and sublethal effects, the State has adopted water quality criteria identifying two upper limiting temperatures: a maximum temperature for short exposures based on a critical maximum or upper incipient temperature and a sublethal temperature based on optimal temperatures that can be applied as a weekly

average temperature threshold. NMED used extensive thermographic data, which described the magnitude, duration and frequency of temperature fluctuations, allowing an evaluation of maximum and sublethal thresholds. With this information, NMED could then consider the species of coldwater fish typically present in New Mexico's waters and evaluate lethal and sublethal effects. This approach allowed NMED to establish maximum and sublethal temperature tolerances for the range of coldwater fish species present in New Mexico. This approach is consistent with EPA recommendations.

The criteria that have been incorporated into this and other coldwater designated uses specify the magnitude, duration and frequency for temperature for each aquatic life use. The applicable criteria include maximum and sublethal (4T3 or 6T3) criteria for the three coldwater aquatic life uses. NMED has defined the 4T3 temperature as a value not to be exceeded for four or more consecutive hours in a 24-hour period on more than three consecutive days. NMED also defines the 6T3 temperature as a value not to be exceeded for six or more consecutive hours in a 24-hour period on more than three consecutive days. The maximum criteria are intended to protect aquatic life from temperatures that may result in mortality and the 4T3 or 6T3 criteria are intended to protect for sublethal effects that may impact long-term survival, growth and reproduction.

*In a related modification, the sentence added at the end of the paragraph explains that a segment-specific criterion identified in sections **20.6.4.101-899 NMAC** is the maximum temperature for that particular segment. By including this language, it avoids the need to make repetitive changes where segment-specific criteria will apply. Similarly, the provision also clarifies that the specific conductance criterion is a value set on a segment-specific basis that falls within the range of 300-1,500 µS/cm. In order to determine which segment-specific criterion should apply, it will be necessary for the State to establish the natural background concentration, excluding anthropogenic influence. See section **20.6.4.7 A. NMAC** for a discussion of abbreviations specific to conductance. The reference to ammonia and human health criteria have also been deleted because the criteria are specified elsewhere in section **20.6.4.900 NMAC**.*

(2) Coldwater: dissolved oxygen 6.0 mg/L or more, 6T3 temperature 20°C (68°F) [~~or less~~], maximum temperature 24°C (75°F) and pH within the range of 6.6 to 8.8. [~~The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.~~] Where a single segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature and no 6T3 temperature applies.

*See section **20.6.4.900 H (1)** for a discussion of the development of the temperature criteria intended to protect coldwater designated use(s), including segment-specific criteria. As in the previous provision, the reference to ammonia and human health criteria have also been deleted because the criteria are specified elsewhere in section **20.6.4.900 NMAC**.*

(3) **Marginal Coldwater**: dissolved oxygen [~~than~~] 6 mg/L or more, [~~on a case by case basis maximum temperatures may exceed~~] 6T3 temperature 25°C (77°F) [~~and the pH may~~], maximum temperature 29°C (84°F) and pH within the range from 6.6 to 9.0. [~~The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.~~] Where a single segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature and no 6T3 temperature applies.

*See section **20.6.4.900 H. (1)** for a discussion of the development of the temperature criteria intended to protect coldwater designated use(s), including segment-specific criteria. As in the previous provision, the reference to ammonia and human health criteria have also been deleted because the criteria are specified elsewhere in section **20.6.4.900 NMAC**.*

(4) **Coolwater**: dissolved oxygen 5.0 mg/L or more, maximum temperature 29°C (84°F) and pH within the range of 6.6 to 9.0.

A number of years ago, the New Mexico standards identified indicator species for a range of designated cold and warmwater aquatic life uses. The problem with that approach was that it did not provide for or specifically identify transitional species. For example, a stream that is appropriately classified as supporting the coldwater aquatic life use, but on average the temperatures are on the low end of the range for that classification. Such streams tend to support the more tolerant coldwater fish species but may also tend to support species that are considered more typical of warmwater streams. At times, this situation led to concerns or claims by affected entities of possible misclassification – is it a coldwater or warmwater stream?

During that period, EPA recommended that this problem be addressed by either returning to the use of indicator species or using narrative to acknowledge and identify waters with transitional assemblages. However, the State's approach was to apply both the warm and coldwater designation or the marginal coldwater designation to these intermediate waters. This approach often resulted in inappropriate or unattainable criteria being applied to these waters. This tended to result in a warmwater designation with criteria that were not adequately protective of the coldwater aquatic community or the inappropriate listing of the water as impaired under §303(d) of the CWA.

Although EPA's original recommendation remained a viable option, the State took a somewhat different approach in developing the entirely new coolwater designated use. This use has temperature characteristics to bridges the gap between those established for warmwater and coldwater aquatic life uses. The supporting documentation indicates that the maximum temperature of 29°C (84°F) applicable to this use will protect coolwater fish in New Mexico. In addition, the new use includes language intended to ensure that aquatic life whose physiological tolerances are intermediate between cold or warm aquatic life are by definition, protected under this

use. Then it would be expected that streams designated as coolwater will support a propagating population of coolwater species, while they may also support either coldwater or warmwater species at certain times of the year.

Given that the coolwater designated use requires less protective criteria, re-designation of any waters that are currently classified as coldwater must be supported by a UAA as required by 40 CFR 131.10(j)(2).

[~~(4)~~](5) Warmwater: dissolved oxygen 5 mg/L or more, maximum temperature 32.2°C (90°F) [~~or less,~~] and pH within the range of 6.6 to 9.0. [~~The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.~~] Where a segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature.

*This provision has been modified to include a maximum temperature of 32.2°C. This clarifies the magnitude and by extension the duration and frequency of the criterion. Setting this criterion as a maximum value is intended to protect sensitive native warmwater species. See section **20.6.4.900 H. (1)** NMAC for a discussion of the segment-specific criteria and the deletion of the reference to ammonia and human health criteria.*

[~~(5)~~](6) **Marginal Warmwater**: dissolved oxygen 5 mg/L or more, pH within the range of 6.6 to 9.0 and [~~on a case-by-case basis maximum temperatures may exceed~~] maximum temperature 32.2°C (90°F). [~~The total ammonia criteria set out in Subsections K, L and M of this section and the human health criteria listed in Subsection J of this section are applicable to this use.~~] Where a segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature.

*The changes to this provision are consistent with previous paragraphs. The modifications include establishing the 32.2°C (90°F) temperature as a maximum for the marginal warmwater use. This, in combination with the added reference to segment-specific temperature criteria make the reference to temperatures exceeding 32.2°C (90°F) unnecessary. This last sentence, which allows the possibility of a segment-specific criterion higher than 32.2°C is consistent with the State's definition of "marginal warmwater." While this language means it would be allowable to establish a segment-specific temperature criterion higher than 32.2°C, such a modification must be supported by a UAA as required by 40 CFR 131.10(j)(2). In addition, see section **20.6.4.900 H. (1)** NMAC for a discussion of the deletion of the reference to ammonia and human health criteria.*

[~~(6)~~](7) **Limited Aquatic Life**: [~~Criteria shall be developed on a segment-specific basis.~~] The acute aquatic life criteria of Subsections I and J of this section [~~shall~~]

apply to this subcategory. Chronic aquatic life criteria do not apply unless adopted on a segment-specific basis. Human health-organism only criteria apply only for persistent pollutants unless adopted on a segment-specific basis.

The State has deleted the first sentence in this provision. Other language changes specify that acute aquatic life criteria apply to this use. EPA interprets the application of acute criteria to be intended as a basic protection for aquatic communities that are adapted to the conditions common to ephemeral and intermittent waters. However, deleting the first sentence does not preclude the State from developing segment-specific criteria for these waters or adopting more protective uses where appropriate. In fact, EPA has interpreted the requirements in 40 CFR 131.10(a) through (f) to generally mean that the State must ensure that the highest attainable use is protected in all waters.

In intermittent and ephemeral streams, including those with very short hydroperiods support an aquatic community. Where a hydrologic modification is allowed through some regulatory action in these waters, particularly naturally ephemeral waters, regardless of the quantity or quality of the discharge, the character of the existing aquatic community is altered. The presence of a constant volume of water being discharged to intermittent and ephemeral waters in semi-arid to arid regions will not only attract wildlife, but tend to support a more dense riparian vegetation and different, although often less diverse aquatic community. Although a State may choose to limit or prohibit discharges to any of its waters to preserve their character and function, there is no federal regulatory requirement that would prohibit such a discharge. If a discharge is allowed, the State is required to assure that the uses it supports are protected so long as the discharge exists. However, there is no requirement to continue such discharges.

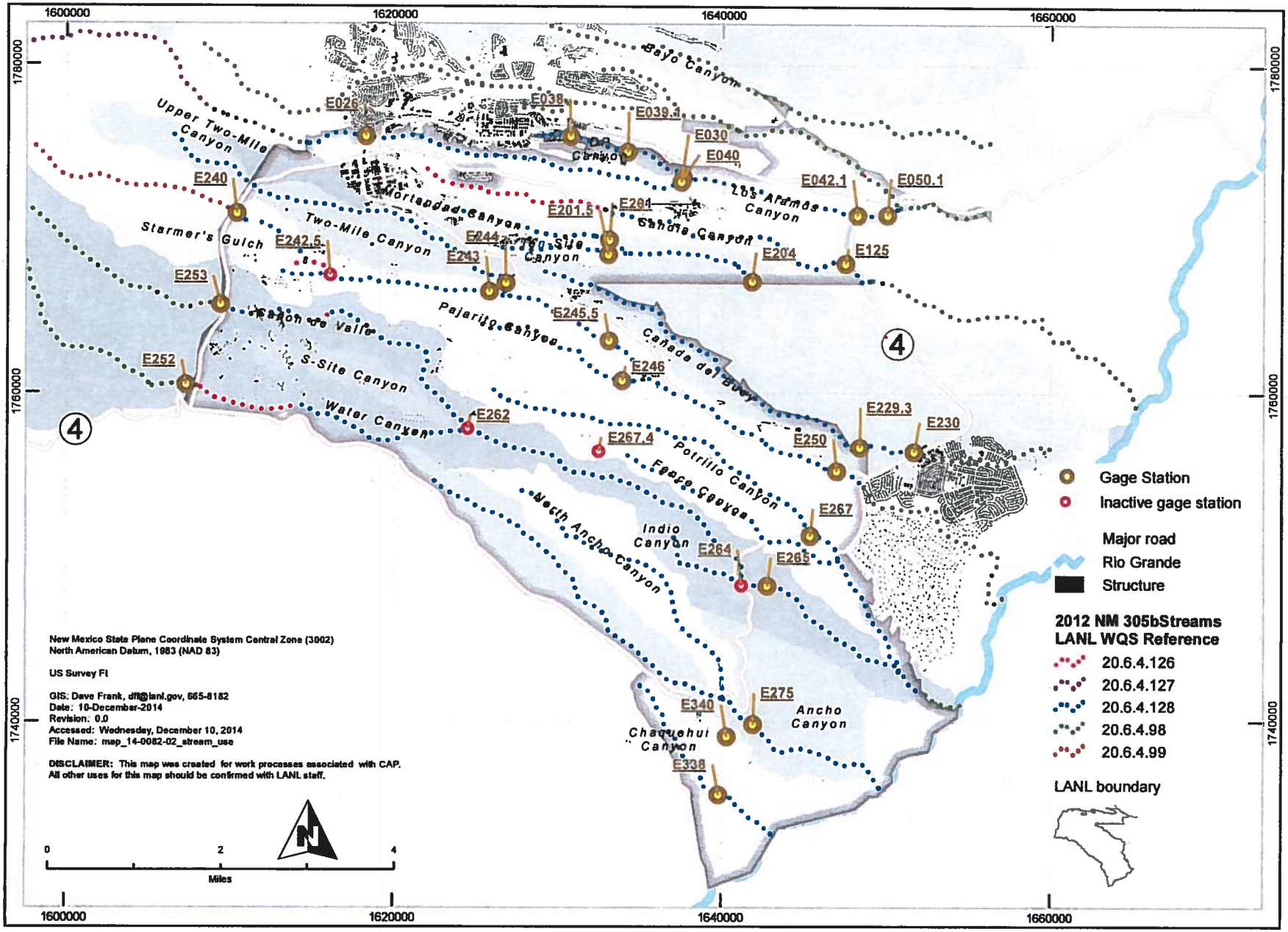
Over time, the characteristics of intermittent and ephemeral waters that receive a discharge tend to shift and may require a more protective aquatic life use. In instances where new or increased discharges are allowed in waters initially designated with the limited aquatic life use, it may be necessary for the State to establish site-specific criteria or adopt a more protective use. Federal regulations at 40 CFR 131.20(a) require States to re-examine any water body segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act at least every three years.

*As with the previous segment, see section **20.6.4.900 H. (1)** NMAC for a discussion of the deletion of the reference to ammonia and human health criteria.*

20.6.4.900 Numeric Use Specific Criteria

The following provisions and numeric criteria tables have been significantly reformatted. Only the new/revised provisions and tables are included here for brevity. EPA has reviewed all new and revised numeric criteria contained in the revised tables. A

SALADEN TESTIMONY
EXHIBIT 11



Los Alamos Canyon NM-[illegible]0.A_063

E026 at gage

E026 Upstream of gage station

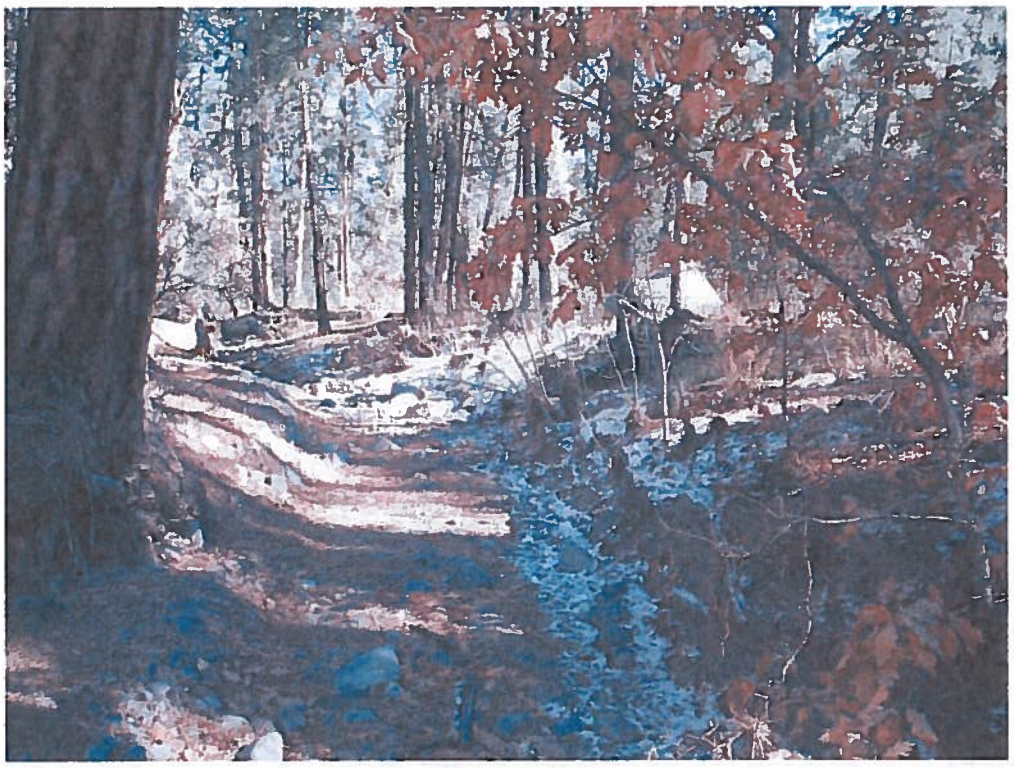
SALADEN TESTIMONY
EXHIBIT 12

E026 Downstream of gage

E026 Downstream of gage

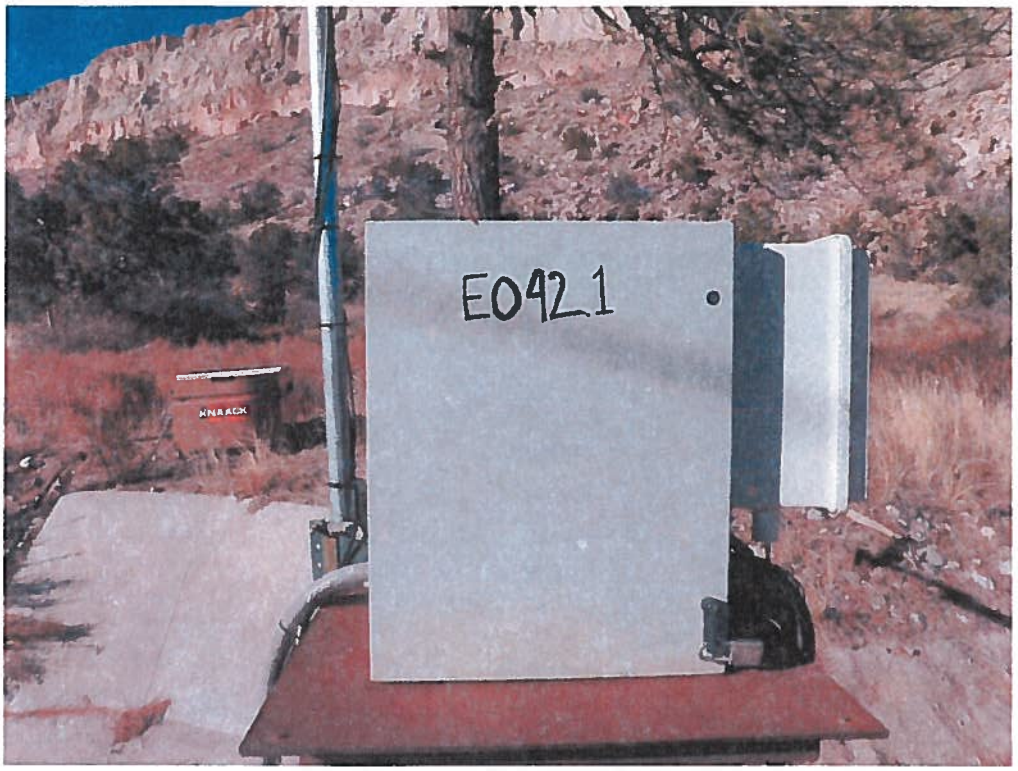
E030 at gage

E030 Upstream of gage



E030 Downstream of gage

E030 Adjacent uplands of gage

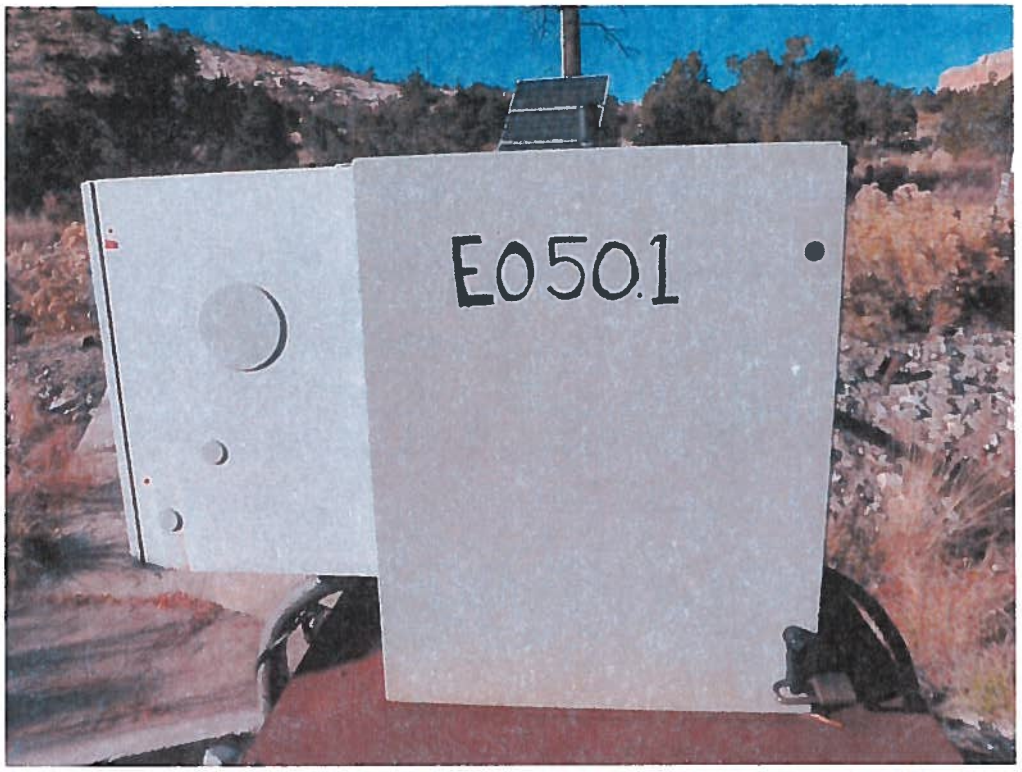


E042.1 at gage

E042.1 Upstream of gage

E042.1 Downstream of gage

E042.1 Uplands



E050.1 at gage

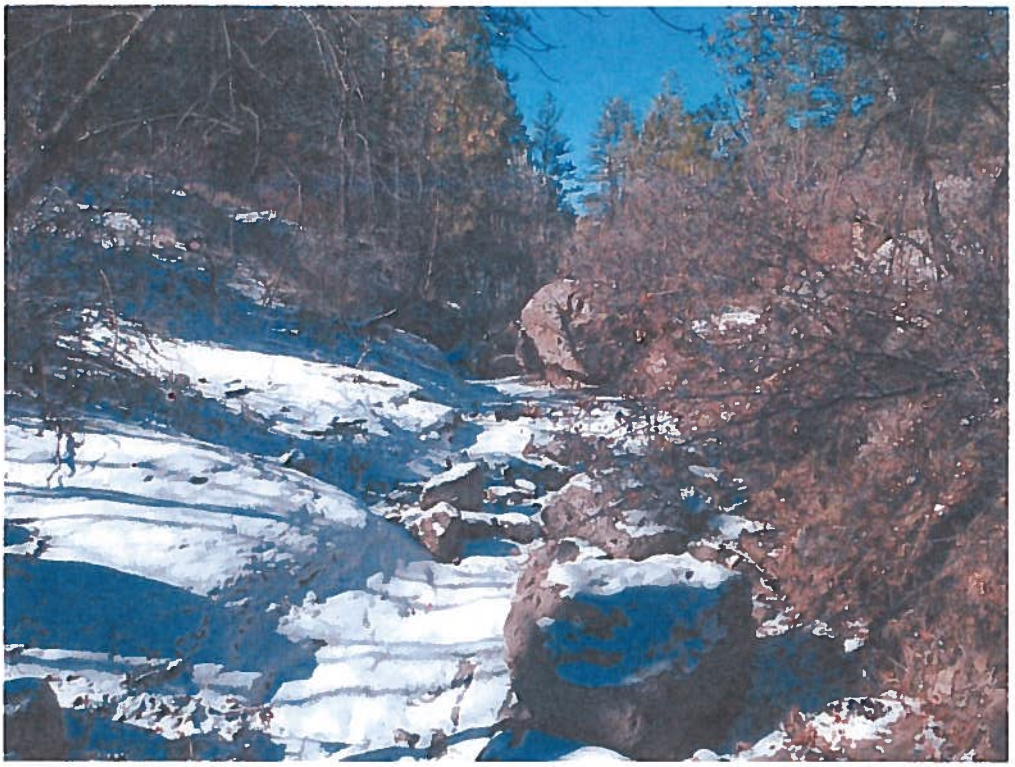
E050.1 Upstream adjacent to control

E050.1 Upstream above control

E050.1 Downstream adjacent to control

E038 at gage

E038 Upstream of gage



E038 Downstream of gage

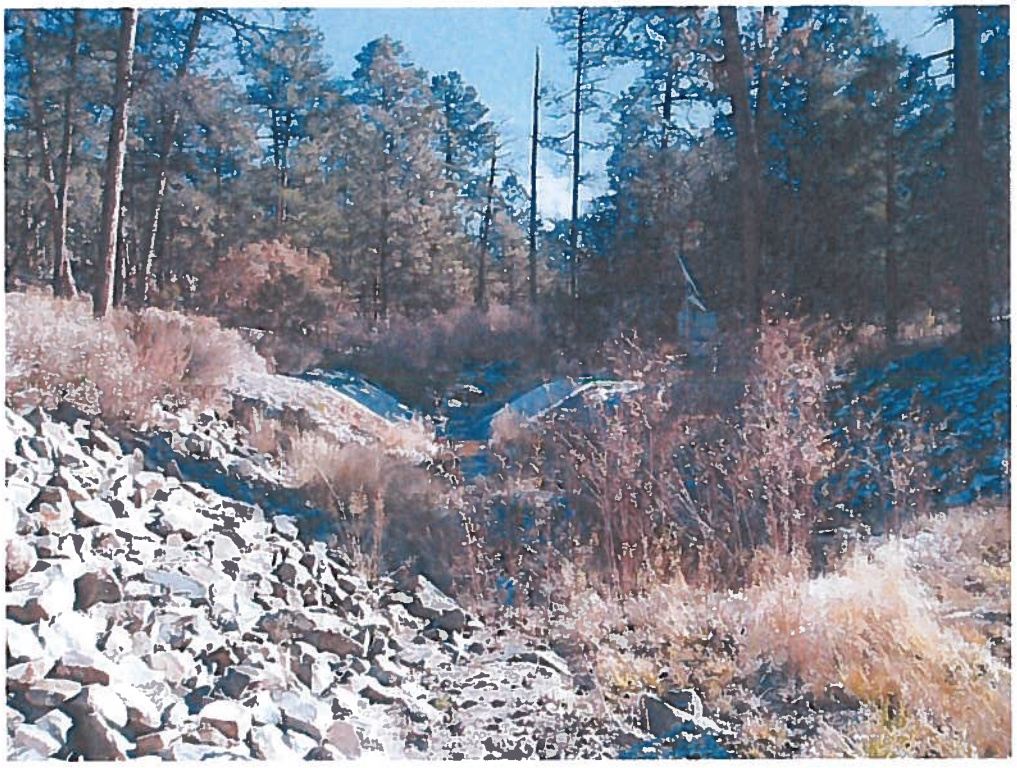
E038 Adjacent uplands of gage

E039.1 at gage

E039.1 Upstream of gage

DP Canyon NM-128.A_10

E039.1 Downstream of gage



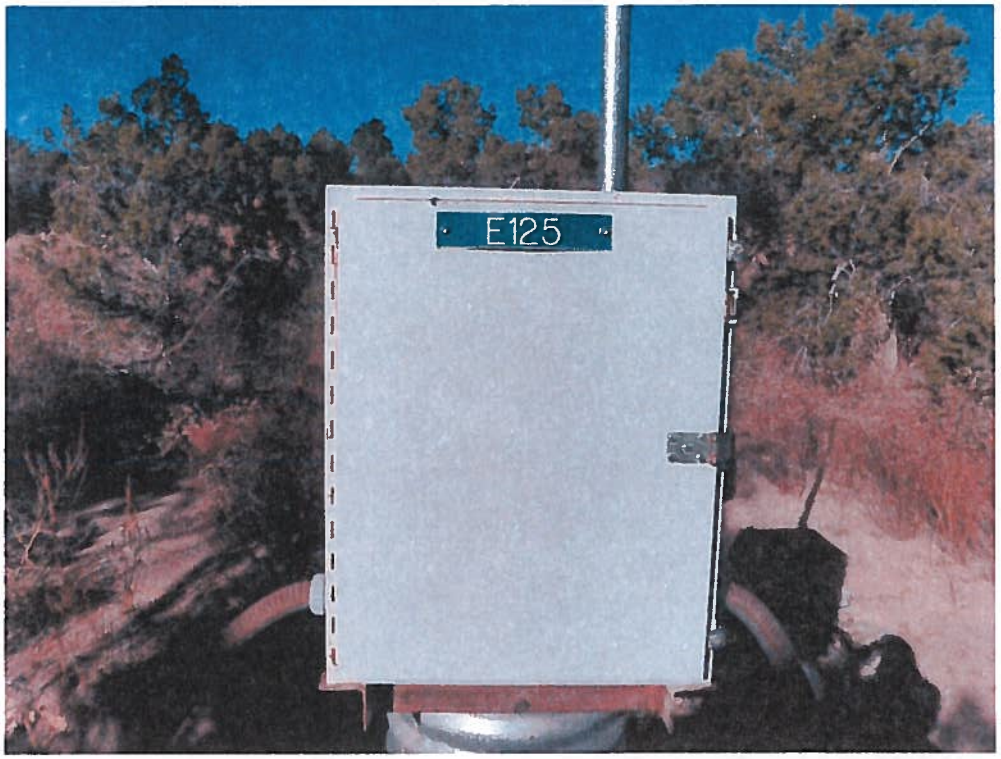
E039.1 Riparian features near gage

E040 at gage

E040 Upstream of gage

E040 Downstream of gage

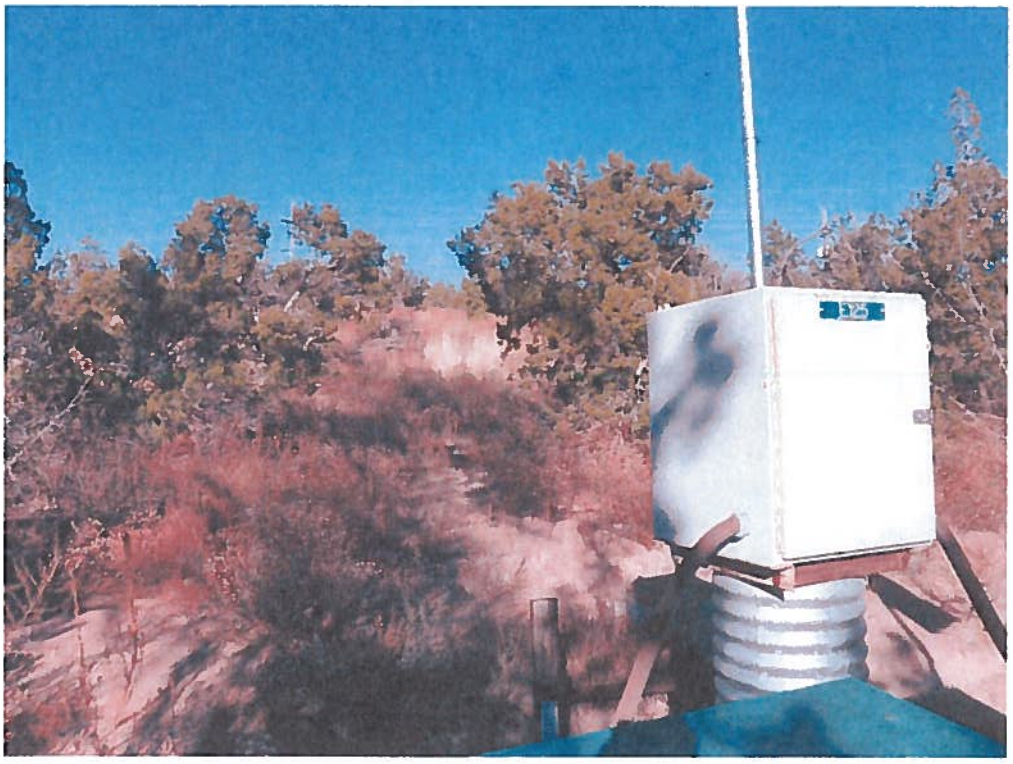
E040 Downstream and adjacent uplands of gage



E125 at gage

E125 Upstream of gage

E125 Downstream of gage



E125 Uplands adjacent to gage

E201 at gage

E201 Upstream of gage

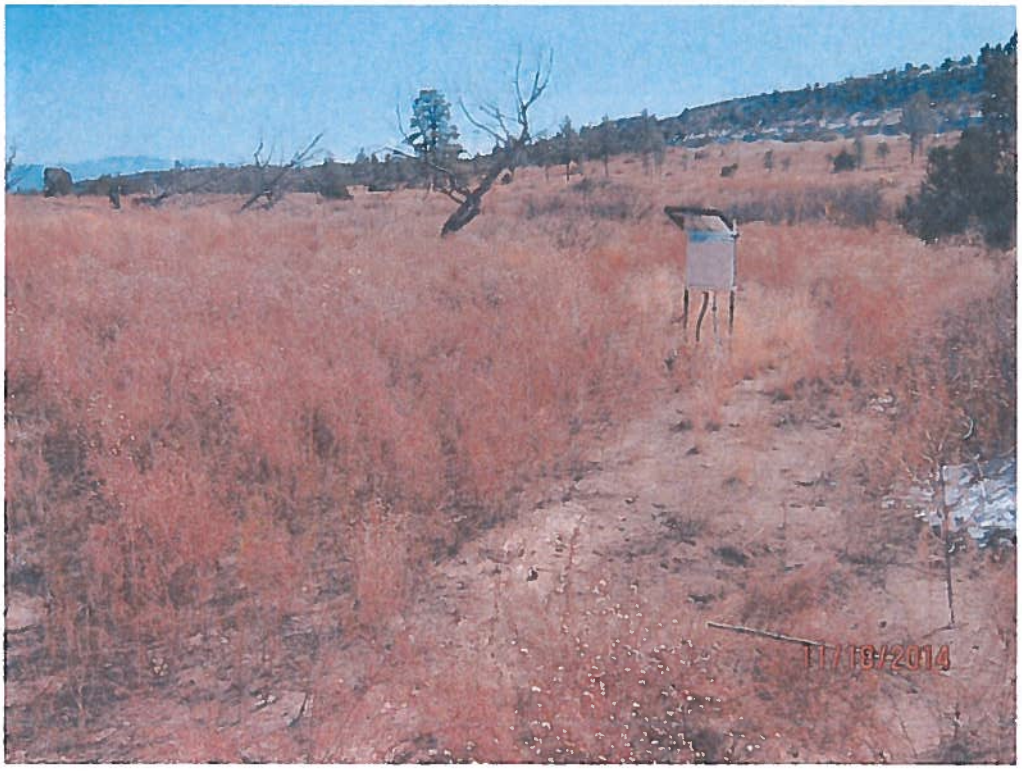
E201 Downstream of gage

E201 Downstream of gage

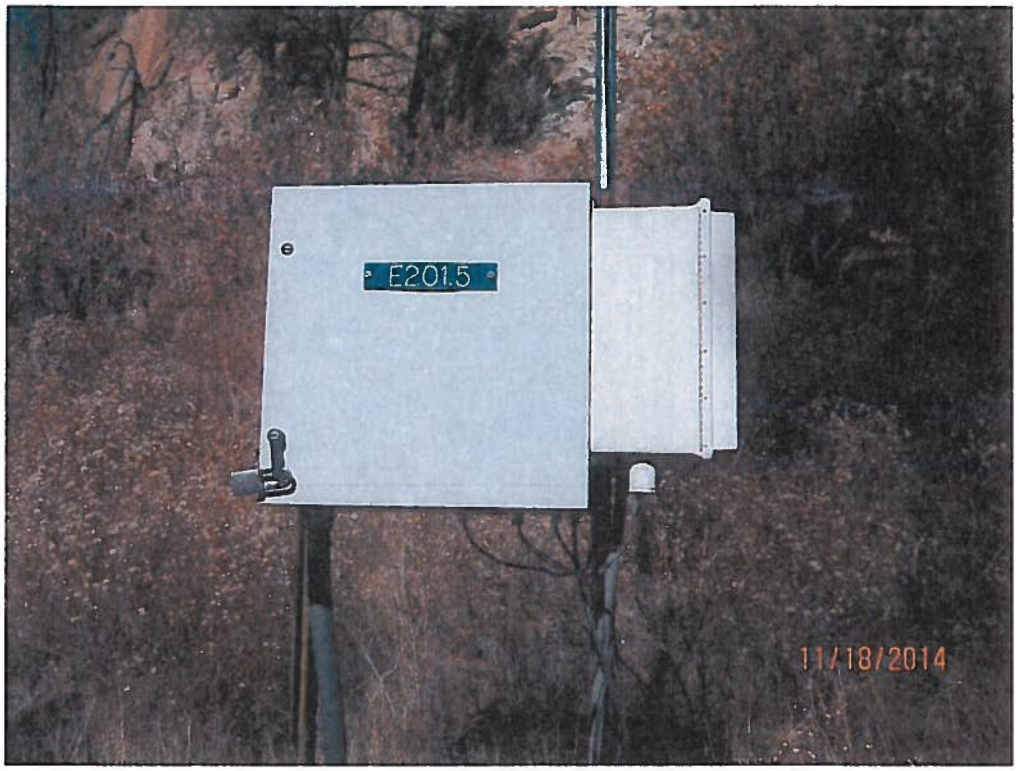
E204 at gage

E204 Upstream of gage

Mortandad Canyon NM-5000.A_042

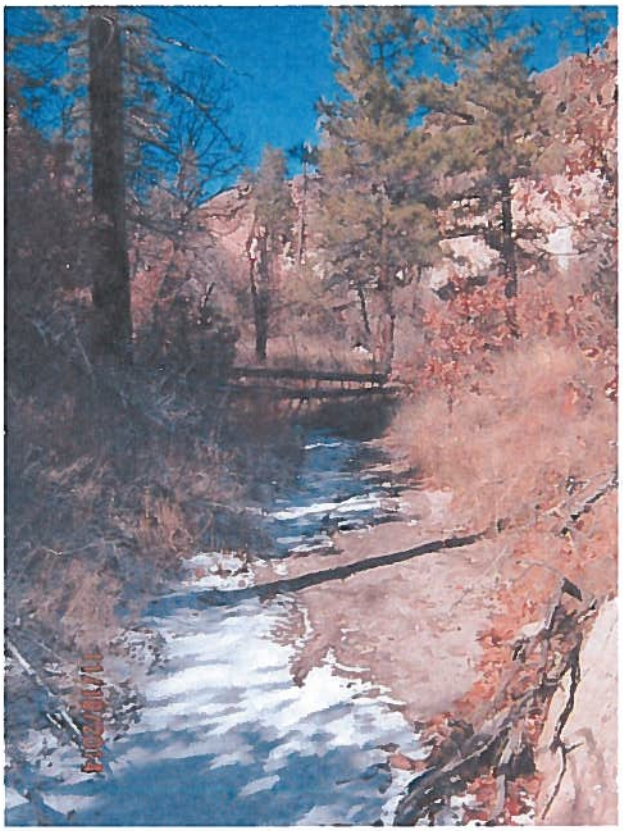


E204 Downstream of gage



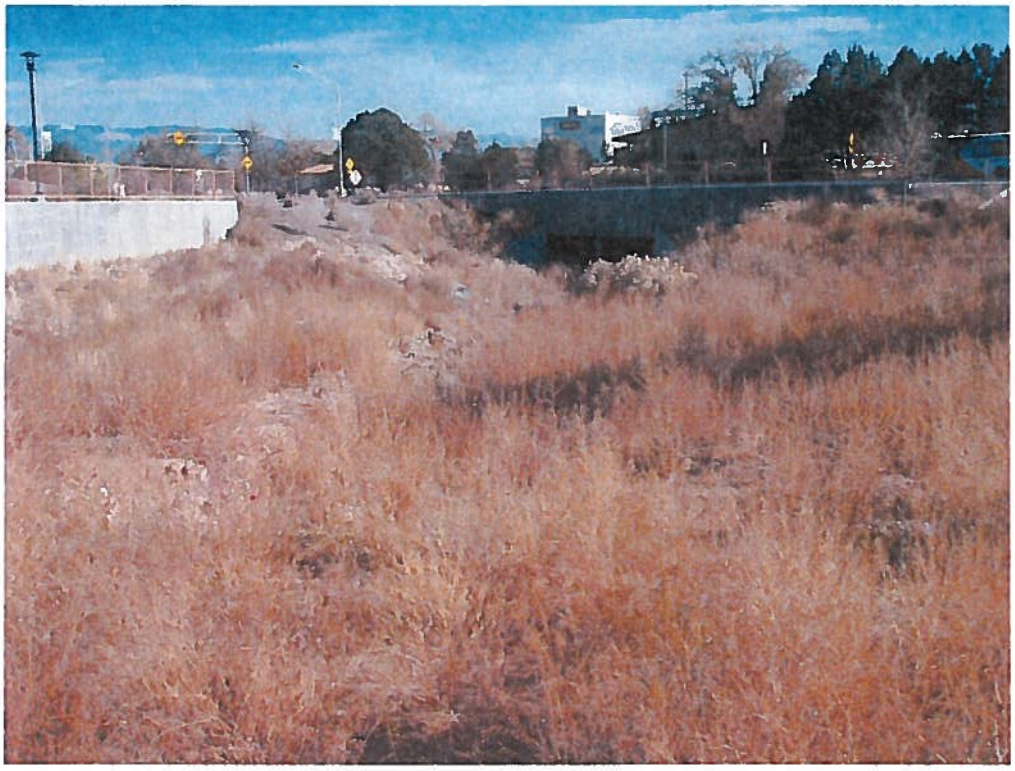
E201.5 Gage

E201.5 Upstream of gage



E201.5 Upstream of gage

E201.5 Downstream of Gage

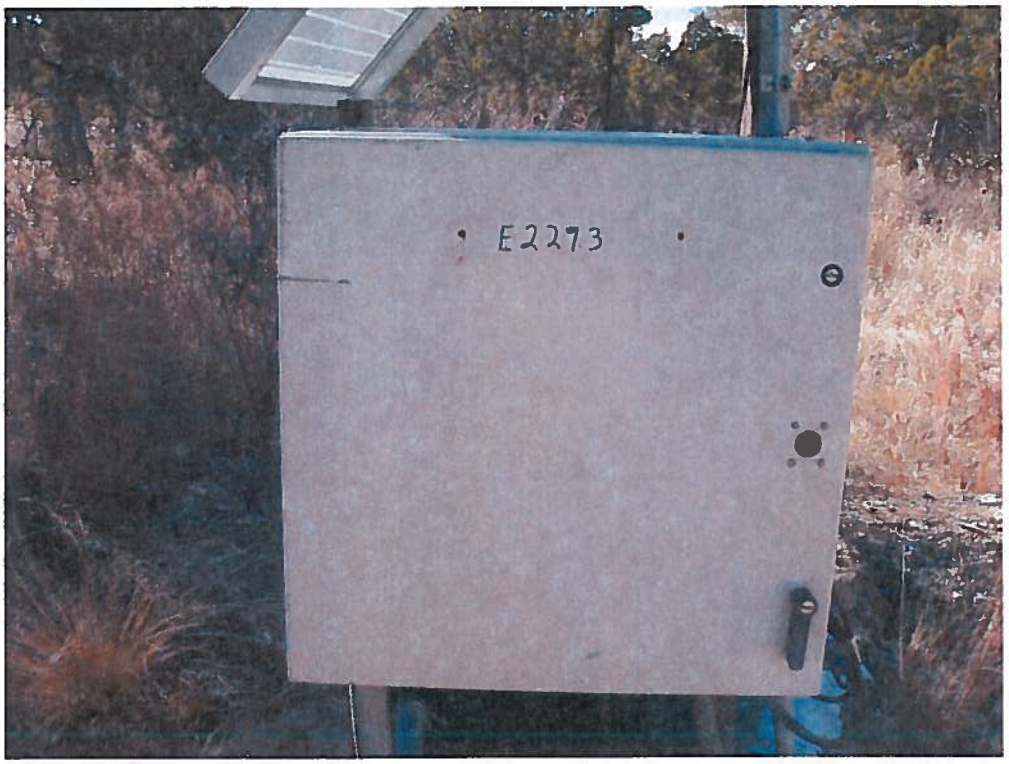


E230

E230

E230

E230



E229.3 at gage

E229.3 Upstream of gage

E229.3 Upstream and adjacent upland vegetation of gage

E229.3 Downstream of gage

E240 at gage

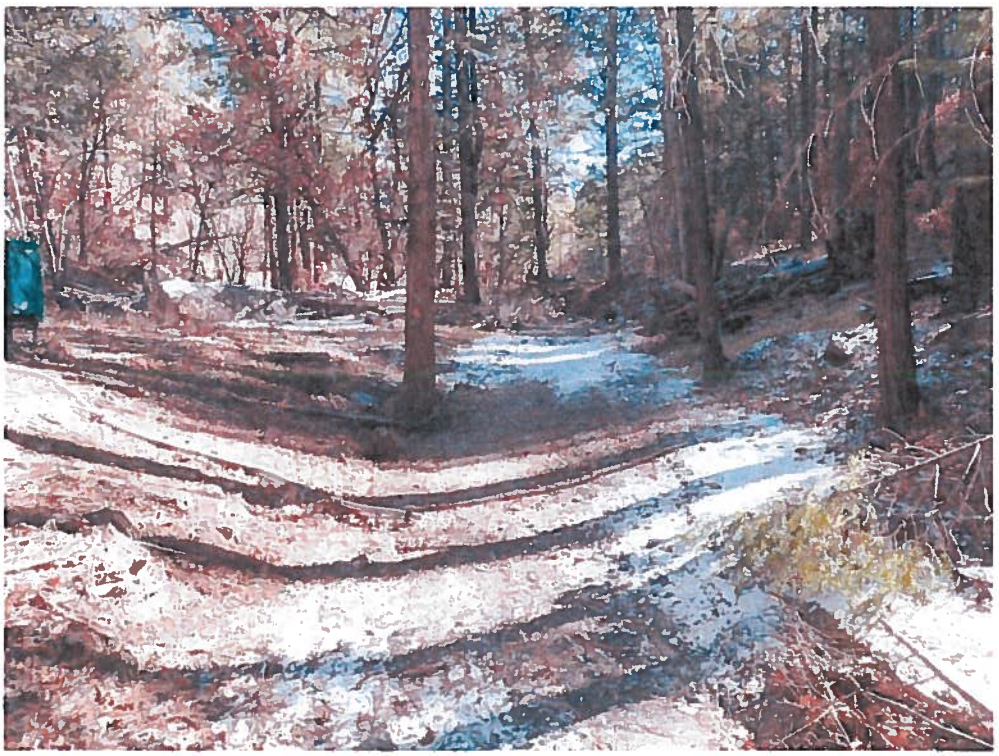
E240 Upstream

Pajarito Canyon NM-128.A_07

E240 Downstream

E240 Downstream

E243 at gage



E243 Upstream of gage

Pajarito Canyon NM-128.A_08

E243 Downstream of gage

E245.5 at gage

E245.5 Upstream of gage

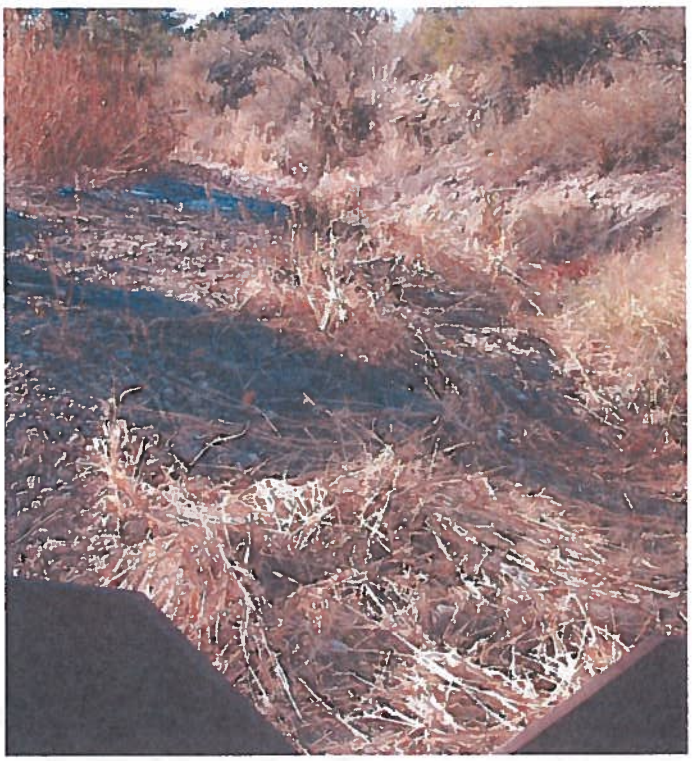
Pajarito Canyon NM-128.A_08

E245.5 Downstream of gage

E245.5. Downstream of gage

E250 at Gage

E250 Downstream of gage



E250 Upstream of gage

E250 Uplands adjacent to gage

E242.5 at gage

E242.5 Upstream of gage

Arroyo de la Delfe NM-128.A_16

E242.5

E242.5

E244 at gage

E244 Downstream of gage

E244 Downstream of gage

E246 at gage

E246 Upstream of gage

Three Mile Canyon NM-9000.A_091

E246 Upstream of gage

E246 Downstream of gage

Cañon de Valle NM-128..._02

E253 at Gage

E253 Upstream of gage

Cañon de Valle NM-128_02

E253 Upstream of gage

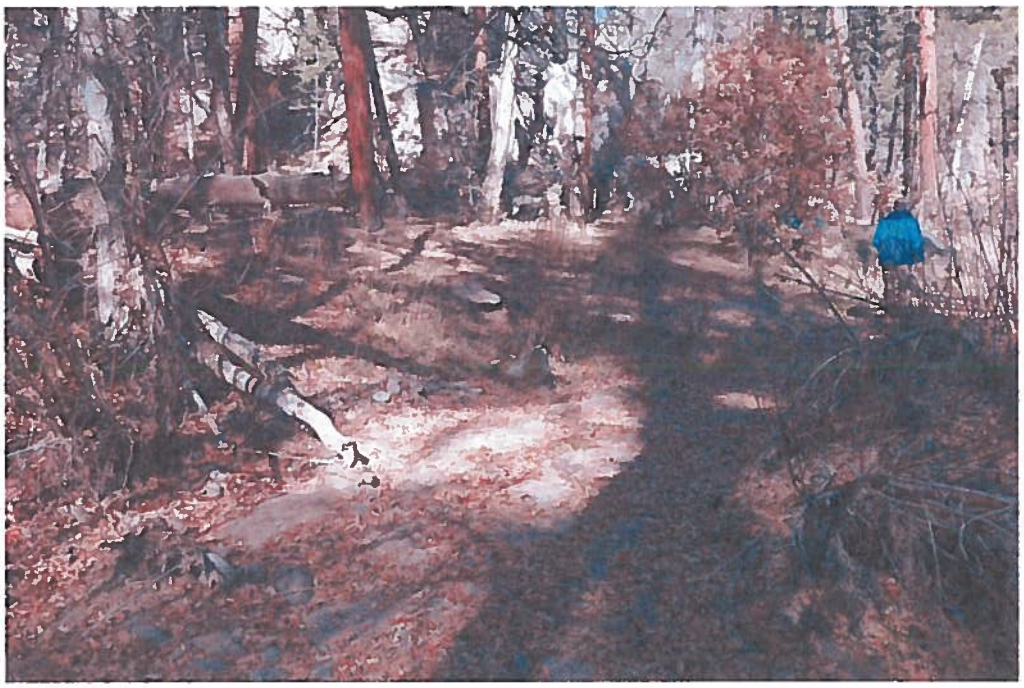
E253 Downstream of gage

E262 at gage

E262 Upstream of gage

Indio Canyon NM-128.A_01

E262 Upstream of gage



E262 Downstream of gage

E252 at Gage

E252 Upstream of gage

E252 Upstream of gage

E252 Downstream of gage

E265 at gage

E265 Upstream of gage

Water Canyon NM-128.A_13

E265 Upstream of gage

E265 Downstream of gage

E267 at gage

E267 Upstream of gage

Potrillo Canyon NM-128.. _09

E267 Downstream of gage

E267 Downstream of Gage

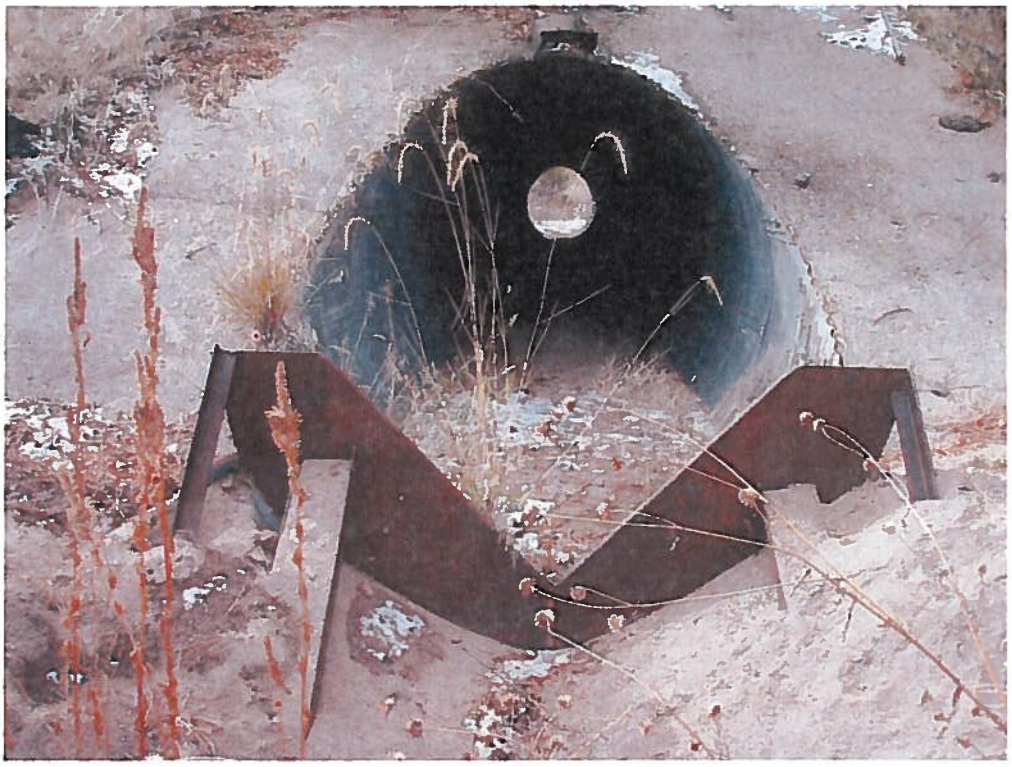
E267.4 at gage

E267.4 Upstream of gage

Fence Canyon NM-128.A_04

E267.4 Downstream of gage

E267.4 Downstream of gage



E264 at gage

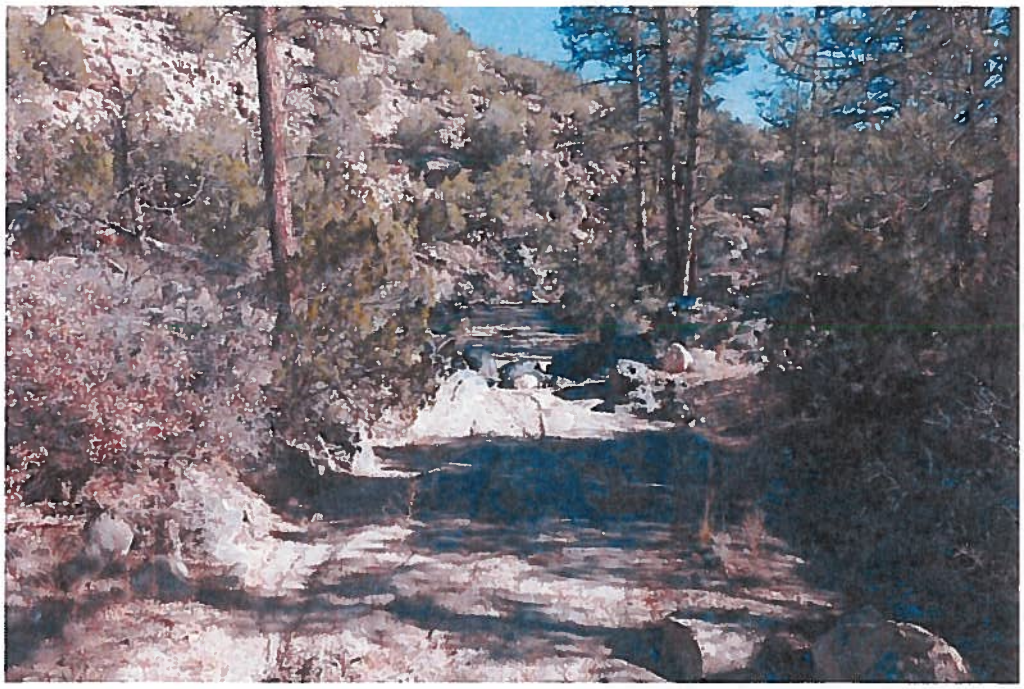
E264 Upstream of gage

E264 Upstream of gage

E264 Downstream of gage

Ancho Canyon NM-9000.A_046
North Fork Ancho Canyon NM-9000_055
Ancho Canyon NM-9000.A_0.54

E275 at gage



E275 Downstream of gage

Ancho Canyon NM-9000.A_046
North Fork Ancho Canyon NM-9000_055
Ancho Canyon NM-9000.A_0.54

E275 Downstream of gage

E275 Downstream of gage

Chaquehui Canyon NM-128.A_03

E338 at gage

E338 Upstream of gage

E338 Downstream of gage

E338 Downstream of gage

E340 at gage

E340 Upstream of gage

Chaquehui Canyon NM-128.A_03

E340 Downstream of gage

E340 Downstream of gage