

# **Paradox Valley Unit of the Colorado River Basin Salinity Control Program**

## **Final Environmental Impact Statement Volume 5 – Appendix N**



**U.S. Department of the Interior  
Bureau of Reclamation  
Western Colorado Area Office  
Interior Region 7: Upper Colorado Basin  
Grand Junction, Colorado**

**December 2020**

## **MISSION STATEMENTS**

The mission of the Department of the Interior is to protect and manage the nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its trust responsibilities or special commitments to American Indians, Alaska natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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# Appendix N

Comment Summary and Response Report



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# ACRONYMS AND ABBREVIATIONS

## A

ACEC Area of Critical Environmental Concern  
AUM animal unit month

## B

BLM Bureau of Land Management  
Reclamation Bureau of Reclamation

## C

CDPHE Colorado Department of Public Health and Environment  
CEQ Council on Environmental Quality  
CRSS Colorado River Support System

## E

EA environmental assessment  
EIS environmental impact statement

## F

FONSI finding of no significant impact  
FWS United States Fish and Wildlife Service

## N

NEPA National Environmental Policy Act of 1970

## O

O&M operation and maintenance  
ORV outstandingly remarkable value

## P

PERA Predictive Ecological Risk Assessment  
PVU Paradox Valley Unit

## R

Reclamation Bureau of Reclamation  
RMP resource management plan  
ROD Record of Decision  
ROW right-of-way

## U

US United States

## W

WSA wilderness study area  
WSR Wild and Scenic River

## Number

1997 EA 1997 PVU Final Supplemental Definite Plan Report/Environmental Assessment

# Appendix N – Comment Summary and Response Report

## N.1 Introduction

This report describes the public comment and response process to finalize the Paradox Valley Unit (PVU) of the Colorado River Basin Salinity Control Program Environmental Impact Statement (EIS) for the United States Department of the Interior, Bureau of Reclamation (Reclamation) Interior Region 7 Upper Colorado Region. This report covers comments received on the Draft EIS, where a preferred alternative had not been identified.

The appendix is divided into three main parts, as follows:

- **Section 1** defines terms useful in understanding this document and summarizes public involvement related to the release of the PVU Draft EIS.
- **Section 2** describes how public comments were acquired, categorized, addressed, and documented.
- **Section 3** presents substantive comments organized by specific comment issue category that relate to an aspect of the National Environmental Policy Act of 1969 (NEPA), Reclamation planning process, or specific resources and resource uses. Each topic or subtopic contains excerpted substantive comments from individual letters, emails, or written submissions and Reclamation’s response to the summary statement.

### N.1.1 Definitions

The terms listed and defined in this section are provided to help commenters find their substantive comments and understand the responses.

#### N.1.1.1 Comment

A comment is a distinct statement or question about a particular topic, such as the following:

- Purpose of and need for action
- Reclamation’s use of facts, methods, or analyses in the EIS
- Matters outside the scope of the EIS

#### N.1.1.2 Commenter

A commenter is any potentially interested or affected party, whether they are private citizens; state, local, or tribal governments; environmental groups; water users or irrigation districts; civic and community organizations; businesses; or others.

### **N.1.1.3 Comment Issue Category**

This is the resource topic or issue that a substantive comment addresses. This may include the NEPA process, including alternatives; the affected environment section of the Draft EIS; or a specific resource category, such as water quality.

### **N.1.1.4 Form Letter**

A form letter is a submission that is the same in wording or so similar as to be virtually identical to another submission. Examples are an online petition organized to encourage people to comment on the Draft EIS.

### **N.1.1.5 Submission**

This is any written version of comments submitted by a commenter in a letter or email. A submission may contain any number of comments.

### **N.1.1.6 Substantive Comment**

A substantive comment is one that is relevant to the scope of the Draft EIS, environmental analysis, or NEPA process that merits a response. Comments that state the commenter's support for or opposition to an alternative are not substantive comments. Additional details related to the definition of substantive comments are included in **Section 2**, Comment Analysis, of this report.

### **Comment Response**

Reclamation prepares a response for each substantive comment. The response states relevant policy or guidance related to the concern, notes document locations where issues of concern are addressed, explains agency rationale for decisions, and/or notes how the Final EIS was updated, as appropriate.

## **N.1.2 Draft EIS Availability and Public Outreach**

Reclamation published a notice of availability announcing the release of the Draft EIS in the *Federal Register* on December 6, 2019, initiating the formal 60-day public comment period that would end on February 4, 2020. The comment period was initially 45 days long; however, at the request of the Colorado River Basin Salinity Control Forum, the comment period was extended an additional 15 days to February 19, 2020.

Reclamation maintains a project mailing list. All contacts on the mailing list received an initial postcard announcing the availability of the Draft EIS. The postcard also notified the public of upcoming public meetings and announced the public review period. A second postcard was distributed to all mailing list contacts notifying them of the extension to the comment period. All project-related documents are available via the project website, <https://www.usbr.gov/uc/progact/paradox/index.html>.

During the comment period, Reclamation held two public open house meetings in the vicinity of the planning area. At these meetings, the agency provided attendees with a brief overview of the project alternatives and helpful information about making effective comments. A total of 53 people attended the two meetings (see **Table N-1** for meeting locations and the number of attendees).

Refer to **Chapter 5** of the Final EIS for additional information on public coordination.

**Table N-1. Draft EIS Public Meetings**

<b>Location</b>	<b>Date (2020)</b>	<b>Address</b>	<b>Number of Attendees</b>
Paradox, CO	Tuesday, January 14, 2020	Paradox Valley Charter School, 21501 6 Mile Rd, Paradox, CO 81429	41
Montrose, CO	Wednesday, January 15, 2020	Holiday Inn Express & Suites Montrose, 1391 S Townsend Ave, Montrose, CO 81401	12

## **N.2 Comment Processes**

### **N.2.1 Comment Collection**

Reclamation recognizes that commenters invested considerable time and effort to submit comments on the Draft EIS. Reclamation developed a systematic process for cataloging comments, as described in detail below, to ensure all substantive comments were tracked and considered.

#### **N.2.1.1 Unique Submissions**

Reclamation evaluated all written submissions received during the public comment period and documented them in this report. Of the 850 submissions received, 125 were unique submissions. The remainder were form letters. Of the 850 submissions, 842 were (99 percent) were submitted via email; 1 (<1 percent) was submitted via a comment card at a public meeting; and 9 (<1 percent) were submitted via the United States (US) Postal Service. In the event Reclamation received duplicate submissions, only one submission was counted.

The public comment form available at the public open houses on the Draft EIS (see **Section 1**) provided instructions for requesting confidentiality and for withholding individual names or addresses from public review or from disclosure under the Freedom of Information Act.

To ensure public comments were properly registered and that none were overlooked, Reclamation used a multiphase management and tracking system. Reclamation logged all submissions, gave each a unique identification number, and then entered them manually into a comment matrix. Each submission (letter) was also assigned a commenter affiliation from the following:

- Government—Federal
- Government—State
- Government—Local
- Government—Tribal
- Private Industry
- Elected Official

- Individual (includes anonymous)
- Organization (nonprofit/citizens group)

Submissions were associated with an organization, industry, or government when they were on official letterhead of that group or when signed by representatives in an official capacity using their title. People who noted an affiliation with a group, such as a member of an organization, were counted as individuals. **Table N-2** provides a list of commenters by affiliation.

**Table N-2. Commenters by Affiliation**

Type	Affiliation	Commenter Name	Submission Number
<b>Organization</b>	Colorado River Basin Salinity Control Forum	Don Barnett Bill Hasencamp	6 247
	Colorado Wildlands Project	Scott Braden	68
	American Rivers	Michael Fiebig	229
	Irvine Ranch Water District	Paul Cook	238
	High Desert Workshop LLC	John Lewis	149
	Dolores River Restoration Project	Rica Fulton	185
	Central West Slope, Colorado Chapter of Backcountry Hunters and Anglers	Jesse Dudley	213
	Dolores River Boating Advocates	Amber Clark	234
	Colorado River Energy Distributors Association	Leslie James	239
	Southern California Water Coalition	Charley Wilson	240
	Dolores Water Conservancy District	Kenneth Curtis	241
	Waterkeeper Alliance: Living Rivers & Colorado Riverkeeper, Upper Green River Network, Green River Action Network, Las Vegas Water Defender and Canyonlands Watershed Council	Richard Fulton	242
	San Juan Citizens Alliance	Mark Pearson	243
	Southwestern Water Conservation District	Frank Kugel	245
	Colorado River Board of California	Rich Juricich	249
	American Whitewater	Hattie Johnson	256
	Colorado River Basin Salinity Control Advisory Council	Bill Hasencamp	257
	Lower Colorado River Water Quality Partnership	Patrick Dent	259
<b>Tribal Government</b>	San Xavier District of the Tohono O'odham Nation	Cie'na Schlaefli	212

N. Comment Summary and Response Report (Table N-2. Commenters by Affiliation)

Type	Affiliation	Commenter Name	Submission Number
<b>Business/ Commercial</b>	Aqua Resources	Chris Ekertsen	10
	Evaporation Works!	Kevin King	1
	Clear Creek Environmental Solutions	Brad Granley	15
	Durango RiverTrippers	Bruce Saxman	54
	Skillful-West End	Carla Reams	217
	T S Landfill, Inc.	Jim Stover	218
	Larson Building Solutions	Todd Larson	224
<b>Business/ Commercial</b> <i>(continued)</i>	Eastern Shore Microbes	Russell Vreeland	225
	Intrepid Potash - Moab LLC	Craig Fanshier	233
		Rick York	269
	Mild to Wild Rafting and Jeep Trail Tours, Inc.	Alex Mickel	150
	4Corners Riversports	Ashleih Diaz	152
	Deerhill Expeditions	Doug Capelin	182
	Michael Clinton Consulting LLC	Michael Clinton	248
	CryoDesalination, LLC	Norbert Buchsbaum	261
	Irrigation & Electrical Districts' Association of Arizona	Robert Lynch	262
Sheep Mountain Alliance	Karen Tuddenham	264	
Rig to Flip	Cody Perry	265	
<b>Federal Government</b>	Environmental Protection Agency Region 8	Philip Strobel	228
<b>State Government/ Agencies</b>	Wyoming State Engineer's Office - Interstate Streams Division	Chris Ferrantelli	251
	New Mexico Interstate Stream Commission	Rolf Schmidt-Petersen	252
	Colorado Department of Natural Resources	Vanessa Mazal	263
	Arizona Department of Water Resources and Central Arizona Project	Thomas Buschatzke and Theodore Cooke	246
	Southern Nevada Water Authority, Colorado River Commission of Nevada	Colby N. Pellegrino	253
<b>Local Government/ Agencies</b>	Town of Nucla Board of Trustees	Craig Richard	232
	Montrose County, Colorado - Montrose County Board of Commissioners	John Waschbusch	216
	San Miguel County Board of County Commissioners	Hilary Cooper	254
	San Diego County Water Authority	Sandra Kerl	244
	Municipal Water District of Orange County	Robert Hunter	250
	Imperial Irrigation District	Tina Shields	267

The largest number of submissions (800 submissions, 94.1 percent) were received from individuals, which includes letters submitted anonymously, as a unique submission, and/or as a form letter. Organizations represented approximately 2.1 percent (18 submissions). State and local government represented slightly more than 1 percent (11 submissions total), and business/commercial represented approximately 2.1 percent (18 submissions). See **Table N-3** for a summary of submissions.

All unique submissions, including relevant affiliation and commenter contact information, were entered into Reclamation’s comment matrix, organized by a unique identifying number.

**Table N-3. Submissions by Commenter Affiliation**

<b>Affiliation</b>	<b>Number of Unique Submissions (Portion of Total)</b>
Federal government	1 (0.1%)
State government	5 (0.6%)
Local government	6 (0.7%)
Business/Commercial	18 (2.1%)
Individuals	800 (94.1%)
Organizations	18 (2.1%)
Tribes	1 (0.1%)

**N.2.1.2 Form Letters**

Reclamation received four form letters during this comment period. The first was organized by San Juan Citizen’s Alliance and contained 537 submissions; of these, 408 were exact form letters and 129 were “form plus” comments, meaning commenters submitted a form letter with their own original text added. The second contained 23 submissions, of which all were form letters. The third contained 92 submissions (88 form and 4 form plus submissions). The fourth contained 58 submissions, all of which were form letters.

**N.2.2 Comment Analysis**

Once all comment submissions were received and catalogued through the process described above, Reclamation reviewed each submission to understand the commenter’s overall intent and perspective. Reclamation numbered all substantive comments and assigned them a comment code appropriate to their content.

During this analysis, Reclamation relied on the Council on Environmental Quality’s (CEQ’s) regulations to determine what constituted a substantive comment. A substantive comment does one or more of the following:

- Questions, with a reasonable basis, the accuracy of the information or analysis in the Draft EIS
- Questions, with a reasonable basis, the adequacy of the information or analysis in the Draft EIS
- Presents reasonable alternatives other than those presented in the Draft EIS that meet the purpose of and need for the proposed action and addresses significant issues

- Questions, with a reasonable basis, the merits of an alternative or alternatives
- Causes changes in or revisions to the preferred alternative
- Questions, with a reasonable basis, the adequacy of the planning process itself

Comments that failed to meet the above description were considered nonsubstantive; for example, many commenters expressed personal opinions or preferences. Also considered nonsubstantive are those comments that had little relevance to the adequacy or accuracy of the Draft EIS and were commentary on resource management or impacts, without any real connection to the document being reviewed. Others were considered out of scope because they dealt with existing law, rule, regulation, or policy.

Opinions, feelings, and preferences for one element or one alternative over another and comments of a personal or philosophical nature were all read, analyzed, and considered; however, because such comments are not substantive, Reclamation did not include them in this report or respond to them.

While Reclamation reviewed and considered all comments, and tracked the number of comments that expressed support or opposition to any one of the alternatives, it should be noted that the NEPA public comment period is not an election, nor does it result in a representative sampling of the population; therefore, public comments are not appropriate to be used as a democratic decision-making tool or as a scientific sampling mechanism. Reclamation’s consideration of the number of comments for or against any of the alternatives was merely one of many factors used in its selection of the preferred alternative.

For each submission, Reclamation identified and put substantive comments into one comment category. These categories were given a code, and the codes were queried and tallied to provide information on comment categories, as summarized in **Table N-4**. Comment categories generally follow the sections presented in the Draft EIS, though some relate to the planning process. Resource sections that did not receive comments are not included in the table below. Coded comments were divided into subcategories related to the purpose and need, alternatives, best available information/baseline data, impacts analysis, and cumulative impacts, as appropriate.

**Table N-4. Comments by Comment Issue Category<sup>1</sup>**

<b>Comment Issue Category Description</b>	<b>Number of Total Comments</b>
<b>Alternatives</b>	-
ALT-AD: Alternatives Considered but Dismissed	1
ALT-AE: Comment to Change an Existing Alternative	42
ALT-AP: New Alternative Proposed	24
ALT-GE: Other Issue Related to the Alternatives	5
ALT-RA: Range of Alternative Selected	7
<b>NEPA Process</b>	-
NE-PN: Purpose and Need	12
PUB: Public Outreach	3

N. Comment Summary and Response Report (Table N-4. Comments by Comment Issue Category)

<b>Comment Issue Category Description</b>	<b>Number of Total Comments</b>
NE-DB: Best Available Information and Baseline Data	18
NE-IR: Irreversible and Unavoidable Impacts	1
<b>Resources</b>	-
AIR: Air Resources	3
CLI: Climate Change	3
CULT: Cultural and Heritage Resources	4
GEO: Geology	6
ECON: Economic Resources	10
REC: Recreation	11
SOI: Soil Resources	4
SDA: Specially Designated Areas	22
WAT-MO: Water Resources – Hydrogeologic Modeling	2
WAT-SW: Water Resources – Surface Water	2
WAT-WQ: Water Resources – Water Quality	5
WAR-WR: Water Resources – Water Rights	3
SSS: Special Status Species	2
WIL: Fish and Wildlife	11
VIS: Visual Resources	3
TRA: Transportation and Traffic	1
HAZ: Hazardous Materials	1
SAFE: Public Health and Safety	5
SOCIO: Socioeconomic Resources	4
<b>EDT: Editorial Comments<sup>1</sup></b>	<b>47</b>

<sup>1</sup>Editorial comments are not summarized in this report, as they often dealt with editorial changes to the document. See **Attachment 1** for Reclamation’s responses to editorial comments.

Comments that related to the impacts of management of one resource or another were coded under the affected resource, following the structure of the impacts analysis in the Draft EIS, Chapter 3; for example, comments on the impacts of the proposed salinity control options on recreation were coded under recreation.

Many submissions included more than one comment, so the submissions yielded approximately 260 individual substantive comments in all submissions.

### **N.3 Comment Categories, Summaries, and Responses**

For each identified comment issue category, Reclamation reviewed substantive comments and provided a response. Assigning a category allowed Reclamation to properly group similar comments or comment topics to ensure consistency in responses.

## N. Comment Summary and Response Report (Comment Categories, Summaries, and Responses)

Comment responses note one or more of the following:

- Relevant laws, standards, or criteria that defined Reclamation's approach
- Information from the EIS as it relates to the comment
- Whether the comment resulted in changes to the document
- Rationale for why changes were warranted or not

Comments citing editorial changes to the document, such as spelling and grammatical changes, were coded, reviewed, and incorporated as appropriate into the Final EIS. These editorial comments did not receive a summary or response in this report.

The sections below provide a summary of the substantive comments in each comment category and a summary of Reclamation's response. Each substantive comment retains the unique identifier code for the submission, as well as information on the commenter and commenter affiliation (as applicable). All individual substantive comments and their responses can be found in the comment matrix, **Attachment 1**. All unique comment letter submissions can be found at **Attachment 2**.

### **N.3.1 Substantive Comments and Responses**

#### **N.3.1.1 Alternatives Considered but Dismissed**

**Summary:** Commenters noted that some alternatives were considered but not carried forward, and that the consideration of the No Action Alternative and the three action alternatives was faulty.

**Response:** The Draft EIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the Draft EIS consist of the practical and feasible options that would achieve the purpose of and need for the project. Alternatives considered but eliminated from further consideration are described in Section 2.12 and Table 2-8. This table shows that such alternatives were considered but eliminated from further analysis because they did not achieve the purpose of and need for the project.

Regarding consideration of the No Action Alternative, long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the EIS, "Background and Project History," to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3 of the EIS, "Alternative A," clarifying Alternative A-No Action Alternative.

### **N.3.1.2 Change to an Existing Alternative**

**Summary:** The greatest number of substantive comments received were suggestions to alter aspects of the existing alternatives. These suggested changes were varied and ranged from general suggestions to highly specific and technical recommendations regarding the alternatives. Comments often related to the design level of the alternatives, particularly related to the design of Alternative C- the evaporation pond complex; the location of certain elements under each of the alternatives; and the continued operation of the current facility under the No Action Alternative. Detailed responses to these suggested changes can be found in the comment matrix, **Attachment 1**.

**Response:** Many aspects of these comments were already acknowledged throughout Chapters 2 and 3 of the Draft EIS (see Table 2-8, in particular), or have been included in the analysis of the Final EIS. Rationale for their inclusion or exclusion turned on whether such an alternative met the purpose and need. Reclamation considered other factors in the selection of the alternatives as well, such as whether the alternative was cost effective and whether it met the obligations of the Colorado River Basin Salinity Control Act of 1974, as amended.

Regarding the design level of the alternatives, due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30 percent, or conceptual, level. The study areas analyzed for each alternative are larger than the anticipated combined total of the permanent and temporary impacts to give Reclamation the necessary flexibility to appropriately design and locate facilities and to avoid and minimize impacts of the identified alternative. The record of decision (ROD) could identify a scaled down or phased version of an alternative. Reclamation would continue to evaluate methods to further minimize impacts during the design process. Additional NEPA analysis would be completed after the ROD if, during final design, it is determined that either enhanced technologies could be included, or any impacts not foreseen or analyzed in this EIS are disclosed.

Reclamation acknowledges there are various design strategies for the evaporation pond complex. The proposed design evaluated in this EIS was developed by a private industry contractor (Amec Foster Wheeler Environment & Infrastructure, Inc.) with experience in salt modeling and evaporation pond design. The assumptions and findings of the design, developed in coordination with Reclamation to meet the project needs, are outlined in the four reports produced (Amec 2017a, 2017b, 2017c, 2017d) and referenced in the EIS in Section 2.5.

Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30 percent, or conceptual, level. If Alternative C is identified as the preferred alternative in the ROD, Reclamation would undertake the final design and operational strategy of the evaporation pond complex; other design features could be considered at that time.

Regarding site selection for the alternatives, site selection for an injection well was dependent on several criteria, including geology, the potential for induced seismicity, logistics, and environmental impacts. Geological criteria included the characteristics of the Leadville Formation underground reservoir (e.g., thickness, spatial extent, degree of faulting, depth, porosity, and permeability), the characteristics of the Paradox Formation confining layer (e.g., thickness, spatial extent, fracture gradient, composition, and integrity), anticipated flow paths and barriers for the injected fluid, the

estimated reservoir capacity, and the degree of confidence in the geophysical and geological interpretations for the site. The potential for induced seismicity depends on finding areas of the Leadville Formation that are relatively unfaulted, and hydrologically isolated from the currently pressurized parts of the formation. Logistical considerations included the distance and elevation difference between the extraction field and the injection well, the level of drilling difficulty, the anticipated longevity of the well, and access issues.

Additional constraints included non-disturbance of sage-grouse habitat and nesting areas, avoidance of wilderness study areas, and use of existing roads where possible. Approximately 20 potential well sites were identified throughout the Paradox Valley region, including near Uravan, within existing Reclamation lands, in the southeastern end of the Paradox Valley, across Monogram Mesa, and in Big Gypsum Valley. After comparing the potential well sites with the site selection criteria previously discussed, sites identified in the EIS were determined to be the sites that would most likely result in a successful implementation of the alternative. References for this information are identified in Sections 2.4 and 3.3 of the EIS.

Regarding long-term operation of the existing PVU injection well, this topic is covered in the 1997 PVU Final Supplemental Definite Plan Report/Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities; therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative.

Language has been added to Section 1.1 of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3 of the EIS clarifying Alternative A-No Action Alternative. The affected environment for each resource analyzed in Chapter 3 is based on the existing conditions, which include operation of the existing well, and impacts of each of the action alternatives are compared with existing conditions. The No Action Alternative looks at effects of not approving the action under consideration (i.e., No Action represents no salinity control in the Paradox Valley). Therefore, impacts of the No Action Alternative are not identical to existing conditions of the affected environment because closure of the existing PVU facilities is a foreseeable and predictable action that will eventually occur regardless of whether any of the action alternatives are chosen.

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### **N.3.1.3 New Alternative Proposed**

**Summary:** The second-greatest number of substantive comments received were proposals for new alternatives. Like comments suggesting changes to the existing alternatives, these proposed alternatives were varied and ranged from general suggestions to highly specific and technical recommendations. Detailed responses to the proposed alternatives can be found in the comment matrix, **Attachment 1**.

Proposed alternatives included the following: construction of an aqueduct, lined channel, or pipeline; use of microbes or other technology through private partnerships; transport of brine to the

ocean; plugging and abandoning the well; use of solar energy or other technology; a combination of all the existing alternatives; reducing interbasin diversions from the Dolores River to the San Juan Basin; and altering flows into the river.

**Response:** Reclamation already acknowledged many aspects of these comments throughout Chapters 2 and 3 of the Draft EIS (see Table 2-8, in particular), or included them in the analysis of the Final EIS. Rationale for their inclusion or exclusion turned on whether such an alternative met the purpose and need. Reclamation considered other factors in the selection of the alternatives as well, such as whether the alternative was cost-effective and whether it met the obligations of the Colorado River Basin Salinity Control Act of 1974, as amended. Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the PVU. References to these studies have been added to the table. These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in the subsurface. Further, even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine discharge to dissipate. This conclusion drove the selection or rejection of a number of these alternatives, as described in each response found in **Attachment 1**.

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#### **N.3.1.4 Other Issues Related to the Alternatives**

**Summary:** Two comments were coded under this category, as they fit no other category. These comments stated the following:

- The Final EIS should acknowledge the uncertainties inherent in developing, implementing, and operating salt removal projects from the Paradox Valley and note that as the preferred alternative moves through the design and implementation phases, it will require close coordination with the funders and other stakeholders.
- The Final EIS should clearly describe the areas and alternatives where tiered analysis may be necessary, and what decisions regarding the alternatives can be made based on the current Draft EIS, other than the completion of a 3D seismic survey under Alternative B.

**Response:** Reclamation will continue to coordinate with stakeholders after a ROD is completed. Information related to the uncertainties and risk in developing salt removal programs in the Paradox Valley is already adequately described in the EIS. Assumptions and risks are described in Section 2.1 and Section 2.7. The introductory paragraphs of Chapter 3 disclose that the alternatives evaluated in the EIS have been developed to a conceptual level of design with an operational length of 50 years. This level of design and 50-year life enabled analysis and comparison of the impacts of the alternatives. These paragraphs also disclose that final design would be completed after an alternative is identified as the preferred alternative in a ROD and that additional NEPA analysis may be required to ensure any impacts not foreseen in the EIS are disclosed. The introduction of Chapter 3 also lists other scenarios in which additional NEPA analysis could occur, from closure activities to unforeseen impacts related to the implementation of a preferred alternative after the ROD is signed.

### **N.3.1.5 Range of Alternatives Selected**

**Summary:** A number of comments found that the Draft EIS fails to present a reasonable range of alternatives, including alternatives to mitigate impacts. Commenters stated that the alternatives selected were considered reactionary and unduly destructive to the environment. Commenters requested that the EIS consider alternatives that are not as socially and environmentally destructive and consider future salinity control in the context of climate change.

**Response:** The Draft EIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the Draft EIS consist of the practical and feasible options that would achieve the purpose of and need for the project. Section 2.12 and Table 2-8 in the EIS list those alternatives that Reclamation considered but eliminated from further consideration. This table considers alternatives similar to those suggested by commenters. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, these alternatives do not meet the purpose and need.

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### **N.3.1.6 Purpose and Need**

**Summary:** Comments on the purpose of and need for the EIS most commonly related to the following topics:

- The purpose and need should focus less on salinity control in Paradox Valley and more on the Colorado River Basin as a whole and the underlying causes of salinity, such as irrigation, over-appropriation, and dams.
- The purpose and need is not clear regarding the actual impact of the existing well on salinity control in Paradox Valley.
- None of the analyzed alternatives meets the goals and objectives of the project, and the EIS fails to describe how these goals and objectives were developed and how they relate to the identified purpose and need.

**Response:** As noted in Section 1.3 of the Draft EIS, “The need for the proposed action is to control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin . . . [A] new brine control and disposal facility is needed to enhance and protect the quality of water available in the Colorado River for use in the United States and the Republic of Mexico.” The Salinity Control Act authorizes the construction, operation, and maintenance of specific salinity control units on the Colorado River, among them being the Paradox Valley Unit in Montrose County, Colorado. For this reason, this EIS is focused on the Paradox Valley Unit salinity control facility in Montrose County, and not the Colorado Basin as a whole.

As described in Section 4.2, the ongoing salinity control program would be expected to cumulatively result in the decrease in salinity in the Lower Colorado River. Effects of the PVU on salinity concentrations measured at the three downstream locations on the Colorado River—below Hoover Dam, below Parker Dam, and at Imperial Dam—were evaluated and discussed in the EIS. The EIS also covers the history of Colorado River Basin Salinity Control policy and points out that the PVU is the largest project in the Colorado River Basin Salinity Control Forum. This information contextualizes the need for the proposed action, regardless of Colorado River allocations—which are out of the project’s scope and will not be considered.

Reclamation developed the goals and objectives of the project, in coordination with the cooperating agencies, to provide considerations for the authorized official in making the decision on a preferred alternative. This explanation has been added to Sections ES.6 and 1.4 the EIS. The intent of the goals and objectives are to provide additional items for the Secretary of the Interior to consider in the decision, but they are not a part of the purpose and need. Table 2-7 discloses the ability for each alternative to meet the goals and objectives. Impacts resulting from the implementation of the alternatives are disclosed in Chapter 3.

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### N.3.1.7 Public Outreach

**Summary:** Comments related to public outreach were generally requests to be included on the mailing list or included in the public process, as well as requests to present design ideas for the salinity control program.

**Response:** Reclamation responded by adding commenters to the Paradox EIS distribution list and by letting parties know Reclamation will keep them informed of salinity control projects that will require funding, per the Salinity Control Act, from the Basin Funds.

Regarding requests to present design ideas, Reclamation accepted these ideas as proposed alternatives. As noted in the section above, Reclamation already acknowledged many aspects of these proposed designs throughout Chapters 2 and 3 of the Draft EIS (see Table 2-8, in particular), or included them in the analysis of the Final EIS. Rationale for their inclusion or exclusion turned on whether such an alternative met the purpose and need. Reclamation considered other factors in the selection of the alternatives as well, such as whether the alternative was cost-effective and whether it met the obligations of the Colorado River Basin Salinity Control Act of 1974, as amended.

Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the PVU. References to these studies have been added to the table. These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in the subsurface. Further, even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine discharge to dissipate. This conclusion drove the selection or rejection of a number of these alternatives, as described in each response found in **Attachment 1**.

### **N.3.1.8 Best Available Information/Baseline Data**

**Summary:** Comments related to the best available information and baseline data most commonly related to the following topics:

- the amount of salt that can be cost-effectively captured annually both as a baseline goal of the program and under each of the alternatives
- the actual amounts of salt removed under the current program in the past and the present
- the consistencies found in the geomechanical model

**Response:** Chapter 3 of the EIS discusses the environmental impacts of the alternatives, and Section 2.7 discusses costs, risks to costs, and funding. The impacts are adequately described in the Draft EIS.

Reclamation has funded US Geological Survey investigations to evaluate salt loading in the Paradox Valley. As discussed in the EIS, effects of each alternative on salinity levels in the Lower Colorado River were modeled using the salinity module of the Colorado River Support System (CRSS) RiverWare model. The model run included influences throughout the Colorado River Basin resulting from the ongoing Colorado River Salinity Control Program. A report detailing the model run is included in appendix H of the EIS. No complete models of salt control in the Paradox Valley exist with which to determine the salinity control effect of PVU operations; therefore, as described in the EIS, Reclamation continues to estimate salt control in the Paradox Valley based on its historical determination that the quantity of brine intercepted and disposed of by the PVU is equal to the quantity of brine that would eventually find its way to the river. Further research from US Geological Survey would guide design features or operational changes needed to optimize future pumping rates at the PVU.

Further, 100,000 tons of salt control per year is an objective of, and not a requirement of, the action alternatives, as described in Section 1.4, Goals and Objectives. It was included as an objective based on the desire to control salinity in the Paradox Valley at a level comparable with the historical efficiency of the existing PVU. The pumping rate of the existing PVU has lowered over recent years, resulting in a decrease of salt control from over 100,000 tons per year to 95,000 tons per year as of 2018. Section 2.1 of the EIS discloses these assumptions and data limitations in the EIS. The EIS, therefore, uses best available scientific information and estimates salinity control in the Paradox Valley based on the historical assumption that the quantity of brine intercepted and disposed of by the PVU is equal to the quantity of brine that would eventually enter the Dolores River.

A baseline assessment of the benefit of the past years of operation is not relevant to comparison of the effects of the alternatives on downstream salinity; therefore, it is not included in the EIS. The water quality analysis included in the EIS is based on best available scientific information and provides downstream salinity concentrations based on the CRSS model of the Colorado River Basin (See Section 3.6). The analysis sufficiently shows the relative difference between alternatives for purposes of comparing effects on downstream salinity.

Finally, Sections 2.4 and 3.3 of the Draft EIS discuss the results of geomechanical and flow modeling studies, as well as analyses of induced earthquakes. These studies and conclusions have been reviewed by an independent consultant review board. Based on the findings from the drilling feasibility study and the 30 percent design study, it is more cost effective to drill a well that functions initially as an exploratory well, and which is subsequently completed as an injection well if the exploratory results are positive. Acquisition of 3D seismic data would greatly improve the resolution of the geomechanical model, which was constrained by the regional-scale 2D seismic data currently available. It is anticipated that more refined geomechanical modeling would be performed if 3D seismic surveys were conducted.

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### **N.3.1.9 Irreversible and Unavoidable Impacts**

**Summary:** A single comment was received related to irreversible and unavoidable impacts:

“...[W]e note that the Draft EIS acknowledges that a decision here will have cumulative water quality impacts as far down river as Imperial Dam but doesn’t acknowledge that there are potentially cumulative impacts on other resources, including hydropower generation, depending on what strategy Reclamation develops for salinity control and how that affects Colorado River operations and hydropower rates. These effects ... its necessary successor agreement unfortunately complicate every decision affecting the Colorado River. Segmenting doesn’t work under these circumstances. However difficult, today’s decisionmaking must be more interactive and sophisticated. Salinity control for the Colorado River is a central aspect of the river’s health and our obligations to Mexico. Decisions about the Paradox Valley need to be preceded by a wider dialogue.”

**Response:** Reclamation responded accordingly. A cumulative impacts analysis on all resources analyzed in the EIS is included in Chapter 4. The surface water and water rights cumulative impacts analysis in Section 4.2, Table 4-2, discloses that implementation of any of the PVU alternatives would not contribute to a cumulative adverse impact on surface water and water rights. Therefore, none of the PVU alternatives would have an impact that would contribute to the cumulative impacts on hydropower generation, Colorado River operations, and hydropower rates resulting from other actions taking place in the Colorado River Basin. This explanation has been added to Table 4-2 of the Final EIS.

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### **N.3.1.10 Air Resources**

**Summary:** Comments related to air resources were generally concerned with emissions such as greenhouse gases and hydrogen sulfide that would affect air quality, particularly in the airshed at Arches National Park. Commenters requested selection of Alternative A to avoid these impacts.

**Response:** Hydrogen sulfide is naturally occurring in the brine and present in all alternatives. For Alternative A, the hydrogen sulfide would no longer be captured by the PVU and would be released

to the atmosphere (Section 3.1.2.2). Anticipated emissions of air pollutants from each of the alternatives can be found in Section 3.1, Air Quality, Odors, and Meteorology and Climate.

Effects on air quality at Arches National Park under each alternative are disclosed in Section 3.1.2, Impacts on Air Quality, Odors, Meteorology and Climate, as well as Appendix E, the Air Quality Technical Report. While each alternative would have slightly different requirements to address any potential emissions, as stated in Section 3.1.2, no alternatives would alter the Class I airshed at Arches National Park.

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### **N.3.1.11 Climate Change**

**Summary:** Comments related to climate change generally requested that Reclamation acknowledge and consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever-decreasing snowpack and runoff.

**Response:** In the EIS, Section 3.1.1.2, Meteorology and Climate, describes the many climatic factors that affect future water supply in the planning area, including temperature, precipitation, snowpack, runoff, and drought. This section also acknowledges the future variability of surface water supplies in the planning area as a result of climate change. Section 3.1.2, Impacts on Air Quality, Odors, Meteorology, and Climate describes impacts related to increased emissions and their effect on the climatic factors listed in Section 3.1.1.2. Further, Table 4-2 of Section 4.2, Cumulative Impacts Analysis, describes the effects of climate change and meteorology in the planning area, including the potential impacts of drought. It states the following: “long-term climate trends are projected to increase variability in surface water flows in the Colorado River Basin, including the cumulative effects analysis area.” This section then describes an augmentation plan and other conservation and mitigation methods to address water depletions.

Because the Paradox Valley hydrogeology is complex, recent scientific investigations have focused on brine discharge to the river and operations in and around the PVU. References to these studies have been added to Table 2-8 of the EIS, which describes the rationale behind the selection of the alternatives. These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in the subsurface. Further, even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine discharge to dissipate. This conclusion drove the selection or rejection of a number of these alternatives, as described in each response found in **Attachment 1**.

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### **N.3.1.12 Cultural and Heritage Resources**

**Summary:** Commenters requested greater consideration and disclosure of the potential impacts on the discovered and undiscovered cultural resources in the Paradox Valley region under the alternatives in the Draft EIS. Alternative B was identified as particularly damaging to undocumented cultural resources, and Alternative C was identified as impactful to the adjacent Paradox Rock Art Area of Critical Environmental Concern (ACEC).

**Response:** Section 3.19.1, Affected Environment of the Cultural Resources, catalogues all documented and previously documented sites in the planning area and notes the following regarding undocumented sites:

“In conformance with Executive Order 13007, potentially affected Indian tribes were notified of the proposed project and asked to identify any known sacred sites they would like Reclamation to consider in the planning process. The Ute Mountain Ute Tribe, the Southern Ute Indian Tribe, the Ute Indian Tribe of the Uintah and Ouray Reservation, the Hopi Tribe, Navajo Nation, and the Zuni Pueblo were all contacted, and no tribe identified any sacred sites. Lack of identification early in the planning process does not guarantee that such sites do not exist, as tribes can be reluctant to share this information. Reclamation will continue to conduct tribal consultation throughout the identification and evaluation phase after a preferred alternative is chosen. Consultation is an ongoing process. If sacred sites are identified by tribes, project effects on those sites will be considered and avoided, if possible.”

Section 3.19.2, Impacts on Cultural Resources, also discusses issues related to known and unknown or sharable and non-sharable sites. Class III cultural surveys will be conducted in consultation with the State Historic Preservation Office and will be completed after the ROD, pursuant to the Programmatic Agreement, Appendix M. Accordingly, impacts related to the discovery of archaeological sites have been considered and acknowledged in the EIS such that no further changes to the EIS are needed.

None of the alternatives in the EIS overlap designated Areas of Critical Environmental Concern (ACEC) identified in the BLM Uncompahgre Field Office Approved Resource Management Plan, including the Paradox Rock Art ACEC; therefore, it and any other ACECs were not included in the EIS analysis.

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### **N.3.1.13 Geology**

**Summary:** Generally, comments related to geology discussed the potential for salinity control under the alternatives to exacerbate seismic activity in the project area, particularly under an alternative that relies on injection wells (Alternative B). Other comments requested that the Final EIS recognize that the deep injection well and related infrastructure have the potential to operate at reduced volumes or injection rates, which would extend their serviceable life.

**Response:** As described in Section 3.3.1 of the EIS, seismic monitoring of the Paradox Valley area began in 1983 and has continued through to the present. An array of 20 remote seismic stations currently monitors the area in real time using highly sensitive instruments that detect earthquakes as small as magnitude -1.5. While earthquakes smaller than about M 2.5 are rarely felt by humans, the data from these monitoring stations provide a wealth of scientific information about how earth's crust is currently deforming and where future earthquakes are likely to occur. While it is not possible to accurately predict the frequency of induced seismic events, the rates at which the smaller magnitude quakes occur and are recorded at these monitoring stations can be used to extrapolate the rates at which larger, potentially damaging earthquakes may occur. Most of the 6,000+ induced

earthquakes recorded since the start of PVU fluid injection were too small to be felt by residents and no damage was reported; however, at least 75 of these earthquakes were above the M 2.5 threshold where earthquakes can be felt, and at least 5 of them had  $M \geq 3.5$  and were strongly felt (Block et al. 2014). Reclamation has a protocol to suspend injection after events of larger magnitudes to determine if changes to operations are warranted.

Extensive studies were conducted to evaluate the suitability and feasibility of the injection well alternatives. These included seismic reflection data reprocessing and interpretation, well log studies, aeromagnetic data collection and interpretation, geologic investigations, analysis of induced earthquakes, geomechanical and flow modeling studies, drilling feasibility analyses, and a 30 percent well and surface facility design study. Approximately 20 sites were evaluated in terms of the potential for induced seismicity and other criteria, from which the final two alternative sites were selected. The potential for induced seismicity is lower for the alternative sites than the current injection well because a larger underground reservoir is available. The underground reservoir used by the current injection well is limited in size because of impermeable faults. The sites considered for Alternatives B.1 and B.2 are farther away from populated areas, which reduces the effects of ground shaking and the potential for damage. These studies were reviewed by an independent consultant review board. References for this information are identified in Sections 2.4 and 3.3 of the Draft EIS.

Methods and techniques for analyzing geologic, geophysical, and well log data have substantially improved since the time the original studies were conducted for the existing injection well. Although those studies projected a longer lifetime and higher injection rates, they were based on incomplete data and proved to be unrealistic once the well was drilled and operations commenced. Detailed analyses of pressure and flow data obtained from operating the existing well have shown that the unexpectedly high pressures and the long-term pressure trend are the result of the far-field pressurizing a limited underground reservoir. These effects cannot be mitigated by reworking the existing well or changing operational parameters. Geologic factors are the primary constraint on the lifetime of the existing well. Although the well can be operated at reduced injection rates, the amount of salinity control is proportional to the injection rate. Reduced rates may not provide adequate salinity control. Even at reduced rates, pressurization of the underground reservoir would continue to increase, potentially leading to unacceptable seismicity. This would lead to further injection rate reductions and a further reduction in salinity control. In terms of a second-well alternative, drilling into a much larger underground reservoir, hydrologically isolated from the existing reservoir, provides the most feasible solution.

Regarding seismicity related to the use of the existing injection well, long-term operation of the existing PVU injection well is covered in the 1997 EA/FONSI. Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life.

### **N.3.1.14 Economic Resources**

**Summary:** Comments on economic resources generally related to disclosure of construction, operation, and maintenance costs for each proposed alternative, including the No Action Alternative. Commenters requested these costs be compared with the benefits of each alternative as well as other options not considered in the EIS. Commenters also requested closing and abandoning the current facility due to the rising cost.

Other comments stated that the Draft EIS fails to take a hard look at impacts on local economies under each of the alternatives.

**Response:** Costs for the alternatives are identified in Sections 2.7.1, and a discussion of the funding mechanism for the alternatives as well as a description of the Lower and Upper Basin Fund cost share percentages are included in Section 2.7.3. Costs were evaluated based on a 30 percent design study and are adequate for the purposes of this EIS.

Costs of each alternative were calculated using initial capital construction and closure costs amortized over 50 years and annual OM&R costs. The alternatives evaluated in this EIS have been developed to a conceptual (30%) level of design. The interest rate used for this analysis (2.875%) was approved at the initial congressional authorization of the PVU project. If the life of any element of an alternative is not expected to be at least 50 years, replacement costs were included in the cost estimate. The sum of the annual amortized costs plus the annual OM&R is then divided by the tons of salinity reduction, resulting in an annual cost per ton. **Table 2-3** of the EIS, “Costs of alternatives” summarizes costs and cost effectiveness of the action alternatives.

Regarding the cost-benefit analysis of other options outside the context of this EIS, the purpose of and need for this EIS are limited to salinity control at the Paradox Valley, Montrose County. None of the alternatives precludes Reclamation funding of other agriculturally based salinity control projects through the salinity control program. However, a cost-benefit analysis of devoting PVU funding to other salinity control projects would be speculative. This is because it is unknown if or how much future funding of salinity projects would be available, which potential salinity projects would be funded, when the projects would be completed, and how much salt would be controlled to develop a cost per ton.

To calculate annualized capital costs of the existing injection well would require its life to be known. Because Reclamation does not know the life of the existing well, these numbers cannot be calculated. The annual operation and maintenance (O&M) costs have fluctuated over the years with the varying brine injection rates, further complicating these calculations. Also, if Alternative A is identified as the preferred alternative, the life of the ancillary facilities would also be the life of the well. However, if an action alternative is identified as the preferred alternative, the life of the ancillary facilities would be amortized over 50 years. Therefore, annualized costs in a comparable format to the action alternatives cannot be provided due to the number of unknown variables.

Information has been added to Section 3.15.1.2 and Section 3.15.2 of the Final EIS to describe the economy in the project area and disclose impacts on the economy under each of the alternatives.

Finally, regarding the plugging and abandoning of the well due to rising costs, this option is considered and analyzed under Alternative A of the Draft EIS. Information on this alternative can be found in Section 2.3 of the EIS, and impacts related to this alternative are discussed in Chapter 3 of the EIS.

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### **N.3.1.15 Recreation**

**Summary:** Comments related to recreation generally related to the destructive impacts of the alternatives on recreational opportunities and recreational experience —particularly Alternative B-Area B1 within the Dolores River Canyon due to the construction of facility infrastructure in the area.

**Response:** The sections and appendices of the EIS on Recreation (Section 3.11), Noise (Section 3.16), Visual Resources (Section 3.12), and Areas of Special Designation (Section 3.13), describe potential impacts on recreational opportunity and/or recreational experience as a result of the alternatives (especially Alternative B-Area B1), specifically pertaining to the continuance of opportunities to boat, hike, etc., and alteration or adverse impacts to solitude and the natural setting from visual and/or noise impacts. Language has also been added to Section 3.15.1.2 and Section 3.15.2 of the Final EIS to note the role of recreation and tourism in the economy and disclose impacts on the economy.

New development under Alternative B-Area B1 would occur on lands administered by Reclamation and would be similar to current existing facilities. Section 3.11.2.2 adequately discloses that access to the Dolores River Canyon Trail, also known as Y9 Road, will not be affected. Further, language has been added or edited as appropriate in Section 3.12.1.1, to specifically acknowledge the multitude of recreational activities that take place in the area, specifically including rock climbing; Section 3.11.2.2 has been edited to include additional language disclosing impacts on recreational experiences based on solitude and natural setting. Finally, Reclamation has explained how the sites under Alternative B were selected. Site selection for the injection well was dependent on several criteria, including geology, the potential for induced seismicity, logistics, and environmental impacts. Additional constraints included non-disturbance of sage-grouse habitat and nesting areas, avoidance of wilderness study areas, and use of existing roads where possible.

Approximately 20 potential well sites were identified. After comparing the potential well sites with the site selection criteria previously discussed, sites identified in the EIS as Area B1 and Area B2 were determined to be the sites that would most likely result in a successful injection well for a 50-year project life. While other locations on Monogram Mesa also appeared to possess the required criteria, they were removed from further consideration due to their distance from existing infrastructure and proximity to Gunnison sage-grouse critical habitat and breeding grounds. As identified in the EIS, a 3D seismic survey would need to be completed before final selection of a

new wellhead site could be determined. References for this information are identified in Sections 2.4 and 3.3 of the EIS.

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### **N.3.1.16 Soil Resources**

**Summary:** Comments related to soil resources focused on potential impacts on sensitive soils as a result of new roads and infrastructure construction under the alternatives and the lack of analysis regarding the location of Alternative D to the Biological Soil Crust ACEC.

**Response:** As noted in Table 3-22 of Section 3.20, soil resources are not analyzed in this EIS because no highly sensitive soils, including erodible soils, are in the study areas. However, impacts on resources related to ground disturbance and erosion are described throughout the document (see Air Quality [Section 3.1], Water Quality [Section 3.6], Vegetation [Section 3.7], Special Status Plant Species [Section 3.8], Terrestrial and Aquatic Wildlife [Section 3.9], and Federally Listed Species [Section 3.10]). Table 2-5 describes impacts from erosion on various resources and includes measures to suppress dust, control erosion, and minimize sedimentation. Sections 3.7.2.2, 3.7.2.3, 3.7.2.4, and 3.7.2.5 also describe impacts on soil under each alternative in relation to vegetation. These sections sufficiently acknowledge and describe impacts on soil resources in the study area such that no change to the EIS is needed.

Regarding the Biological Soil Crust ACEC, the BLM Uncompahgre Field Office Proposed RMP Final EIS boundary of the Biological Soil Crust ACEC is 390 acres and has no direct overlap with any of the alternatives. Section 3.7.2.2 of the EIS has been edited to specifically include biological soil crusts when discussing direct impacts. Mention of biological soil crusts as not being analyzed has been removed from Table 3-22 of the Final EIS.

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### **N.3.1.17 Specially Designated Areas**

**Summary:** Comments related to specially designated areas primarily focused on how construction of infrastructure under Alternative B would permanently impair the outstanding pristine, scenic, and aesthetic values of the Dolores River Canyon, which has been identified as a wild and scenic river (WSR) candidate. Relatedly, commenters found that proposed construction under Alternative B would violate the non-impairment standard under the Federal Land Management and Policy Act of 1976 regarding the Dolores River Canyon Wilderness Study Area (WSA). In these comments, commenters often requested or suggested per the non-impairment standard that the facilities under Alternative B-Area B1 could be relocated to a site with less impacts on specially designated areas.

**Response:** Multiple sections and appendices of the EIS, namely those on Recreation (Section 3.11), Noise (Section 3.16), Visual Resources (Section 3.12 and Appendix K), and Areas of Special Designation (Section 3.13), describe potential impacts on the free-flowing condition and outstandingly remarkable values (ORVs) identified for the Dolores River. As disclosed in Section 3.13 of the Draft EIS, the segment of the Dolores River through Reclamation land was determined wild and scenic river (WSR) eligible with a tentative classification of recreational. Additional roads

and bridges associated with Alternative B-Area B1 are allowable under BLM policy. Section 3.6.B.3 of BLM Manual 6400 states, “bridge crossings and river access are allowed” for river segments with a recreational classification.

However, between the time of the release of the Draft EIS and prior to finalization of the EIS, a Record of Decision was signed for the BLM Uncompahgre Field Office (UFO) Resource Management Plan (RMP). Finalization of the UFO RMP resulted in changes to Wild and Scenic River (WSR) segments in the project area. The Final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the Draft EIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments were edited or deleted in the Final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.

As a result of public comments, language in Table 2-5, "Environmental Commitments," of the Final EIS has been edited to specifically state "and allow for continued boating opportunities." Table 2-5 now reads "Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing conditions and allow for continued boating opportunities." Further, a reference to the Tres Rios Field Office RMP and final UFO RMP that includes the WSR Suitability Report was added to Section 3.13.1.1.

BLM policy states, “if an impairing proposed project, even one that meets an exception, can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that the project is implemented outside the WSA.” Before selecting any alternative, Reclamation and the BLM must first take a hard look at the resource impacts of each, and determine which action provides the greatest balance of minimizing resource impacts while fulfilling the purpose and need.

Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness. After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state: The directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.

Because of geology and topography, the only feasible means of reaching the unpressurized part of the Leadville Formation from Reclamation's land is to use the subsurface of the WSA. The unpressurized part of the Leadville Formation is delineated by a major northwest-trending fault that vertically offsets the Leadville by more than 1,000 feet, creating an impermeable flow boundary. The fault is located in the subsurface, south of Reclamation's property line, and below the WSA. For a

drill-hole to reach the unpressurized part of the Leadville Formation, two feasible options have been identified: (1) directional drilling of an injection well in a southward and downward direction from the ground surface, within Reclamation's property line; and (2) shallow drilling of a pipeline southward (in a downward and later upward arc), from Reclamation's land to a point on top of Skein Mesa south of the WSA, where a vertical injection well would then be drilled to reach the Leadville Formation.

There are no other feasible alternatives. It is infeasible to run a brine pipeline to the top of Skein Mesa, other than the underground pipeline identified in the alternative. It is infeasible to reach the unpressurized part of the Leadville using a vertical or directional well by moving upstream on the Dolores River because Reclamation does not own that land. It is infeasible to inject into the already pressurized part of the Leadville because that would be essentially the same as injecting into the current reservoir. References for this information are identified in Sections 2.4 and 3.3 of the EIS.

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### **N.3.1.18 Water Resources – Hydrologic Modeling**

**Summary:** Comments related to water modeling focused on how the analysis would change under worst-case hydrologic modeling; commenters found that parameters used in the modeling were inaccurate, and that this inaccuracy negatively impacted the design around the evaporation ponds.

**Response:** The hydrologic modeling scenario is based on a range of plausible hydrologic scenarios that encompass a range of annual salinity concentrations. An average annual salinity concentration was computed from this range of annual salinity concentrations. The state-approved numeric criteria require that flow-weighted average annual salinity at the numeric criteria points be maintained at or below state-approved water quality standards. These water quality standards further provide for a temporary increase above these state-approved numeric criteria levels if sufficient control measures are included in the Salinity Control Forum's Plan of Implementation. The computed average annual concentration results described in appendix H of the EIS approximate this requirement. For all alternatives, the results found the flow-weighted average annual salinity was not exceeded at the three numeric criteria stations: 1) below Hoover Dam, 2) below Parker Dam, and 3) at Imperial Dam. The analysis further showed the average annual concentration was well below (90 milligrams per liter or more) the numeric criteria salinity concentration at each station. This analysis is detailed in Appendix H and summarized in Section 3.6.2.

The analysis included in the EIS provides downstream salinity concentrations based on the average annual concentration from a range of annual concentrations, again to simulate the requirements of the numeric criteria; it shows the relative difference between alternatives for purposes of comparison of effects on salinity and economic damages.

Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30 percent, or conceptual, level. If Alternative C is identified as the preferred alternative in the ROD, Reclamation would undertake the final design and operational strategy of the evaporation pond complex; other design features could be considered at that time.

### **N.3.1.19 Water Resources – Surface Water**

**Summary:** Comments related to surface water generally focused on the issue of drought in the Colorado River system, and the potential for the project to require increased flows from Lake Mead. Commenters requested that the EIS acknowledge its impact on surface water availability in the context of persistent drought and that Reclamation work with the Colorado River Basin States and affected stakeholders to implement appropriate mitigation measures if, after the ROD is issued, the identified preferred alternative would require additional water. Other comments requested that the EIS consider protection of surface water uses in the Colorado River to avoid impacts from increased salinity.

**Response:** Section 3.6.2.2 of the EIS discloses that the alternatives could affect water released from Lake Mead; however, it is uncertain if the potential changes in releases from Lake Mead may be realized through actual operations. Therefore, the Environmental Commitment in Table 2-5 has been edited so that it is consistent with the language in Section 3.6.2.2: “Should it be determined, after issuance of the ROD, that implementing the identified preferred alternative would require additional water to be released from Lake Mead to comply with IBWC Minute No. 242, Reclamation would consider implementing mitigation measures to address the potential loss of water storage in Lake Mead.”

Regarding protection of surface uses to avoid increased salinity, the EIS discloses the modeled salinity concentration at each of the three monitoring stations under each alternative in Section 3.6.2.2. Impacts on designated uses of surface water under the No Action Alternative (the alternative that represents an increase in salinity concentrations) are disclosed in Section 3.6.2.3.

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### **N.3.1.20 Water Resources – Water Quality**

**Summary:** Comments related to water quality focused on the potential impacts on water quality for downstream users under the alternatives; impacts on water temperature in the Dolores River, which is considered an impaired water regarding water temperature; and concerns regarding the analysis of water quality under Alternative D.

**Response:** Economic damages to downstream users under each of the alternatives has been acknowledged and described in Section 3.15.2 of the Draft EIS, "Impacts on Socioeconomics." As noted there, data was developed using the CRSS and IMPLAN models. This analysis is based on the best available information. Issues identified in relation to economics and employment include how the alternatives would change economic employment in the three-county region and total average economic benefit. Economic effects or impacts of the alternatives were calculated for construction, O&M, and replacement using the IMPLAN model (Reclamation 2019b). Issues identified in relation to property values and property taxes are changes in property tax and assessment values.

Regarding temperature control in the Dolores River, an augmentation plan would be obtained for any alternative that would require additional water from the Dolores River, as described in Section

3.4.2. Because the water would be augmentation water released from McPhee Reservoir for PVU project purposes, flows past this gage would remain representative of the flows cited in the affected environment. Therefore, additional depletions from the Dolores River would not increase the river's temperature. Alternative D would result in a produced freshwater stream, which is proposed to be discharged into the Dolores River. Section 3.4.2.4 states that the produced freshwater stream may require additional treatment to meet Colorado Department of Public Health and Environment (CDPHE) water quality standards prior to being discharged into the river. As described in Section 3.6.2.6, Reclamation would work with CDPHE to ensure the produced freshwater in Alternative D would be treated to meet composition and temperature requirements of the Clean Water Act prior to discharge to the Dolores River. A condensed water cooler is included in the conceptual design of Alternative D to meet this requirement, and this design feature has been added to the alternative description in Section 2.6.2. Reclamation does not expect that any alternative would increase the temperature of the Dolores River; therefore, mitigation to aquatic communities due to an increase in river temperature is not necessary. Clarification was also added to Section 3.9.2.5 of the EIS stating that return flows would be treated.

The CRSS model used in this analysis, which is based on the best available science, is not capable of modeling changes in salinity concentrations in various segments along the Colorado River; therefore, Reclamation is unable to identify the magnitude of impact or benefit to specific 303(d)-listed Colorado River segments. Downstream Colorado River segments that are on state 303(d) lists are not identified in the EIS due to brevity constraints; however, this information is publically available on state-managed water quality internet sites.

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### **N.3.1.21 Water Resources – Water Rights**

**Summary:** Comments related to water rights concerned users' ability to exercise their water rights down the line, as well as Reclamation's compliance with Colorado water law to obtain augmentation water required for the project. Additionally, if sufficient augmentation water is not available for PVU uses, curtailment of PVU wells may occur in order to satisfy senior water rights.

**Response:** Regarding compliance with Colorado water law to secure water use for the project, Sections 3.4.2.3 and 3.4.2.4 identify that Division of Water Resources and Colorado Water Court approval is needed for the amended augmentation plan. The following statement has been added to these sections for further clarification: "PVU operations could be curtailed if the augmentation plan is not sufficient to cover the consumptive use." Downstream Colorado River segments which are on state 303(d) lists for TDS or salinity are not identified in the EIS; however, this information is publically available on state-managed water quality internet sites.

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### **N.3.1.22 Special Status Species**

**Summary:** Comments related to special status species referred to two topics: the potential destruction of occupied or unoccupied Gunnison sage-grouse habitat, and concerns related to

Reclamation's deferral of any analysis of compliance with the Endangered Species Act until the selection of a preferred alternative.

**Response:** Reclamation addressed Gunnison sage-grouse habitat improvement projects on Monogram Mesa, as described in appendix I of the Draft EIS. Section 3.10.2 and Appendix I of the EIS further describes impacts on sage-grouse under the alternatives and includes measures and management practices to mitigate any potential impacts. The BLM and Fish and Wildlife Service (FWS) also are cooperating agencies involved in the EIS review process to protect species to the greatest extent practicable and to ensure recovery goals are incorporated.

Reclamation has noted any potential impacts on threatened and endangered species in Section 3.10.2 of the EIS. Preliminary assessments of the effects of each alternative on Federally listed species were made on the Draft EIS with technical assistance from FWS staff, and a final effects determination will be made through consultation with the FWS, as appropriate, for the Final EIS. Section 3.10.2 of the Final EIS has been edited to remove the following sentence, "Final effects determinations would be made through consultation with the FWS after a preferred alternative is identified and prior to issuance of the ROD," and replaced with the following, "As described below, Alternative B is the only alternative that would require consultation with FWS."

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### **N.3.1.23 Fish and Wildlife**

**Summary:** Comments related to fish and wildlife focused on the following: inadequately documenting the importance of bighorn sheep; the potential destruction and disturbance to big game winter range; concerns about the effectiveness of wildlife mitigation measures (especially for Alternative C); and the inadequate analysis of the importance of ephemeral streams and impacts of depletions on the native fishes in the Dolores River.

**Response:** The potential impacts on wildlife are adequately described in the Draft EIS in Sections 3.9, 3.10, 3.11, and 3.15. Table 3-11 in the Final EIS has been edited to acknowledge the economic value and high public interest of bighorn sheep. Impacts on wildlife, including elk and deer winter range, are also evaluated in the Biological Evaluation Report at EIS appendix I.

Further, an adaptive management plan is described in the Predictive Ecological Risk Assessment (PERA), Appendix J in the EIS, which was developed due to the uncertainty regarding effects on wildlife, including migratory birds. The PERA recommended and Alternative C incorporated several measures, including effectiveness monitoring of mitigation measures and allowing for adaptive management.

Section 2.5.2.1 notes that under Alternative C, the bittern ponds would be netted according to FWS specifications to restrict access by birds and small mammals, and that netting would be replaced at the end of the material's useful life. Section 2.5.3.4 describes the ongoing monitoring and assessment of wildlife interface with the evaporation ponds under Alternative C; it provides for completion of monitoring reports to note bird species, numbers, and frequency of use, and wildlife observations made during routine patrols, including mammals, reptiles, and amphibians seen in proximity to or

found dead in or near the ponds. Section 2.9, Table 2-5, Environmental Commitments, contains several commitments regarding design and mitigation measures to reduce wildlife mortality, injury, and exposure. One of the environmental commitments states that Reclamation would coordinate with the FWS on an adaptive management approach, as outlined in the PERA, to determine alternative methods to minimize impacts on wildlife. Based on the PERA, Reclamation believes ongoing monitoring and coordination with the FWS is the most effective means of determining the need for any additional mitigation.

Reclamation also addressed native fishes and habitat under the EIS, as Section 3.4 includes information regarding flows and consumptive use. The potentially affected ephemeral streams, specifically East Paradox Creek, lack adequate connectivity to the Dolores River or any perennial or intermittent water sources. Therefore, the importance of ephemeral streams in the early life histories of native fish was not identified as a resource concern and was not analyzed in the EIS. Appendix G summarizes the preliminary field efforts completed to identify aquatic resources and categorize the types of aquatic resources present within each alternative study area. Additionally, as described in appendix I, the section of the Dolores River in the Paradox Valley is affected by high salinity concentrations, which are identified as a constituent of concern affecting the vitality of native fish in this segment, irrespective of current salinity control efforts.

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### **N.3.1.24 Visual Resources**

**Summary:** Comments related to visual resources concerned impacts on the visual quality of the area due to construction of any of the facilities proposed under the alternatives and to the EIS's characterization of impacts on scenic ORVs. Commenters found that the conclusion in the EIS that "Impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river" was inaccurate, given the potential impact of new bridge construction under Alternative B.

**Response:** Section 3.12.2 discusses the anticipated changes to the visual landscape among the proposed alternatives, and Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative. Impacts are described in terms of the degree of contrast between the existing condition and future conditions from identified key observations points. Section 3.12.2.2 of the EIS acknowledges impacts on ORVs found along the Dolores River and states that under Alternative B-Area B1, "bridges and facilities would be visible from Reclamation land to rafters and hikers." Changes to the characteristic landscape would only be on Reclamation lands, and additional facilities would be similar to those currently existing. Thus, this section identifies potential impacts to the scenic quality of Dolores River as a result of Alternative B-Area B1 and further notes that with the implementation of mitigation measures after construction (see Section 2.9), the degree of contrast would be minimized or eliminated, and the level of change to the characteristic landscape would eventually be low, and the degree of contrast created by the pipeline scar would be weak. Visual resources are further analyzed in Appendix K, Visual Resources Analysis Report.

### **N.3.1.25 Traffic and Transportation**

**Summary:** A single comment was received related to traffic and transportation, as follows:

“Option C also impacts road BBI6. This road is the only access to a large portion of BLM land. It is the road we use to haul water to 2 tank locations for 30 days of our grazing period. We also use the road to put out salt and supplement for cattle that is also utilized by wildlife. If the road is destroyed, another one would need to be built for access for the permittees as well as recreationalists and the general public.”

**Response:** County Road BB16 would be within the project site for Alternative C, so it would be reconstructed and rerouted around the perimeter of the site to maintain existing access to the areas identified. This is noted in Section 2.5.2.1 and Section 3.18.2.3.

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### **N.3.1.26 Hazardous Materials**

**Summary:** Two comments were received related to traffic and transportation. One inquired about the potential radioactivity of brine constituents, and the other inquired about certification fees, as follows:

The Hazardous Materials and Waste Management Division covers its costs for reviewing permit applications through assessment of document review fees. The Hazardous Materials and Waste Management Division has concerns that the fees for this certification will not be covered. The full cost of permitting needs to be recognized, including paying any county certificate of designation application fee and state review fees necessary to get the landfill permitted. The review of a certificate of designation application can consume significant resources that could total in the tens of thousands of dollars. This issue should be worked out between the two agencies in advance, perhaps in the form of an interagency agreement.

**Response:** Regarding the radioactivity of brine constituents, radionuclides were tested for their presence in the solid salt produced from both the evaporation pond studies and the Zero Liquid Discharge Technologies pilot test. These tests evaluated thorium, uranium, and radium. Specific results of the testing can be found in Section 12.1.2, Appendix G, and Appendix E of the EIS. The results of the tests showed these constituents were at or below minimum detection limits. It was further verified with CDPHE Radioactive Materials Unit that the salt would be considered nonhazardous and could be disposed of in a permitted landfill. A report prepared by SaltWorks in 2019, “SaltMaker Evaporator Crystallizer Pilot Report,” also contains the full Toxicity Characteristic Leaching Procedure test results of the salt; no concerning results were identified. These results were summarized in Section 3.14.2.4 of the EIS. As only trace amounts of radionuclides are present in the salt, there is no need to evaluate and address handling of these materials. Therefore, the salt would be handled and disposed of in accordance with CDPHE solid waste regulations as identified in Section 3.14 of the EIS.

Regarding certification fees, Reclamation would be subject to paying state fees only if expressly authorized by Congress. Reclamation has added this to Table 2-4 in Section 2.8 of the EIS. CDPHE did not provide any authority for Reclamation to pay state fees.

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### **N.3.1.27 Public Health and Safety**

**Summary:** Comments related to public health and safety generally considered two topics: impacts on boater safety in the river caused by the construction of new bridges, and risks created by noxious chemicals and hydrogen sulfide gas.

**Response:** There are other bridges across the Dolores River in the reach from Slick Rock to Bedrock: on Colorado Highway 141 at Slick Rock, on S8 Road below Slick Rock, on Gypsum Valley Road at the Montrose and San Miguel County line, and on Colorado Highway 90 at Bedrock. The two new bridges would span the active river channel (i.e., bridge piers would not be constructed in the active river channel) and would allow for continued boating opportunities; therefore, there would be no additional public hazards created beyond inherent hazards that presently exist for boating along the Dolores River. Language in Table 2-5 has been edited, so the table will now read “Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing conditions and allow for continued boating opportunities.”

Hydrogen sulfide is a naturally occurring component of the brine, and therefore is a factor under all alternatives. Chapter 2 of the EIS discloses how each alternative would manage hydrogen sulfide. Section 3.1 discloses anticipated emissions of hydrogen sulfide from each alternative.

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### **N.3.1.28 Socioeconomic Resources**

**Summary:** Comments related to socioeconomic resources generally considered the following topics: the EIS failed to adequately analyze impacts on scenic and aesthetic qualities of the community and area from building industrial infrastructure under any of the alternatives, and impacts on local ranchers as a result of construction under any of the alternatives.

**Response:** The EIS discloses potential impacts on scenic and aesthetic qualities in the project area as a result of each of the action alternatives in multiple locations in the document. These potential impacts are disclosed in Section 3.11, Section 3.12, Section 3.13, and Section 3.17. Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative. As stated in Section 3.15.2, effects on socioeconomics, such as impacts on property values and property taxes, would not change under any alternative. This is because property values are already at the low base property value. Information has also been added to Section 3.15.1 of the EIS to describe the recreation economy in the project area. Analysis in Section 3.15.2 of the EIS has also been updated to explain that the recreation economy may be adversely affected by impacts on the recreation experience, as described in Sections 3.11.2 and 3.13.2.

Regarding impacts on local ranchers, Section 3.11.1 in the EIS identifies the number of affected animal unit months (AUMs) within each alternative and acknowledges that a supplemental analysis would be conducted after an alternative is identified as the preferred alternative to further analyze the effects of a loss of AUMs. Section 3.11.2.3 of the DEIS, now Section 3.11.2.4, states that the impacts are analyzed for a larger area than the actual permanent disturbance. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed.

The Final EIS has been revised in multiple locations to acknowledge financial impacts to grazing permittees. First, Table 2-7 in Section 2.11 has been updated to disclose the additional annual costs to permittees resulting from the loss of AUMs under Alternative B - Area B2 and C, as such impacts could be more controversial than under the other alternatives. Table 2-5, Environmental Commitments, has been revised to discuss in greater detail the mitigations for the lost stock pond and newly identified impacts to a trailing corridor under Alternative C. Table 2-6, Summary of impacts by alternative, has been revised to include the additional annual costs to permittees that would result from lost AUMs under each of the alternatives. Section 3.11.1, Affected Environment, now discusses in greater detail the allotments at issue under Alternative C. A new section, Section 3.11.2.2, describing impacts on grazing that are common to all action alternatives has been added to Section 3.11.2, Impacts on Land Acquisition and Land Use. This section specifies potential economic impacts to permittees under each of the action alternatives, including lost AUMs and resulting additional annual costs. Finally, in what is now Section 3.11.2.4, , the analysis has been updated to discuss in greater detail the potential impacts to current grazing management as a result of this alternative.

## **N.4 References**

- Amec. 2017a. Final Pond Operation Strategy Report – Pond Optimization Study 2. Amec Foster Wheeler Environment & Infrastructure, Inc., San Diego, California. January 2017.
- Amec. 2017b. Final Pond Design Strategy Report – Pond Optimization Study 2. San Diego, California. February 2017.
- Amec. 2017c. Paradox Valley Unit Salinity Control Investigations, Study 1 - Hydrogen Sulfide Management, 50% Design Report - Final. Amec Foster Wheeler Environment & Infrastructure, Inc., Cambridge, Ontario, Canada, March 2017.
- Amec. 2017d. Final Feasibility and Cost Analysis Findings and Recommendation Report, Paradox Valley Unit Byproducts Disposal Study. Amec Foster Wheeler Environment & Infrastructure, Inc., San Diego, California. January 2017.

- Colorado River Basin Salinity Control Forum. 2017. 2017 Review. Water Quality Standards for Salinity, Colorado River System. Colorado River Basin Salinity Control Forum. October 2017. Internet website: <http://www.coloradoriversalinity.org/docs/2017%20Review%20-%20FINAL.pdf>.
- NEI. 2018. "Roadmap for the Deployment of Micro-Reactors for U.S. Department of Defense Domestic Installations." Internet website: <https://www.nei.org/CorporateSite/media/filefolder/resources/reports-and-briefs/Road-map-micro-reactors-department-defense-201810.pdf>.
- Petrotek. 2018. Paradox Valley Unit 2nd Well Design. Petrotek Corporation. Littleton, Colorado. December 11, 2018.
- Reclamation. 1997. FONSI and Final Supplementaf Definite Plan Report/Environmental Assessment, Paradox Valley Unit, Colorado River Basin Salinity Control Project, Colorado. Bureau of Reclamation, Western Colorado Area Office, Durango, Colorado. May 1997.
- Reclamation. 2001. River Mile Index for the Lower Colorado River. Bureau of Reclamation, Boulder Canyon Operations Office, Lower Colorado Region. August 2001.
- Reclamation. 2016. Paradox Valley Unit Brine Crystallization Technology Assessment. Bureau of Reclamation, Western Colorado Area Office, Upper Colorado Region, Grand Junction, Colorado. September 2016. <https://www.usbr.gov/uc/progact/paradox/docs/related/ParadoxValleyUnitBrineCrystallizationTechnologyAssessment.pdf>
- Reclamation. 2019. Final Paradox Valley Unit Environmental Impact Statement Modeling. Bureau of Reclamation, Boulder, Colorado. January 2019.
- SaltWorks. 2019. SaltMaker Evaporator Crystallizer Pilot Report. SaltWorks Technologies Inc. 25 February 12, 2019.
- USGS. 2017. Estimation of Salt Loads for the Dolores River in the Paradox Valley, Colorado, 1980-2015. Scientific Investigations Report 2017-5059. U.S. Geological Survey. 2017.
- USGS. 2019. Controls on spatial and temporal variations of brine discharge to the Dolores River in the Paradox Valley, Colorado, 2016–18: U.S. Geological Survey Scientific Investigations Report 2019–5058, 25 p., <https://doi.org/10.3133/sir20195058>.

## **Attachment 1: Comment Matrix**

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# Attachment 1 – Comment Matrix

Letter #	Last Name	First Name	Title	Office/ Organization Name	Comment #	Comment	RESPONSE
1	King	Kevin	Chief Executive Officer	Evaporation Works!	1.01	I would like to discuss the option for evaporation ponds not mentioned in the proposed draft alternatives. Enhanced Evaporation or Mechanical Evaporation techniques were not mentioned in this draft. The potential to create a smaller footprint could be achieved along with a much lower energy cost by utilizing patented technology our company offers. Please look over the attached renderings along with a spreadsheet of costing based upon the 300 GPM requirement being considered.	Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. Based upon the information provided, it appears the proposed mechanical evaporators could potentially be viable as a design improvement to Alternative C. However, based on information the commenter provided, this technology was designed for concentrations up to 250,000 mg/L TDS and the Paradox brine is 260,000 mg/L TDS. The commenter also noted "the rotary atomization unit handled 300,000 TDS with no clogging issues, however, maintenance intervals did increase at this TDS level." Therefore, pilot testing would be required to verify the viability and applicability of the technology to the Paradox brine and to provide data to confirm anticipated costs and benefits. Pilot testing would occur after the Record of Decision (ROD) if Alternative C is identified as the preferred alternative. Selection of

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							<p>technologies to be pilot tested would be subject to a competitive contracting process at that time. The constraints for inclusion would include that the technology is commercially available and not in research or development stages. Reclamation would continue to evaluate technologies to further minimize impacts during the design process. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed.</p> <p>In Section 2.5.2.1 of the Final EIS, "Evaporation Pond System," a sentence has been added to the end of the first paragraph that says, "Reclamation would continue to evaluate methods to further minimize impacts during the design process. In addition, enhanced evaporation technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."</p>
2	Shine	Scott				No substantive comments	
3	Goffin	Gene			3.01	That you are even considering using injection wells is hard to	Seismic monitoring of the Paradox Valley area began in 1983, and has

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						<p>understand given the March 4 earthquake and the potential for much more serious earthquakes in the future. Since you did not even know of a quake that must have been felt in Grand junction at your office, it appears that a lot of more investigation is necessary. I understand injection wells may be cheaper in the short run than other methods of reducing river salts, earthquakes could result in major claims against the government and any participating entities, thus the long range effects may be far more serious in terms of property damages, injuries and monetary claims. Therefore, I am strongly against any option that includes one or more injection wells.</p>	<p>continued through to the present. An array of 20 remote seismic stations currently monitors the area in real time using highly sensitive instruments that detect earthquakes as small as magnitude -1.5. While earthquakes smaller than about M 2.5 are rarely felt by humans, the data from these monitoring stations provide a wealth of scientific information about how earth's crust is currently deforming and where future earthquakes are likely to occur. While it is not possible to accurately predict the frequency of induced seismic events, the rates at which the smaller magnitude quakes occur and are recorded at these monitoring stations can be used to extrapolate the rates at which larger, potentially damaging earthquakes may occur. Most of the 6,000+ induced earthquakes recorded since the start of PVU fluid injection were too small to be felt by residents and no damage was reported; however, at least 75 of these earthquakes were above the M 2.5 threshold where earthquakes can be felt, and at least 5 of them had M ≥3.5 and were strongly felt (Block et al. 2014). Reclamation has a protocol to suspend injection after events of larger</p>

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							<p>magnitudes to determine if changes to operations are warranted.</p> <p>The potential for induced seismicity was considered for Alternative B.1 and B.2. Approximately 20 sites were evaluated in terms of the potential for induced seismicity and other criteria, from which the final two alternative sites were selected. The potential for induced seismicity is lower for the alternative sites than the current injection well because a larger underground reservoir is available. The underground reservoir used by the current injection well is limited in size because of impermeable faults. The sites considered for alternatives B.1 and B.2 are further away from populated areas, which reduces the effects of ground shaking and the potential for damage. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.</p>
4	Karo	Alf			4.01	I believe if a aqueduct was made for the Dolores River across the Paradox Valley the river water would not be contaminated by the salinity of the groundwater. And would cost multi millions of dollars less	This proposal is identified in Table 2-7 of the DEIS, "Summary of other alternatives considered and reason for elimination." Table 2-7 states "Runoff from the La Sal Mountains would still occur, and brine would continue to be produced. Lining the Dolores River may

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						then the proposed ideas I have seen.	temporarily isolate the river from the brine groundwater; however, it is expected that the brine would eventually accumulate and either flow over or around the liner and into the Dolores River or create salt flats along the river edges in the valley."
5	Larson	Todd		Larson Building Solutions		No substantive comments	NA
6	Barnett	Don	Executive Director	Colorado River Basin Salinity Control Forum	6.01	Closure of Existing PVU Injection Well: In a number of places in the DEIS it speaks of plugging and abandoning the existing PVU injection well. Is this a foregone conclusion? Is there a time frame on such anticipated closure? Given the way the DEIS is presently Written, can Reclamation continue to operate the existing PVU injection well for some period of time, either independently or in combination with a new alternative, after the issuance of the ROD (for example, could the existing injection well be operated at 50% or 75% of the previous injection rate in conjunction with the phasing-in of one of the other alternatives	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the EIS, "Background and Project History," to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it

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						such as the zero liquid discharge alternative) or will the language in the DEIS need to be altered to allow such continued operations? Does the existing (historic) EIS allow for continuance of injection operations by the existing injection well until it is deemed to need to be plugged and abandoned independent of the new EIS (i.e. does the new EIS cancel or negate the old one)?	reaches the end of its useful life. Language has also been added to Section 2.3 of the EIS, "Alternative A," clarifying Alternative A-No Action Alternative.
6	Barnett	Don	Executive Director	Colorado River Basin Salinity Control Forum	6.02	Phasing or Scaling of Alternatives: As written, the DEIS shows a 200 gpm (or 114,000 tons per year) rate of brine disposal under the second injection well alternative and 50% more or 300 gpm (or 171,000 tons per year) rate of brine disposal under the evaporation pond and zero liquid discharge alternatives. It is our understanding that at the commencement of the EIS process a disposal rate of 300 gpm was selected as a common disposal rate for comparison of all alternatives but it was subsequently determined that a	As discussed in the introductory paragraphs to Chapter 3 and in Section 2.2, "Summary of Action Alternative Project Components," the study areas are larger than the impacts anticipated for each action alternative. The alternatives were analyzed in this manner to allow Reclamation the necessary flexibility to appropriately design and locate facilities and to avoid and minimize impacts of the identified preferred alternative. Therefore, the ROD could identify a scaled down or phased version of an alternative. Additional NEPA analysis would be completed after the ROD if, during final design, it is determined that any impacts not foreseen or analyzed in this

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						<p>second injection well could probable not continuously inject brine at a rate greater than 200 gpm. Since initiation of the EIS process, the USGS has studied the historic record relative to brine discharge and such is reported on page 2-2 of the DEIS. Though we don't understand many of the factors which influence annual changes in brine discharge, it appears from the information found in Table 2-1 that there is not generally 171,000 tons of annual salt discharge to the Dolores River. Therefore, as Reclamation moves towards design and implementation of a preferred alternative, could a scaled down alternative be developed under the DEIS as written, or in the alternative, could the selected alternative be phased in over time (if appropriate - obviously a second injection well could not be phased in), or would additional analysis or language be required in the DEIS to allow for such phasing or scaling of</p>	<p>EIS are disclosed. Any additional NEPA analysis would be tiered to this EIS.</p> <p>Scaled down versions of the costs were estimated with the following disclaimers and assumptions:</p> <p>1)The information is from a cursory exercise based upon conceptual design and best professional knowledge and judgement. The purpose of this information is to provide a general idea of costs with reduced treatment capacities. This information is for planning purposes only and is not to be used for budgeting or requesting funds from Congress.</p> <p>2) The flow rates for Alternative D would be 205.34 gpm (2 installations at 102.67 gpm, 58,250 tons/year to show staging potential) and are based upon the capacity of the SaltWorks Technologies Inc. crystallizers (6 units).</p> <p>3) The first installation of Alternative D includes the natural gas pipeline, brine pipeline, service water supply pipeline, freshwater return pipeline, H2S treatment facility, and other ancillary facilities required for the 206 gpm system as it is not possible/practical to stage this infrastructure.</p> <p>4) In keeping with the cost estimates</p>

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						the project? If allowable, can Reclamation provide any type of quantitative or qualitative input on the cost impacts of scaled down alternatives?	<p>developed for the EIS Alternatives, the costs shown are 2017 dollars at a 2.875% interest rate, as it is unknown what the cost or interest rates would be at the time of implementation.</p> <p>5) The information is presented in the following order: Alternative; Salt Reduction (tons/year); Total capital construction cost (million dollars); Annualized Construction cost (million dollars); Annual OM&amp;R cost (million dollars); Total annual cost (million dollars); and Annual cost per ton of salt removed.</p> <p>Alternative C: 114,000 tons/year; \$94 million; \$3.6 million; \$4.4 million; \$8 million; \$70/ton</p> <p>Alternative D (first installation); 58,250 tons/year; \$56 million; \$2.1 million; \$4.2 million; \$6.3 million; \$108/ton.</p> <p>Alternative D (second installation); 58,250 tons/year; \$32 million; \$1.2 million; \$4 million ; \$5.2 million; \$89/ton.</p>
6	Barnett	Don	Executive Director	Colorado River Basin Salinity Control Forum	6.03	On a related matter, has there been any thought or study on how many tons of salt can be cost-effectively captured annually? The average "Estimated Amount of Salt	Reclamation has funded US Geological Survey (USGS) investigations to evaluate salt loading in the Paradox Valley. However, no complete models of salt control in the Paradox Valley exist with which to determine the salinity control

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						Potentially Available for Control in the Paradox Valley" has varied from a high of 161,628 to a low of 117,450 tons per year since full-time injection operations. How much of that could efficiently be captured before fresh water begins to be captured or the capture wells otherwise begin to operate inefficiently (i.e. the tds of the captured brine decreases or alternatively the wells capture brine which otherwise would not have discharged to the Dolores River)?	effect of PVU operations; therefore, based on best available scientific information, as described in Section 2.1.1, "Effect on Dolores River Salinity Levels," Reclamation continues to estimate salt control in the Paradox Valley based on its historical determination that the quantity of brine intercepted and disposed of by the PVU is equal to the quantity of brine that would eventually find its way to the river. Further research from USGS would guide design features or operational changes needed to optimize future pumping rates at the PVU.
6	Barnett	Don	Executive Director	Colorado River Basin Salinity Control Forum	6.04	If we understand correctly, the DEIS places the service life on the injection well in the second well alternative at 50 years. It is our understanding that this is due to the assumed much greater aerial extent of the second well injection reservoir. Yet the previously unknown fault that has created recent concern with the present injection well is near the present injection well (only 1.6 km away) where pressures will be much closer to the injection pressure	The Leadville formation provides the underground reservoir used by the current injection well. Based on seismic reflection data and well-log data, the Leadville formation is vertically-offset by a series of ancient faults, which separates the formation into a series of fault blocks. The fault block, and hence the underground reservoir, accessed by the current injection well is limited in size by these faults. The limited size of the reservoir results in higher pore pressures (for any specified injection rate) than would occur in an unbounded reservoir. The higher pressures in turn

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						<p>without as much chance to dissipate regardless of the aerial extent of the aquifer. Has there been any modeling or estimating by Reclamation on how far distant secondary faults in the second well alternative proposed injection reservoir would need to be from the new injection well before pressures would be acceptable and not create the present seismic concerns? Relatedly, it is our general understanding that the injection of brines only changes the frequency or probability of seismic activity but does not change the magnitude of an earthquake. Would the maximum probable earthquake magnitude be just as great under the second well alternative as the existing well?</p>	<p>result in a greater potential for induced earthquakes. A major fault about 1 mile southwest of the current injection well provides an impermeable barrier to flow. In addition, a series of other faults partially bounds the current reservoir on the northeast side. The current fault block can be described as a leaky reservoir, with constrained flows in the northeast direction, and no flows in the southwest direction. Geomechanical modeling of the existing well and the alternative sites indicates that pore pressures are substantially higher in the fault block accessed by the existing well. That is because the Leadville formation on the opposite side of the fault is relatively unfaulted, and provides a much larger underground reservoir, resulting in lower pressures after 25 and 50 years. Alternatives B.1 and B.2 take advantage of this large, unfaulted reservoir to provide sites where pore pressures and the potential for induced seismicity are substantially lower than the current injection well. Alternative B.1 is closer to the fault than is alternative B.2, and therefore pressures would be somewhat higher at B.1 than would occur at B.2. However, because the Leadville formation is relatively</p>

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							<p>unfaulted to the southwest, the expected pressures would be substantially lower than the current injection well. Empirical studies indicate that the maximum magnitude earthquake is related to many factors, including the total volume of brine injected, the presence of favorably-oriented pre-existing faults, and the distribution of increased pore pressures. Insufficient data are available to identify faults that may become reactivated due to injection, prior to actually observing induced earthquakes. These faults generally do not have sufficient offset to be visible from the seismic reflection data. Note that the large impermeable faults seen in the seismic reflection data are not favorably oriented with respect to existing regional stress directions, so induced earthquakes are not expected on these faults. References for this information are identified in Sections 2.4 and 3.3, "Alternative B," of the DEIS.</p>
6	Barnett	Don	Executive Director	Colorado River Basin Salinity Control Forum	6.05	<p>Worst Case Hydrology: The DEIS identifies that the present benefit of the project is a reduction in downstream salinity of 9.2 mg/L and about \$23M in annual damages. We presume that this is based on</p>	<p>The achievement of the numeric criterion is not based on an average hydrologic scenario but is rather based on a range of plausible hydrologic scenarios that encompass a range of annual salinity concentrations. An average annual salinity concentration</p>

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						<p>average hydrology in the Colorado River System. What is the range in impacts and how do such impacts change under worst case hydrology?</p>	<p>was computed from this range of annual salinity concentrations. The numeric criterion require that flow weighted average annual salinity at the numeric criteria points be maintained at or below the 1972 salinity concentration levels. The federal regulation further provides for temporary increase above these numeric criteria levels if sufficient control measures are included in the Salinity Control Forum's Plan of Implementation. The computed average annual concentration results described in Appendix H to the DEIS, "Hydrologic Modeling Report and Memoranda" approximates this requirement. For all alternatives, the results found the flow weighted average annual salinity was not exceeded at the three numeric criteria stations: 1) below Hoover Dam, 2) below Parker Dam, and 3) at Imperial Dam. The analysis further showed the average annual concentration was well below (90 mg/L or more) the numeric criteria salinity concentration at each station (See Appendix H, Table 3).</p> <p>The analysis included in the EIS provides downstream salinity concentrations based on the average annual concentration from a range of annual</p>

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							<p>concentrations, again to simulate the requirements of the numeric criteria, and shows the relative difference between alternatives for purposes of comparison of effects on salinity and economic damages (Section 3.6.2). The EIS adequately describes downstream water quality impacts to their reasonably foreseeable extent; therefore, no change is needed to the EIS.</p>
6	Barnett	Don	Executive Director	Colorado River Basin Salinity Control Forum	6.06	<p>Existing Injection Costs: For comparison purposes, can Reclamation provide to us the costs of the existing project, both annualized capital costs and OM&amp;R of the existing project in a comparable format to the costs for the alternatives as arrayed in Figure 2-3?</p>	<p>The annualized capital costs are based upon the life of the existing injection well. Because we do not know the life of the existing well, these numbers cannot be calculated. The annual O&amp;M costs have fluctuated over the years with the varying brine injection rates, further complicating these calculations. Also, if Alternative A is identified as the preferred alternative, then the life of the ancillary facilities would also be the life of the well. However, if an action alternative is identified as the preferred alternative, then the life of the ancillary facilities would be amortized over 50 years. The information requested cannot be provided due to the number of unknown variables.</p>

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6	Barnett	Don	Executive Director	Colorado River Basin Salinity Control Forum	6.07	Alteration of Alternatives or Supplemental EIS: Hopefully we don't find ourselves in this scenario, but the Forum would like to understand better the process moving forward if things are not found to be as we currently believe. It is our understanding that the information in the DEIS represents a 30% design level. Once a preferred alternative is selected and Reclamation begins final investigation and design, what happens if an important issue or flaw is found with the selected preferred alternative (i.e. if the second well alternative were selected and then the 3-D seismic information found issues with this alternative which rendered it infeasible or dramatically altered the costs), what is the process for Reclamation to re-evaluate the other alternatives and commence design work on it? Would a new or supplemental EIS be required?	<p>In the event that new information not previously analyzed is discovered pertaining to the identified preferred alternative after the record of decision during further investigation and design, Reclamation may perform additional NEPA analysis as described in the introductory paragraphs of Chapter 2 of the DEIS. Reclamation may also issue a new record of decision selecting another alternative analyzed in the EIS.</p> <p>The introduction of Chapter 3 also lists other scenarios in which additional NEPA analysis could occur, from closure activities, to unforeseen impacts related to the implementation of a preferred alternative after the ROD is signed. This introduction also discusses additional NEPA related to 3-D seismic surveys under Alternative B. Therefore, the EIS sufficiently considers and discloses the potential need for additional NEPA under this project.</p>
7	Cooney-Schildt	Kathleen, Charles			7	No substantive comments	NA

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8	Alber	Chad			8.01	<p>Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable. The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them crisscrossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.</p>	<p>Section 3.13.2.2 in the DEIS, "Areas of Special Designation, Alternative B," describes potential impacts on suitable wild and scenic river segments of the Dolores River as a result of Alternative B-Area B1 and further notes that such impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river. Section 3.16.2.2 in the EIS, "Noise, Alternative B," describes that further impacts related to noise during construction would occur primarily in the short term; long-term noise associated with O&amp;M activities would be in compliance with both Colorado and Montrose County noise standards and would attenuate to background noise levels ~0.12 mile from the project site. Between the time of the release of the Draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final</p>

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							WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.
8	Alber	Chad			8.02	The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.	Section 3.13.2.2 in the DEIS, "Areas of Special Designation, Alternative B," describes potential impacts on eligible wild and scenic river segments of the Dolores River as a result of Alternative B-Area B1 and further notes that such impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river. Section 3.16.2.2 in the DEIS, "Noise, Alternative B," describes that further impacts related to noise during construction would occur primarily in the short term; long-term noise associated with O&M activities would be in compliance with

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							<p>both Colorado and Montrose County noise standards and would attenuate to background noise levels ~0.12 mile from the project site. Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.</p>
8	Alber	Chad			8.03	I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to	The Leadville formation provides the underground reservoir used by the current injection well. Based on seismic

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						<p>recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon.</p>	<p>reflection data and well-log data, the Leadville formation is vertically-offset by a series of ancient faults, which separates the formation into a series of fault blocks. The fault block, and hence the underground reservoir, accessed by the current injection well is limited in size by these faults. The limited size of the reservoir results in higher pore pressures (for any specified injection rate) than would occur in an unbounded reservoir. The higher pressures in turn result in a greater potential for induced earthquakes. A major fault about 1 mile southwest of the current injection well provides an impermeable barrier to flow. In addition, a series of other faults partially bounds the current reservoir on the northeast side. The current fault block can be described as a leaky reservoir, with constrained flows in the northeast direction, and no flows in the southwest direction. Geomechanical modeling of the existing well and the alternative sites indicates that pore pressures are substantially higher in the fault block accessed by the existing well. That is because the Leadville formation on the opposite side of the fault is relatively unfaulted, and provides a much larger underground reservoir,</p>

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							<p>resulting in lower pressures after 25 and 50 years. Alternatives B.1 and B.2 take advantage of this large, unfaulted reservoir to provide sites where pore pressures and the potential for induced seismicity are substantially lower than the current injection well. Alternative B.1 is closer to the fault than is alternative B.2, and therefore pressures would be somewhat higher at B.1 than would occur at B.2. However, because the Leadville formation is relatively unfaulted to the southwest, the expected pressures would be substantially lower than the current injection well. Empirical studies indicate that the maximum magnitude earthquake is related to many factors, including the total volume of brine injected, the presence of favorably-oriented pre-existing faults, and the distribution of increased pore pressures. Insufficient data are available to identify faults that may become reactivated due to injection, prior to actually observing induced earthquakes. These faults generally do not have sufficient offset to be visible from the seismic reflection data. Note that the large impermeable faults seen in the seismic reflection data are not favorably oriented with respect</p>

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							to existing regional stress directions, so induced earthquakes are not expected on these faults. References for this information are identified in Sections 2.4 and 3.3 of the DEIS, "Alternative B."
8	Alber	Chad			8.04	The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.	<p>Section 3.1.1.2, "Affected Environment, Meteorology and Climate," and Table 4-1, "Cumulative Actions," in the DEIS describe the trends of decreasing snowpack and runoff and also note that it is difficult to make predictions of change in the overall quantity of precipitation in the region. Impacts related to these trends are described to their reasonably foreseeable extent.</p> <p>Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the PVU. References to these studies have been added to the table. These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in the subsurface. Further, even if recharge could be intercepted and prevented from entering the system, it could take</p>

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							<p>hundreds of years for the current brine discharge to dissipate. This conclusion drove the selection or rejection of a number of these alternatives.</p> <p>Accordingly, the analysis adequately accounts for the effects of climate change on snowpack and runoff.</p>
	Aniello	Pete				FORM LETTER 1	See responses to letter #8, above.
	Bortfeld	Ernest				FORM LETTER 1	See responses to letter #8, above.
	Gold	Shelly				FORM LETTER 1	See responses to letter #8, above.
	O'Neill	Mick	Professor of Agronomy - Emeritus Jose Fernandez Memorial Chair in Crop Production - Emeritus	New Mexico State University		FORM LETTER 1	See responses to letter #8, above.
	Pellicore	Katie				FORM LETTER 1	See responses to letter #8, above.
	Smail	Michelle				FORM LETTER 1	See responses to letter #8, above.
	Smith	Steve				FORM LETTER 1	See responses to letter #8, above.
	Steckler	Marcie				FORM LETTER 1	See responses to letter #8, above.
	Sumner	Sarah				FORM LETTER 1	See responses to letter #8, above.
	Alexandre	Charlotte				FORM LETTER 1	See responses to letter #8, above.
	Allen	Sam				FORM LETTER 1	See responses to letter #8, above.
	Apel	John				FORM LETTER 1	See responses to letter #8, above.
	Babcock	Reb				FORM LETTER 1	See responses to letter #8, above.

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	Bassett	Britt				FORM LETTER 1	See responses to letter #8, above.
	Batty	Margaret				FORM LETTER 1	See responses to letter #8, above.
	Batty	Vernon				FORM LETTER 1	See responses to letter #8, above.
	Basinger	Evan				FORM LETTER 1	See responses to letter #8, above.
	Benjamin	Robert				FORM LETTER 1	See responses to letter #8, above.
	Bernard	Valerie				FORM LETTER 1	See responses to letter #8, above.
	Bickel	Bettina				FORM LETTER 1	See responses to letter #8, above.
	Bohnert	Allen				FORM LETTER 1	See responses to letter #8, above.
	Brauer	Jack				FORM LETTER 1	See responses to letter #8, above.
	Brensinger	Elizabeth				FORM LETTER 1	See responses to letter #8, above.
	Brooks	James				FORM LETTER 1	See responses to letter #8, above.
	Brown	Mary				FORM LETTER 1	See responses to letter #8, above.
	Bryan	Lori				FORM LETTER 1	See responses to letter #8, above.
	Burningham	Jordan				FORM LETTER 1	See responses to letter #8, above.
	Burns	Chris				FORM LETTER 1	See responses to letter #8, above.
	Cain	David				FORM LETTER 1	See responses to letter #8, above.
	Carlson	Frank				FORM LETTER 1	See responses to letter #8, above.
	Clark	Nicole				FORM LETTER 1	See responses to letter #8, above.
	Conklin	Stephen				FORM LETTER 1	See responses to letter #8, above.
	Connor	Rusty				FORM LETTER 1	See responses to letter #8, above.
	Corwin	Linda				FORM LETTER 1	See responses to letter #8, above.
	Cowan	Devin				FORM LETTER 1	See responses to letter #8, above.
	Dally	Jane				FORM LETTER 1	See responses to letter #8, above.
	Davis	Mark				FORM LETTER 1	See responses to letter #8, above.
	Decker	Allen				FORM LETTER 1	See responses to letter #8, above.
	Dickmann	Kinsey				FORM LETTER 1	See responses to letter #8, above.
	Douglas	Ross				FORM LETTER 1	See responses to letter #8, above.
	Eastman	Jarrold				FORM LETTER 1	See responses to letter #8, above.

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	Finnell	Teresa				FORM LETTER 1	See responses to letter #8, above.
	Fitzgerald	Jill				FORM LETTER 1	See responses to letter #8, above.
	Gaede	Marnie				FORM LETTER 1	See responses to letter #8, above.
	Gang	Peter				FORM LETTER 1	See responses to letter #8, above.
	Gick	Elisabeth				FORM LETTER 1	See responses to letter #8, above.
	Goldern	Emily				FORM LETTER 1	See responses to letter #8, above.
	Goldsmith	Ken				FORM LETTER 1	See responses to letter #8, above.
	Gordon	Connie				FORM LETTER 1	See responses to letter #8, above.
	Gordon	Edyne				FORM LETTER 1	See responses to letter #8, above.
	Gorman	Tom				FORM LETTER 1	See responses to letter #8, above.
	Grossman	Richard				FORM LETTER 1	See responses to letter #8, above.
	Gx	Perry				FORM LETTER 1	See responses to letter #8, above.
	Gynane	Kathy				FORM LETTER 1	See responses to letter #8, above.
	Hall	Edward				FORM LETTER 1	See responses to letter #8, above.
	Harris	Jules				FORM LETTER 1	See responses to letter #8, above.
	Hill	Michael				FORM LETTER 1	See responses to letter #8, above.
	Hooton	Kiki				FORM LETTER 1	See responses to letter #8, above.
	Johnson	Stephen				FORM LETTER 1	See responses to letter #8, above.
	Williams	Alex				FORM LETTER 1	See responses to letter #8, above.
	Storrs	Andrea				FORM LETTER 1	See responses to letter #8, above.
	Smith	Randy				FORM LETTER 1	See responses to letter #8, above.
	Schlabach	William				FORM LETTER 1	See responses to letter #8, above.
	Rutkaus	Christina				FORM LETTER 1	See responses to letter #8, above.
	Pool	Martin				FORM LETTER 1	See responses to letter #8, above.
	Hodges	Carrie				FORM LETTER 1	See responses to letter #8, above.
	Husted	Katharine				FORM LETTER 1	See responses to letter #8, above.
	Kapustka	Tim				FORM LETTER 1	See responses to letter #8, above.
	Kasyon	Emily				FORM LETTER 1	See responses to letter #8, above.

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	Kayne	Saree				FORM LETTER 1	See responses to letter #8, above.
	Klingel	Jon				FORM LETTER 1	See responses to letter #8, above.
	Kopke	Jo				FORM LETTER 1	See responses to letter #8, above.
	Kuhn	Josh				FORM LETTER 1	See responses to letter #8, above.
	Lachelt	Gwen				FORM LETTER 1	See responses to letter #8, above.
	LaSchiava	Dona				FORM LETTER 1	See responses to letter #8, above.
	Low	Helen				FORM LETTER 1	See responses to letter #8, above.
	Lufkin	Thom				FORM LETTER 1	See responses to letter #8, above.
	Lutes	Elizabeth				FORM LETTER 1	See responses to letter #8, above.
	MacKenzie	Michelle				FORM LETTER 1	See responses to letter #8, above.
	Mackey	Frederick				FORM LETTER 1	See responses to letter #8, above.
	May	Conor				FORM LETTER 1	See responses to letter #8, above.
	Milliken	Gerry				FORM LETTER 1	See responses to letter #8, above.
	Myers	Tori				FORM LETTER 1	See responses to letter #8, above.
	Nash	Rob				FORM LETTER 1	See responses to letter #8, above.
	Norton	Mark				FORM LETTER 1	See responses to letter #8, above.
	O'Brien	Daniel				FORM LETTER 1	See responses to letter #8, above.
	Ozzello	Paula				FORM LETTER 1	See responses to letter #8, above.
	Payne	Matt				FORM LETTER 1	See responses to letter #8, above.
	Peirce	Susan				FORM LETTER 1	See responses to letter #8, above.
	Peoria	Ingrid				FORM LETTER 1	See responses to letter #8, above.
	Pierce	Michelle				FORM LETTER 1	See responses to letter #8, above.
	Salka	Jill				FORM LETTER 1	See responses to letter #8, above.
	Saslow	Avra				FORM LETTER 1	See responses to letter #8, above.
	Scheld	Steve				FORM LETTER 1	See responses to letter #8, above.
	Schmidt	George				FORM LETTER 1	See responses to letter #8, above.
	Seis	Mark				FORM LETTER 1	See responses to letter #8, above.
	Stephens	Angela				FORM LETTER 1	See responses to letter #8, above.

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	Stevens	Jean				FORM LETTER 1	See responses to letter #8, above.
	Stroud	Owen				FORM LETTER 1	See responses to letter #8, above.
	Sykes	Tom				FORM LETTER 1	See responses to letter #8, above.
	Trennepohl	Marla				FORM LETTER 1	See responses to letter #8, above.
	Ulibarri	Kristin				FORM LETTER 1	See responses to letter #8, above.
	Vocke	Robert				FORM LETTER 1	See responses to letter #8, above.
	Whitaker	Howard				FORM LETTER 1	See responses to letter #8, above.
	White	Wallace				FORM LETTER 1	See responses to letter #8, above.
	Wilhelm	Richard				FORM LETTER 1	See responses to letter #8, above.
	Wrenn	Jennifer				FORM LETTER 1	See responses to letter #8, above.
	Armstrong	Marilyn				FORM LETTER 1	See responses to letter #8, above.
	Bailey	Stephen				FORM LETTER 1	See responses to letter #8, above.
	Barrett	Kathy				FORM LETTER 1	See responses to letter #8, above.
	Beason	Austen				FORM LETTER 1	See responses to letter #8, above.
	Boatman	Rebecca				FORM LETTER 1	See responses to letter #8, above.
	Bove	Clifford, Pearl				FORM LETTER 1	See responses to letter #8, above.
	Bremer	John				FORM LETTER 1	See responses to letter #8, above.
	Brown	Jody				FORM LETTER 1	See responses to letter #8, above.
	Clement	Joan				FORM LETTER 1	See responses to letter #8, above.
	Cooper	Amy				FORM LETTER 1	See responses to letter #8, above.
	Daniels	Duane				FORM LETTER 1	See responses to letter #8, above.
	DeSantis	Josephine				FORM LETTER 1	See responses to letter #8, above.
	Dickson	Elissa				FORM LETTER 1	See responses to letter #8, above.
	Gaede	Marnie				FORM LETTER 1	See responses to letter #8, above.
	Gingery	Suze				FORM LETTER 1	See responses to letter #8, above.
	Graham	Tami				FORM LETTER 1	See responses to letter #8, above.
	Hartline	Amy				FORM LETTER 1	See responses to letter #8, above.

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	Hastings	Bettie				FORM LETTER 1	See responses to letter #8, above.
	Herwick	Kelly				FORM LETTER 1	See responses to letter #8, above.
	Howard	Steve				FORM LETTER 1	See responses to letter #8, above.
	Johnson	Carolyn				FORM LETTER 1	See responses to letter #8, above.
	Kane	Hurley				FORM LETTER 1	See responses to letter #8, above.
	Kantor	Joel				FORM LETTER 1	See responses to letter #8, above.
	Kawell	Steve				FORM LETTER 1	See responses to letter #8, above.
	Kerchner	Jon				FORM LETTER 1	See responses to letter #8, above.
	King	Josh				FORM LETTER 1	See responses to letter #8, above.
	King	Josh				FORM LETTER 1	See responses to letter #8, above.
	Kirkman	Phillip				FORM LETTER 1	See responses to letter #8, above.
	Kunz	Helen				FORM LETTER 1	See responses to letter #8, above.
	Liftoon- Zoline	Pam				FORM LETTER 1	See responses to letter #8, above.
	Loeffler	Suzy				FORM LETTER 1	See responses to letter #8, above.
	Lohaus	Thomas				FORM LETTER 1	See responses to letter #8, above.
	MacEachen	Joan				FORM LETTER 1	See responses to letter #8, above.
	Montague	Michelle				FORM LETTER 1	See responses to letter #8, above.
	Moulton	Clara				FORM LETTER 1	See responses to letter #8, above.
	Naisbitt	Nana				FORM LETTER 1	See responses to letter #8, above.
	Oliver	Eric				FORM LETTER 1	See responses to letter #8, above.
	Petty	Colyn				FORM LETTER 1	See responses to letter #8, above.
	Reitwiesner	Theo				FORM LETTER 1	See responses to letter #8, above.
	Risberg	Deborah				FORM LETTER 1	See responses to letter #8, above.
	Roh	James				FORM LETTER 1	See responses to letter #8, above.
	Scarborough	Marilyn				FORM LETTER 1	See responses to letter #8, above.
	Smithson	Shirley				FORM LETTER 1	See responses to letter #8, above.
	Spross	Tom				FORM LETTER 1	See responses to letter #8, above.

N. Comment Summary and Response Report—Attachment 1. Comment Matrix

<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Talbot-Heindl	Chris				FORM LETTER 1	See responses to letter #8, above.
	Thompson	Nick				FORM LETTER 1	See responses to letter #8, above.
	Vogt	Niki				FORM LETTER 1	See responses to letter #8, above.
	Wheeler	Luke				FORM LETTER 1	See responses to letter #8, above.
	Wilson	Rena				FORM LETTER 1	See responses to letter #8, above.
	Yanneck	William				FORM LETTER 1	See responses to letter #8, above.
	Yeston	Anabelle				FORM LETTER 1	See responses to letter #8, above.
	Zirkelbach	Zach				FORM LETTER 1	See responses to letter #8, above.
	Alpert	Tomer				FORM LETTER 1	See responses to letter #8, above.
	Bare	Andrew				FORM LETTER 1	See responses to letter #8, above.
	DeSantis	Josephine				FORM LETTER 1	See responses to letter #8, above.
	Dugan	Jessica				FORM LETTER 1	See responses to letter #8, above.
	Foster	Jacqui				FORM LETTER 1	See responses to letter #8, above.
	Gillies	Lander				FORM LETTER 1	See responses to letter #8, above.
	Jackson	Leslie				FORM LETTER 1	See responses to letter #8, above.
	Johnson	Erik				FORM LETTER 1	See responses to letter #8, above.
	Jones	Kenneth				FORM LETTER 1	See responses to letter #8, above.
	Jost	Matt				FORM LETTER 1	See responses to letter #8, above.
	Kelsall	Owen				FORM LETTER 1	See responses to letter #8, above.
	Lerch	Ali				FORM LETTER 1	See responses to letter #8, above.
	Macosko	Cole				FORM LETTER 1	See responses to letter #8, above.
	Magnifico	Sadie				FORM LETTER 1	See responses to letter #8, above.
	Noone	Bradley				FORM LETTER 1	See responses to letter #8, above.
	Orchard	Gwen				FORM LETTER 1	See responses to letter #8, above.
	Papineau	Lenny				FORM LETTER 1	See responses to letter #8, above.
	Pastula	Adam				FORM LETTER 1	See responses to letter #8, above.
	Potter	Avery				FORM LETTER 1	See responses to letter #8, above.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Raupp	Donna				FORM LETTER 1	See responses to letter #8, above.
	Rineer	Mark				FORM LETTER 1	See responses to letter #8, above.
	Sinton	Katherine				FORM LETTER 1	See responses to letter #8, above.
	Speer	Diana				FORM LETTER 1	See responses to letter #8, above.
	Thacher	Thomas				FORM LETTER 1	See responses to letter #8, above.
	Van der Harten	Arthur				FORM LETTER 1	See responses to letter #8, above.
	Wheeler	Alex				FORM LETTER 1	See responses to letter #8, above.
	Brenker	Sean				FORM LETTER 1	See responses to letter #8, above.
	Buiso	Marlo				FORM LETTER 1	See responses to letter #8, above.
	Darling	Andy				FORM LETTER 1	See responses to letter #8, above.
	Darnell	Carl				FORM LETTER 1	See responses to letter #8, above.
	Derbyshire	Samantha				FORM LETTER 1	See responses to letter #8, above.
	Fullmer	Shawn	Dr.			FORM LETTER 1	See responses to letter #8, above.
	Glascoock	Karen				FORM LETTER 1	See responses to letter #8, above.
	Kessell	John				FORM LETTER 1	See responses to letter #8, above.
	Pagano	Georgianne				FORM LETTER 1	See responses to letter #8, above.
	Ratcliff	Brenda				FORM LETTER 1	See responses to letter #8, above.
	Calvin	Ben				FORM LETTER 1	See responses to letter #8, above.
	Holmes	Penny				FORM LETTER 1	See responses to letter #8, above.
	Frederico	Thomas				FORM LETTER 1	See responses to letter #8, above.
	Frederico	Rachel				FORM LETTER 1	See responses to letter #8, above.
	Costello	Mary				FORM LETTER 1	See responses to letter #8, above.
	Schmeiler	Jeff				FORM LETTER 1	See responses to letter #8, above.
	Parrish	Angela				FORM LETTER 1	See responses to letter #8, above.
	Neils	Peter				FORM LETTER 1	See responses to letter #8, above.
	McManus	Karen				FORM LETTER 1	See responses to letter #8, above.
	McGee	Lynne				FORM LETTER 1	See responses to letter #8, above.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Lewis	Donald				FORM LETTER 1	See responses to letter #8, above.
	Koenig	Jean				FORM LETTER 1	See responses to letter #8, above.
	Free	Pamela				FORM LETTER 1	See responses to letter #8, above.
	Dawson	Eileen				FORM LETTER 1	See responses to letter #8, above.
	Willis	Randy				FORM LETTER 1	See responses to letter #8, above.
	Wildbear	Rebecca				FORM LETTER 1	See responses to letter #8, above.
	Volkman	Wendy				FORM LETTER 1	See responses to letter #8, above.
	Turner	Rebecca				FORM LETTER 1	See responses to letter #8, above.
	Schaffer	Miriam				FORM LETTER 1	See responses to letter #8, above.
	Okula	Morika				FORM LETTER 1	See responses to letter #8, above.
	Miller	Brittany				FORM LETTER 1	See responses to letter #8, above.
	Hodge	Brendan				FORM LETTER 1	See responses to letter #8, above.
	Hamilton	Rick				FORM LETTER 1	See responses to letter #8, above.
	Dudley	Random				FORM LETTER 1	See responses to letter #8, above.
	Cohn	Charles				FORM LETTER 1	See responses to letter #8, above.
	Williams	Josh				FORM LETTER 1	See responses to letter #8, above.
	Wells	Susan				FORM LETTER 1	See responses to letter #8, above.
	Webster	Gayle				FORM LETTER 1	See responses to letter #8, above.
	Ward	Toni				FORM LETTER 1	See responses to letter #8, above.
	Waller	Katie				FORM LETTER 1	See responses to letter #8, above.
	Wallauer	William				FORM LETTER 1	See responses to letter #8, above.
	Titone	Theresa				FORM LETTER 1	See responses to letter #8, above.
	Strachan	Sharon				FORM LETTER 1	See responses to letter #8, above.
	Sessions	Dave				FORM LETTER 1	See responses to letter #8, above.
	Scobie	Allison				FORM LETTER 1	See responses to letter #8, above.
	Schwager	Karen				FORM LETTER 1	See responses to letter #8, above.
	Rydman	Nate				FORM LETTER 1	See responses to letter #8, above.
	Roig	Eric				FORM LETTER 1	See responses to letter #8, above.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Price	Elisabeth				FORM LETTER 1	See responses to letter #8, above.
	Perry	Bert				FORM LETTER 1	See responses to letter #8, above.
	Padzensky	Crystal				FORM LETTER 1	See responses to letter #8, above.
	Orr	Sharon				FORM LETTER 1	See responses to letter #8, above.
	Olm	Richard				FORM LETTER 1	See responses to letter #8, above.
	Musgrave	Chris				FORM LETTER 1	See responses to letter #8, above.
	Moore	Chris				FORM LETTER 1	See responses to letter #8, above.
	Miller	Brenda				FORM LETTER 1	See responses to letter #8, above.
	Martens	Darin				FORM LETTER 1	See responses to letter #8, above.
	Maloney	Mairi				FORM LETTER 1	See responses to letter #8, above.
	Kurtz	Nancy				FORM LETTER 1	See responses to letter #8, above.
	Keelan	Chris				FORM LETTER 1	See responses to letter #8, above.
	Holtz	Anita				FORM LETTER 1	See responses to letter #8, above.
	Hansen	Steve				FORM LETTER 1	See responses to letter #8, above.
	Foster	Nancy				FORM LETTER 1	See responses to letter #8, above.
	Fitzpatrick	Luke				FORM LETTER 1	See responses to letter #8, above.
	Eller	Gerald				FORM LETTER 1	See responses to letter #8, above.
	Delles	Susan				FORM LETTER 1	See responses to letter #8, above.
	Deering	Cindy				FORM LETTER 1	See responses to letter #8, above.
	Dalton	Charles				FORM LETTER 1	See responses to letter #8, above.
	Chamberlin	Judith				FORM LETTER 1	See responses to letter #8, above.
	Carroll	Amber				FORM LETTER 1	See responses to letter #8, above.
	Camp	Mike				FORM LETTER 1	See responses to letter #8, above.
	Brown	Gayle				FORM LETTER 1	See responses to letter #8, above.
	Bradley	Stacey				FORM LETTER 1	See responses to letter #8, above.
	Bissonnette	Chris				FORM LETTER 1	See responses to letter #8, above.
	Bickelman	Eric				FORM LETTER 1	See responses to letter #8, above.
	Batty	Vernon				FORM LETTER 1	See responses to letter #8, above.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Andreatta	Shawn				FORM LETTER 1	See responses to letter #8, above.
	Vanian	Mike				FORM LETTER 1	See responses to letter #8, above.
	Price	Lauren				FORM LETTER 1	See responses to letter #8, above.
	Paillard	Florence				FORM LETTER 1	See responses to letter #8, above.
	Mace	John				FORM LETTER 1	See responses to letter #8, above.
	Hatcher	David				FORM LETTER 1	See responses to letter #8, above.
	Brockway	Charlie				FORM LETTER 1	See responses to letter #8, above.
	Bellah	Ben				FORM LETTER 1	See responses to letter #8, above.
	Ahrens	Zach				FORM LETTER 1	See responses to letter #8, above.
	Waxman	Jamie				FORM LETTER 1	See responses to letter #8, above.
	Squire	John				FORM LETTER 1	See responses to letter #8, above.
	Roberts	Tim				FORM LETTER 1	See responses to letter #8, above.
	Rachel	Marti				FORM LETTER 1	See responses to letter #8, above.
	Arpert	John				FORM LETTER 1	See responses to letter #8, above.
	Anderson	Madeleine				FORM LETTER 1	See responses to letter #8, above.
	Oliver	Janet				FORM LETTER 1	See responses to letter #8, above.
	Platt	Corinne				FORM LETTER 1	See responses to letter #8, above.
	Lifton-Zoline	Pam				FORM LETTER 1	See responses to letter #8, above.
	Lindell	Kim				FORM LETTER 1	See responses to letter #8, above.
	DeCoster-Weisheit	Susette				FORM LETTER 1	See responses to letter #8, above.
	Derasary	Lara				FORM LETTER 1	See responses to letter #8, above.
	Doucet	Lisha				FORM LETTER 1	See responses to letter #8, above.
	Messinger	Erica				FORM LETTER 1	See responses to letter #8, above.
	Bobak	Carla				FORM LETTER 1	See responses to letter #8, above.
	Glenn	Angela				FORM LETTER 1	See responses to letter #8, above.
	Harris	Steve				FORM LETTER 1	See responses to letter #8, above.
	Helms	Matt				FORM LETTER 1	See responses to letter #8, above.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Nielsen	Corey				FORM LETTER 1	See responses to letter #8, above.
	Orr	Nancy				FORM LETTER 1	See responses to letter #8, above.
	Payne	Annie				FORM LETTER 1	See responses to letter #8, above.
	Shoemaker	Sloan				FORM LETTER 1	See responses to letter #8, above.
	Wiles	Robin				FORM LETTER 1	See responses to letter #8, above.
	Delling	Joe				FORM LETTER 1	See responses to letter #8, above.
	Balogh	Michael				FORM LETTER 1	See responses to letter #8, above.
	Doskocil	Lenka				FORM LETTER 1	See responses to letter #8, above.
	Fritsch	Robin				FORM LETTER 1	See responses to letter #8, above.
	Lock	Sheryl				FORM LETTER 1	See responses to letter #8, above.
	Beckley	Cindy				FORM LETTER 1	See responses to letter #8, above.
	McGeehan	Kathryn				FORM LETTER 1	See responses to letter #8, above.
	Wyatt	Janet				FORM LETTER 1	See responses to letter #8, above.
	Carroll	Laura				FORM LETTER 1	See responses to letter #8, above.
	Anderson	Michael				FORM LETTER 1	See responses to letter #8, above.
	Calvert	Katie				FORM LETTER 1	See responses to letter #8, above.
	Clark	Sean				FORM LETTER 1	See responses to letter #8, above.
	Curtis	Kerry				FORM LETTER 1	See responses to letter #8, above.
	Dappen	Alex				FORM LETTER 1	See responses to letter #8, above.
	Frideger	Dominique				FORM LETTER 1	See responses to letter #8, above.
	Harrison	Molly				FORM LETTER 1	See responses to letter #8, above.
	Jarboe	Rickie Lee				FORM LETTER 1	See responses to letter #8, above.
	Lucero	Aaron				FORM LETTER 1	See responses to letter #8, above.
	Meredith	Shannon				FORM LETTER 1	See responses to letter #8, above.
	Otto	Tristan				FORM LETTER 1	See responses to letter #8, above.
	Potisk	Julie				FORM LETTER 1	See responses to letter #8, above.
	Randall	Brandy				FORM LETTER 1	See responses to letter #8, above.
	Sharp	Joi				FORM LETTER 1	See responses to letter #8, above.

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	Spoon	Joshua				FORM LETTER 1	See responses to letter #8, above.
	Thomson	Al				FORM LETTER 1	See responses to letter #8, above.
	Vidal	Monique				FORM LETTER 1	See responses to letter #8, above.
	Walker	Jonathan				FORM LETTER 1	See responses to letter #8, above.
	Watson	Steve				FORM LETTER 1	See responses to letter #8, above.
	Culpepper	Sandy				FORM LETTER 1	See responses to letter #8, above.
	Dohn	Stephen				FORM LETTER 1	See responses to letter #8, above.
	Heyman	E				FORM LETTER 1	See responses to letter #8, above.
	Hull	Jennifer				FORM LETTER 1	See responses to letter #8, above.
	Johnstone	Teresa				FORM LETTER 1	See responses to letter #8, above.
	Kimble	Babette				FORM LETTER 1	See responses to letter #8, above.
	Lindell	Chris				FORM LETTER 1	See responses to letter #8, above.
	Lyons	Amy				FORM LETTER 1	See responses to letter #8, above.
	Masters	Hannah				FORM LETTER 1	See responses to letter #8, above.
	Murray	Michelle				FORM LETTER 1	See responses to letter #8, above.
	O'Malia	Meredith				FORM LETTER 1	See responses to letter #8, above.
	Soden	Melissa				FORM LETTER 1	See responses to letter #8, above.
	Stahl	Dana				FORM LETTER 1	See responses to letter #8, above.
	Cowden	Paul				FORM LETTER 1	See responses to letter #8, above.
	Fiona	King				FORM LETTER 1	See responses to letter #8, above.
	Martin	Ken				FORM LETTER 1	See responses to letter #8, above.
	Sparks	Channing				FORM LETTER 1	See responses to letter #8, above.
	Turnell	Christa				FORM LETTER 1	See responses to letter #8, above.
	Wilkerson	Orville Loyd				FORM LETTER 1	See responses to letter #8, above.
	Flucke	Nora				FORM LETTER 1	See responses to letter #8, above.
	Miller	Jeffrey				FORM LETTER 1	See responses to letter #8, above.
	Poma	Juliann				FORM LETTER 1	See responses to letter #8, above.
	Millar	Emma				FORM LETTER 1	See responses to letter #8, above.

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	Randall	Kurtis				FORM LETTER 1	See responses to letter #8, above.
	Thomas-Kemp	Catherine				FORM LETTER 1	See responses to letter #8, above.
	Alfreds	Arthur				FORM LETTER 1	See responses to letter #8, above.
	Bickel	Ariel				FORM LETTER 1	See responses to letter #8, above.
	Burris	Dawnja				FORM LETTER 1	See responses to letter #8, above.
	Cassidy	Michael				FORM LETTER 1	See responses to letter #8, above.
	Clahchischilli	Sylvia				FORM LETTER 1	See responses to letter #8, above.
	Clark	Adam				FORM LETTER 1	See responses to letter #8, above.
	Clark	Robbin				FORM LETTER 1	See responses to letter #8, above.
	Creany	Eugene				FORM LETTER 1	See responses to letter #8, above.
	Davis	Jen				FORM LETTER 1	See responses to letter #8, above.
	Deffenbaugh	Molly				FORM LETTER 1	See responses to letter #8, above.
	Derasary	Rani				FORM LETTER 1	See responses to letter #8, above.
	Ditto	Lynn				FORM LETTER 1	See responses to letter #8, above.
	Freimuth	Ann Hume				FORM LETTER 1	See responses to letter #8, above.
	Gold	Andrew				FORM LETTER 1	See responses to letter #8, above.
	Harris	Jim				FORM LETTER 1	See responses to letter #8, above.
	Hogan	Tim				FORM LETTER 1	See responses to letter #8, above.
	Holland	Mark				FORM LETTER 1	See responses to letter #8, above.
	Hopkins	Gary				FORM LETTER 1	See responses to letter #8, above.
	Jergensen	Daniel				FORM LETTER 1	See responses to letter #8, above.
	Jones	Andrew				FORM LETTER 1	See responses to letter #8, above.
	Kane	Maya				FORM LETTER 1	See responses to letter #8, above.
	Keehfuss	Linda				FORM LETTER 1	See responses to letter #8, above.
	Kinahan	Elizabeth				FORM LETTER 1	See responses to letter #8, above.
	McDermott	Bob				FORM LETTER 1	See responses to letter #8, above.
	McGuffey	Lucy				FORM LETTER 1	See responses to letter #8, above.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Munger	Jeff				FORM LETTER 1	See responses to letter #8, above.
	Patton	James				FORM LETTER 1	See responses to letter #8, above.
	Petersen	Dana				FORM LETTER 1	See responses to letter #8, above.
	Richman	Jana				FORM LETTER 1	See responses to letter #8, above.
	Robinson	Nancy				FORM LETTER 1	See responses to letter #8, above.
	Ryan	Weylin				FORM LETTER 1	See responses to letter #8, above.
	Smith	Karen				FORM LETTER 1	See responses to letter #8, above.
	Stevenson	Elizabeth				FORM LETTER 1	See responses to letter #8, above.
	Summers	Cynthia				FORM LETTER 1	See responses to letter #8, above.
	Thomson	Sandy				FORM LETTER 1	See responses to letter #8, above.
	Unger	Guinn				FORM LETTER 1	See responses to letter #8, above.
	Wardle	Christopher				FORM LETTER 1	See responses to letter #8, above.
	Wiley	Janet				FORM LETTER 1	See responses to letter #8, above.
	Brodersen	Tiffamy				FORM LETTER 1	See responses to letter #8, above.
	Brumbaugh- Cayford	Cheryl				FORM LETTER 1	See responses to letter #8, above.
	Butler	Zachary				FORM LETTER 1	See responses to letter #8, above.
	DiGiorgio	Monique				FORM LETTER 1	See responses to letter #8, above.
	Farkas	David				FORM LETTER 1	See responses to letter #8, above.
	Graves	Susan				FORM LETTER 1	See responses to letter #8, above.
	Hutchinson	Andy				FORM LETTER 1	See responses to letter #8, above.
	Mate	Marianne				FORM LETTER 1	See responses to letter #8, above.
	McClure	Ryan				FORM LETTER 1	See responses to letter #8, above.
	Steinthal	Trevor				FORM LETTER 1	See responses to letter #8, above.
	Davis	Peter				FORM LETTER 1	See responses to letter #8, above.
	Savastano	Andy				FORM LETTER 1	See responses to letter #8, above.
	Wagoner	Morgan				FORM LETTER 1	See responses to letter #8, above.
	Woodworth	Eliza				FORM LETTER 1	See responses to letter #8, above.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
	Kaercher	Solana				FORM LETTER 1	See responses to letter #8, above.
	Turner	Tim				FORM LETTER 1	See responses to letter #8, above.
	Foulkes	Tim				FORM LETTER 1	See responses to letter #8, above.
	Hoff	Colleen				FORM LETTER 1	See responses to letter #8, above.
	Rivers	Bill				FORM LETTER 1	See responses to letter #8, above.
	Howard	Kevin				FORM LETTER 1	See responses to letter #8, above.
	McNaughton	Terri				FORM LETTER 1	See responses to letter #8, above.
	Wesson	Alex				FORM LETTER 1	See responses to letter #8, above.
	Woodruff	Dave				FORM LETTER 1	See responses to letter #8, above.
	Folsom	Corey				FORM LETTER 1	See responses to letter #8, above.
9	Knecht	Nathan				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
10	Ekertsen	Chris		Aqua Resources	10	No substantive comments.	NA
11	Andrew	Luann				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
12	Barlow	Gale Zander				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
13	Behrens	Carla				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
14	Bollinger	Larry and Carolyn			14.01	FORM PLUS LETTER 1: If it is within your power, we ask that you reconsider your plans for the Paradox Valley brine injection well and associated infrastructure. From what we've	Sections 3.12.2.2, "Visual Resources, Alternative B," and 3.13.2.2, "Areas of Special Designation, Alternative B" in the DEIS describe potential impacts on the scenic quality and the wilderness character of the Dolores River as a result

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Letter #	Last Name	First Name	Title	Office/ Organization Name	Comment #	Comment	RESPONSE
						<p>read, we fear that the proposed development will irrecoverably alter the wild character of the Dolores River Canyon. Industrial development can be placed anywhere; pristine wilderness and near-wilderness experiences can only be enjoyed if we preserve places of rare beauty for future generations. Governor Polis just wrote that Colorado's wild places and natural beauty are the economic engines that will drive future of the state. This well project large footprint is unwelcome step in the wrong direction. PLEASE do not degrade the Dolores River Canyon.</p>	<p>of Alternative B-Area B1 and further note that 1. with the implementation of mitigation measures after construction (see Section 2.9, "Environmental Commitments"), the degree of contrast would be minimized or eliminated, the level of change to the characteristic landscape would eventually be low, and the degree of contrast created by the pipeline scar would be weak; and 2. such impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river. Section 3.16.2.2 in the DEIS, "Noise, Alternative B," describes that further impacts related to noise during construction would occur primarily in the short term; long-term noise associated with O&amp;M activities would be in compliance with both Colorado and Montrose County noise standards and would attenuate to background noise levels ~0.12 mile from the project site. The impacts are adequately described in the DEIS such that no change to the EIS needs to be made.</p>
15	Granley	Brad	President/Founder	Clear Creek Environmental Solutions	15.01	Good morning. I just wanted to write to briefly request that your evaluation process for the	Due to the complexity, significant differences, and costs associated with design of the alternatives, they have

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						<p>Paradox Valley Unit remain flexible enough to consider new technologies as they become known by you and your team. Specifically, I am a colleague of Dr. Russell Vreeland of Eastern Shore Microbes.  <a href="https://www.esmicrobes.com/">https://www.esmicrobes.com/</a>                      As a Colorado resident and proponent of using best available technologies to solve environmental problems in our state, it would make sense to modify your evaluation process in order to consider Dr. Vreeland's "H.E.A.T." process for this project. This extremely unique technology results in the disposal of large volumes of highly saline brine by leveraging nature. This microbiologically enhanced brine evaporation method is low cost, low energy, entirely simple for implementation and ongoing operation, is sustainable, and it works. Technologies cannot be much 'Greener' than this. PR opportunities also exist. Certainly some great headlines would result, showcasing</p>	<p>only been designed to a 30%, or conceptual, level. Based upon the information provided, it appears the proposed microbiologically enhanced evaporation method could potentially be viable as a design improvement to Alternative C. Pilot testing would be required to verify the viability and applicability of the technology to the Paradox brine and to provide data to confirm anticipated costs and benefits. Pilot testing would occur after the Record of Decision if Alternative C is identified as the preferred alternative. Selection of optimization technologies, such as the H.E.A.T. process, to be pilot tested would be subject to a competitive contracting process at that time. The constraints for inclusion would include that the technology is commercially available and not in research or development stages. Reclamation would continue to evaluate methods to further minimize environmental impacts during the design process. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any</p>

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						<p>USBR’s use of new, green tech to solve today’s problems. So, my hope from one environmental professional to another, is that you can still consider a new technology at this stage if it would have a chance of improving the treatment process, reduce the carbon footprint of the effort, and ultimately lead to a cleaner Colorado and for those downstream.</p>	<p>impacts not foreseen in this EIS are disclosed. In Section 2.5.2.1 of the Final EIS, "Evaporation Pond System," the following language has been added to the end of the first paragraph: "Reclamation will continue to evaluate methods to further minimize impacts during the design process. In addition, enhanced evaporation technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."</p>
16	Furtney	Seth			16.01	<p>The Dolores River is a wild and scenic river candidate. Construction of roads, bridges, and powerlines will permanently destroy the values for which the river was identified. Please more carefully consider the lasting impacts to recreation and social values, and irreplaceable environmental resources.</p>	<p>Section 3.13.2, "Impacts on Areas of Special Designation" of the DEIS discusses the process for evaluating impacts to wild and scenic rivers. Issues identified in relation to wild and scenic river segments include adverse impacts on the values (free-flowing condition, water quality, tentative classification, and outstandingly remarkable values). The procedures in BLM Manual 6400 (Wild and Scenic Rivers-Policy and Program Direction for Identification, Evaluation, Planning, and Management) were used to evaluate impacts to wild and scenic river values.</p> <p>Section 3.13.1.1, "Wild and Scenic Rivers," of the DEIS disclosed that the</p>

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							<p>segment of the Dolores River through Reclamation land had a tentative classification of recreational, while Section 3.13.2.2 disclosed the impacts to the values identified for this river segment. The DEIS identified several impacts to the Outstandingly Remarkable Values (ORVs) found in these segments; these impacts were not expected to alter the tentative classification or eligibility. Additional roads and bridges associated with Alternative B-Area B1 would occur on Reclamation lands assigned a tentative classification of recreational, which are allowable under BLM policy. Section 3.6.B.3 of BLM Manual 6400 states, "bridge crossings and river access are allowed" for river segments with a recreational classification.</p> <p>Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS.</p>

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							The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.
17	Greenberg	Anne Marie				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
18	Gregory	Michael				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
19	Smith	Forrest				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
20	Rollins	Scott				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
21	Macrum	Heidi			21.01	I also have to wonder if allowing more water volume to continuously flow down the Dolores river would improve the salinity situation. The current	Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration.

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						<p>proposal seems suspicious and convoluted at best.</p>	<p>Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need.</p> <p>We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These references say that the result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent</p>

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							<p>groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be</p>

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							redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.
22	Lehto	Teal				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
23	Kissane	David				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
24	Hobbs	Alexander				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
25	Harrington	Christina				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
26	Husted	Eric				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
27	May	Jeremy				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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28	McClenny	Patricia				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
29	McClintock	Amy				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
30	McGuffey	Lucy				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
31	Young	Derek				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
32	Mosimann	Edward				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
33	Gutschenritter	Louis				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
34	Podmore	Michael				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
35	Reetz	Pauline				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
36	Gerber	Scott				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
37	Dean	Evan				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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38	Robinson	Shelby				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
39	Szuszwalak, Jr.	Joe				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
40	Thompson	Don				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
41	Womack	Jeremy				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
42	Van Manen	Dave				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
43	Montoya	Marcel				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
44	Mark	Jerry				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
45	MacMillan	David				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
46	Tuomey	J				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
47	Wells	Joey				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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48	Volkman	Wendy				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
49	Bertram	Aubrey				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
50	Courington	Timothy				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
51	Friederich	Kurt				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
52	Jumbo	Ariel Allee				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
53	Miller	Bryan				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
54	Saxman	Bruce	River Manager	Durango RiverTrippers		FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
55	Williams	Michael				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
56	Cross	Jai				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
57	Silbert	Michelle				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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58	Curnutte	Brian				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
59	Ludwig	Derek				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
60	Triesmann	Scott			60.01	in addition, further development of roads in this landscape increases erosion from both water and wind and exacerbates aridification and drought.	Impacts on resources related to ground disturbance and erosion are described throughout the document (See Section 3.1, "Air Quality"; Section 3.6, "Water Quality"; Section 3.7, "Vegetation"; Section 3.8, "Special Status Plant Species"; Section 3.9, "Terrestrial and Aquatic Wildlife"; and Section 3.10, "Federally Listed Species"). Table 2-5, "Environmental Commitments," describes impacts from erosion on various resources and includes measures to suppress dust, control erosion, and minimize sedimentation. Sections 3.7.2.2, "Impacts Common to Alternatives B, C, and D," Section 3.7.2.3, "Alternative B--Injection Well," Section 3.7.2.4, "Alternative C--Evaporation Ponds," and Section 3.7.2.5, "Alternative D--Zero-Liquid Discharge Technology" also describe impacts to soil under each alternative in relation to vegetation. These sections sufficiently acknowledge and describe impacts to soil resources

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							in the planning area such that no change to the EIS is needed.
61	Gleason	Bob			61.01	I understand the proposed new well will inject the brine into the same rock strata that was storing the brine in the previous injection well. It is logical, that the instability and resulting earthquakes that were caused by the earlier well would likely be an issue with the new well. I feel that study could come up with a better solution. I ask that an in depth study be done with the intent of finding a better solution.	Extensive studies were conducted to evaluate the suitability and feasibility of the injection well alternatives. These included seismic reflection data reprocessing and interpretation, well log studies, aeromagnetic data collection and interpretation, geologic investigations, analysis of induced earthquakes, geomechanical and flow modeling studies, drilling feasibility analyses, and a 30% well and surface facility design study. These studies were reviewed by an independent consultant review board. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
62	Whitaker	Vicki				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
63	Wheeler	Tim				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
64	Ray	Susan				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
65	Milstein	Jim				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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66	Krest	Stephen			66.01	Also, what is the expected life of this proposal? Will this "solution" have to be repeated upstream again in the next 25 years as this strata fills up? Are there no other solutions?	<p>The temporal scope of analysis of each alternative is 50 years, which is the life of the project. This is identified in the first paragraph of Chapter 2 in the DEIS. After the project has been operated for 50 years, another analysis would need to be conducted to determine future salinity control of the Paradox Valley Unit.</p> <p>The alternatives presented in the EIS are the alternatives that could be implemented and would meet the purpose and need. Other alternatives which were eliminated from further consideration can be found in Table 2-7 "Summary of other alternatives considered and reason for elimination" in the DEIS.</p>
67	Bell	Kristian			67.01	1) Wilderness Study Areas (WSAs) are identified by BLM as suitable for designation as wilderness and are recommended for such designation through Congress. The Dolores WSA has been determined to possess wilderness area characteristics: minimum roadless size, apparent naturalness, outstanding opportunities for	The injection facilities for Area B1 would be located in upland areas, outside of the 100-year floodplain, outside of the WSA, on Reclamation land. This can be seen in Figure 2-2, "Alternative B New Injection Well Area B1." Two bridges and a brine pipeline would need to be constructed on Reclamation land where the proposed road crosses the Dolores River in that figure. A description of these facilities can be found in Section 2.4, "Alternative B," of the EIS. As noted,

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						<p>solitude or primitive and unconfined recreation, and supplemental values. There is no need for a new deep injection well and underground pipeline directly in the Dolores River bed, ruining the most beautiful aspect of this watershed and adversely affecting WSA preservation. Please do no more harm, and instead continue to maintain our wilderness to the highest standards possible.</p>	<p>Reclamation land is surrounded by the WSA, therefore the only access to the proposed facility site would be via the identified access road. Section 2.4.2.2, "Injection Well Facilities" of the EIS discusses the injection well or directional bore which would need to pass beneath the WSA under Alternative B-Area B1. Section 3.13.2.2, "Alternative B--Injection Well" of the EIS discloses impacts on the wilderness characteristics of Dolores River Canyon WSA.</p> <p>The BLM's management policy for designated Wilderness Study Areas is to continue resource uses in a manner that maintains the area's suitability for preservation as wilderness. Policy states that wilderness characteristics in WSAs will be maintained, and all new, discretionary uses must meet the non-impairment standard. Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness.</p> <p>After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well</p>

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							and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. <b>Section ES 8.2</b> and <b>Table 2-7</b> of the Final EIS have also been edited accordingly.
67	Bell	Kristian			67.02	2) The primary recreational activities on BLM-administered lands in the vicinity of the Paradox Valley are hunting, river-related uses, such as fishing, rafting, and canoeing, off-highway vehicle use, hiking, rock climbing, mountain biking, backpacking, and camping. Recreational opportunities based on solitude and natural setting near the study area would be affected by noise and construction impacts such as the construction of two bridges	Recreational activities identified in this comment are disclosed in Section 3.11.1.1, "Recreation on Reclamation Lands and Recreation on BLM-administered lands." This section also notes "Visual impacts on river recreationists in the study areas are described in Section 3.13, "Areas of Special Designation." Recreational opportunities based on solitude and natural setting would be affected by noise, most intensely during construction (see Section 3.16)." Therefore, the impacts noted in this comment are already adequately

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						and facilities that would be visible from Reclamation land to rafters and hikers, this change to the characteristic landscape would be visible, and so would the scar created by the installation of an underground pipeline which is not ideal.	described in Section 3.11, "Land Acquisition and Land Use"; Section 3.13, "Areas of Special Designation"; and 3.16, "Noise."
67	Bell	Kristian			67.03	4) Emissions of air pollutants (including GHGs, the release of H <sub>2</sub> S in reportable quantities, and odor potential) are not favorable. Alternative A is the best option for the least Emissions and would have no further effect on the airshed at Arches National Park.	<p>Hydrogen sulfide is naturally occurring in the brine and present in all alternatives. For Alternative A, the hydrogen sulfide would no longer be captured by the PVU and would be released to the atmosphere (See Section 3.1.2.2, "Alternative A"). Anticipated emissions of air pollutants from each of the alternatives can be found in Section 3.1, "Air Quality, Odors, and Meteorology and Climate."</p> <p>Effects on air quality at Arches National Park under each alternative are disclosed in Section 3.1.2, "Impacts on Air Quality, Odors, Meteorology and Climate," as well as Appendix E, Air Quality Technical Report. While each alternative would have slightly different requirements to address any potential emissions, as stated in Section 3.1.2, no alternatives would alter the Class I airshed at Arches National Park.</p>

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67	Bell	Kristian			67.04	5) The geologic potential of increased ground shaking and changes in the frequency, magnitude, and spatial distribution of earthquakes, compared with existing and historical trends is the primary identified hazard for the project - involving loss of human life, as well as, economic and environment ai impacts.	The potential for induced earthquakes for alternatives B.1 and B.2 was analyzed and found to be lower than that at the current injection well. This is the result of a larger underground reservoir for these alternatives, fewer impermeable faults than are present at the current well, and a greater distance from potential induced seismicity to populated areas. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
	Hudson	Lesley				FORM LETTER 2	See response to letter #67, above.
	Miller	Dan				FORM LETTER 2	See response to letter #67, above.
	Reilly	M				FORM LETTER 2	See response to letter #67, above.
	Van Gemert	Tyler				FORM LETTER 2	See response to letter #67, above.
	AuCoin	Bryan				FORM LETTER 2	See response to letter #67, above.
	Capelin	Ben				FORM LETTER 2	See response to letter #67, above.
	Diaz	Ashleigh				FORM LETTER 2	See response to letter #67, above.
	Field	Abby				FORM LETTER 2	See response to letter #67, above.
	Flucke	Nora				FORM LETTER 2	See response to letter #67, above.
	Furtney	Josh				FORM LETTER 2	See response to letter #67, above.
	Gaztimbide	Marcel				FORM LETTER 2	See response to letter #67, above.
	Huffman	Maya				FORM LETTER 2	See response to letter #67, above.
	LaCroix	Chase				FORM LETTER 2	See response to letter #67, above.
	Martinez-Evans	Marta				FORM LETTER 2	See response to letter #67, above.
	McCarthy	Sarah				FORM LETTER 2	See response to letter #67, above.
	Muhammad	Mustapha				FORM LETTER 2	See response to letter #67, above.

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	Pullen	Alex				FORM LETTER 2	See response to letter #67, above.
	Shaw	Hayden				FORM LETTER 2	See response to letter #67, above.
	Sherman	Priscilla				FORM LETTER 2	See response to letter #67, above.
	Stambler	Evan				FORM LETTER 2	See response to letter #67, above.
	Tucker	Ben				FORM LETTER 2	See response to letter #67, above.
	Ulrich	Josh				FORM LETTER 2	See response to letter #67, above.
	Z	W				FORM LETTER 2	See response to letter #67, above.
68	Braden	Scott	Director	Colorado Wildlands Project	68.01	We recommend that BOR complete a more holistic analysis of the costs and benefits associated with the entire Colorado River Salinity Control Program and weigh the overall need of the Paradox Valley Unit (PVU) in that context and developing a different range of alternatives before making a final decision (beyond Alt A) on the future of the PVU.	The proposed action (See Section 1.2, "Summary of Proposed Action") and the purpose and need for action (See Section 1.3, "Purpose of and Need for Action") describe the collection and disposal of saline groundwater of Paradox Valley, which is authorized by Title II of the Colorado River Basin Salinity Control Act, Section 202(a)(1). Therefore, the geographic scope of analysis is appropriately limited to those areas that could achieve collection and disposal of saline groundwater of the Paradox Valley. The costs of each alternative are included in section 2.7.1, Table 2-3. Salinity control in the Paradox Valley does not preclude funding or implementation of other salinity control projects through the Basin wide and Basin States salinity control programs.
68	Braden	Scott	Director	Colorado Wildlands Project	68.01	The lack of solid data demonstrating the effectiveness of the PVU makes it impossible	Table 2-1, "Amount of salt intercepted by the PVU and estimated amount of salt continuing to enter the Dolores

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						<p>for the public to assess whether the project meets the purpose and need, as well as whether it is a wise investment in these costly action alternatives, both to taxpayers as well as to the surrounding environment.</p> <p>Though the Colorado River Basin Salinity Control Act of 1974 authorizes the PVU, it does not mandate a particular kind of operation at Paradox Valley, or direct BOR that it must engage in a particular type of operation at Paradox Valley.<sup>3</sup> Indeed, other locations are listed where there are no significant operations, such as at Crystal Geyser in Utah.</p> <p>Recommendation: The BOR should not decide on one of the action alternatives unless it can demonstrate to the public that it meets the purpose and need.</p>	<p>River from 1971 to 2018," shows the history of salt entering the Dolores River and the amounts of salt removed from the system by the PVU. The table shows significant reductions in salt entering the Dolores River when the PVU is in operation. The assumptions utilized in the analysis are outlined in Section 2.1.1, "Effect on Dolores River Salinity Levels," of the EIS. The best available information was used to develop information in the EIS regarding the effectiveness of salinity control in the Paradox Valley. The effectiveness, costs and impacts of the alternatives are adequately analyzed and discussed throughout the EIS such that no changes to the EIS are needed.</p>
68	Braden	Scott	Director	Colorado Wildlands Project	68.02	<p>The DEIS fails to present a reasonable range of alternatives, including alternatives to mitigate impacts. The three action alternatives</p>	<p>The DEIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the DEIS, including those alternatives considered</p>

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						<p>each present troubling environmental and community impacts, yet it fails to contemplate alternatives that might also reduce salinity intrusion at Paradox Valley such as managing river flows at existing BOR facilities in the Dolores River (such as at McPhee Dam) to increase flows and thus reduce salinity.</p>	<p>but eliminated from further analysis as well as the analyzed action alternatives, consist of the practical and feasible options that would achieve the Purpose and Need of the project.</p> <p>Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need.</p> <p>We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These references say that the result of allowing more water to flow</p>

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							<p>downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause</p>

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							<p>increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.</p>
68	Braden	Scott	Director	Colorado Wildlands Project	68.03	<p>The Dolores River Canyons WSA is a 30,000 acre area of slickrock canyons surrounding the Dolores River, recommended by the BLM to be designated wilderness by Congress. The WSA and the "Slickrock Section" of the Dolores River that winds through the WSA is a popular and sought after recreational resource when flows are</p>	<p>The BLM's management policy for designated Wilderness Study Areas is to continue resource uses in a manner that maintains the area's suitability for preservation as wilderness. Policy states that wilderness characteristics in WSAs will be maintained, and all new, discretionary uses must meet the non-impairment standard. Development under Alternative B-Area B1 may or may</p>

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						<p>sufficient to float the stretch. The WSA "includes all surface and subsurface features under the jurisdiction of the BLM."The non-impairment standard requires a two-part test for proposed actions. One is if the action is temporary and the second is whether the action creates a surface disturbance. Alternative B1 would be a permanent action within the WSA, even though it is subsurface, so it fails the non-impairment standard test.</p>	<p>not compromise the area's suitability for future designation as wilderness.</p> <p>After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. <b>Section ES 8.2</b> and <b>Table 2-7</b> of the Final EIS have also been edited accordingly.</p>

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68	Braden	Scott	Director	Colorado Wildlands Project	68.04	<p>Since there are other alternatives that would not impair the WSA, and since Alternative B falls short of a qualifying exception to the non-impairment standard, then BOR should eliminate Alternative B as an alternative, or at least amend it to entirely avoid the surface and subsurface of the WSA.</p> <p>Recommendation: BOR should eliminate or rework Alternative B to entirely avoid the Dolores River Canyon WSA. BOR cannot adopt Alternative B as proposed in the DEIS because it would violate the non-impairment standard, the PVU is not a qualifying exception to the non-impairment standard, and there are other alternatives available that would not impair a WSA.</p>	<p>BLM policy states, "if an impairing proposed project, even one that meets an exception, can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that the project is implemented outside the WSA." Before selecting any alternative, Reclamation and BLM must take a hard look at the resource impacts of each and determine which action provides the greatest balance of minimizing resource impacts, while fulfilling the purpose and need.</p> <p>Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness. After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface</p>

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							<p>disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.</p> <p>Because of geology and topography, the only feasible means of reaching the unpressurized part of the Leadville formation from Reclamation's property is to use the subsurface of the WSA. The unpressurized part of the Leadville formation is delineated by a major northwest-trending fault that vertically offsets the Leadville by more than 1000 feet, creating an impermeable flow boundary. The fault is located in the subsurface, south of Reclamation's property line, and below the WSA. For a drill-hole to reach the unpressurized part of the Leadville formation, two feasible options have been identified: (1) directional drilling of in injection well in a southwards and downwards direction from the ground surface, within Reclamation's property line; and (2) shallow drilling of a pipeline southwards (in a downwards and later</p>

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							upwards arc), from Reclamation's property to a point on top of Skein Mesa south of the WSA, where a vertical injection well would then be drilled to reach the Leadville formation. There are no other feasible alternatives. It is infeasible to run a brine pipeline to the top of Skein Mesa, other than the underground pipeline identified in the alternative. It is infeasible to reach the unpressurized part of the Leadville using a vertical or directional well by moving upstream on the Dolores River because Reclamation does not own that property. It is infeasible to inject into the already pressurized part of the Leadville because that would be essentially the same as injecting into the current reservoir. References for this information are in Sections 2.4 and 3.3 of the EIS.
68	Braden	Scott	Director	Colorado Wildlands Project	68.05	BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS: Impacts to river recreation, such as new bridges and other infrastructure over the Dolores River within a popular boating	Language in Table 2-5, "Environmental Commitments" has been edited to specifically state "and allow for continued boating opportunities." Table 2-5 now reads "Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing conditions and allow for continued boating opportunities; in other words, bridge piers would not

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						section, creating new public hazards.	<p>constructed in the active river channel." Further, Table 2-5 in the DEIS states "Timing of bridge construction would occur during low flow conditions" and Section 3.11.2.2, " Land Acquisition and Land Use, Alternative B," states boating opportunities would not be affected.</p> <p>The bridge would span the active river channel and allow for continued boating opportunities; therefore, there would be no additional public hazards created beyond inherent hazards that presently exist for boating along the Dolores River.</p>
68	Braden	Scott	Director	Colorado Wildlands Project	68.06	BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS: Impacts to scenic and aesthetic qualities of community and area. Paradox Valley is a rural, residential and agricultural community. Building significant industrial infrastructure could harm these qualities, and depress already low property values.	The DEIS discloses potential impacts on scenic and aesthetic qualities in the project area as a result of each of the action alternatives in multiple locations in the document. These potential impacts are disclosed in Section 3.11, "Land Acquisition and Land Use"; Section 3.12, "Visual Resources"; Section 3.13, "Areas of Special Designation"; and Section 3.17, "Artificial Light." Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative. As stated in Section 3.15.2, "Impacts on Socioeconomics," property values and

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							property taxes would not change under any alternative because property values are already at the low base property value. The impacts are adequately described in the DEIS such that no change to the EIS needs to be made.
68	Braden	Scott	Director	Colorado Wildlands Project	68.07	BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS: Impacts to economy and efforts at just transition. The West End of Montrose County is working to recover from the boom and bust cycles of the uranium mining era and still reeling from the job losses resulting from the closure of the Tri-State power plant and mine at Nucla. There have been significant efforts to reinvent the local economy around outdoor recreation. New trails have been built, and efforts are being made to promote existing resources like boating on the Dolores River or hiking in the WSA. The DEIS fails to analyze the effects that any of the alternatives would have on the	<p>Section 3.11.2, "Impacts on Land Acquisition and Land Use," and Section 3.13.2, "Impacts on Areas of Special Designation," in the DEIS analyze effects of the alternatives on recreation uses and recreational experience in the project area. Section 3.16.2 in the DEIS, Impacts on Noise, analyzes long-term and short-term noise effects from the alternatives, and Section 3.12.2 in the DEIS, Impacts on Visual Resources, analyzes impacts on scenery. Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative.</p> <p>Information has been added to Section 3.15.1.2 of the FEIS, "Socioeconomics, Affected Environment, Economy and Employment," to describe the recreation economy in the project area. Analysis in Section 3.15.2 of the FEIS, "Impacts on Socioeconomics," has been updated to explain that the recreation economy</p>

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						economic revitalization efforts of the area.	may be adversely affected by impacts on the recreation experience, as described in Sections 3.11.2, 3.12.2, and 3.13.2.
68	Braden	Scott	Director	Colorado Wildlands Project	68.08	BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS: Impacts to wildlife. The DEIS acknowledges the impacts that Alternative B would have on potential Gunnison sage grouse habitat, however the DEIS incorrectly states that there is low public interest or no economic or recreational concerns in bighorn sheep species in the project area. <sup>22</sup> On the contrary, the public and Colorado Parks and Wildlife have had significant interest in the health and recovery of the herd in the Dolores River canyons.	Table 3-11, "Terrestrial and aquatic wildlife focal species," in the EIS has been edited to include recreation and economic value and high public interest as additional rationale for including bighorn sheep as a focal species. Section 3.9.1.1, "Terrestrial Wildlife"; Section 3.9.2.3, "Alternative B – Injection Well Impacts to Wildlife"; Table 4-2, "Potential for cumulative impacts on resources analyzed in this EIS" and Appendix I, Biological Evaluation Report, in the DEIS specifically address desert bighorn sheep. With the incorporation of the revision to Table 3-11 noted above, the impacts are adequately analyzed and described in the EIS.
69	Brown	Dennis				[No substantive comments]	NA
70	McCrary	Cara				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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71	Reott	Michelle				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
72	Hetherton	Sylvie				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
73	McLaurin	Kirby				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
74	Amerman	Mary				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
75	Anderson	Charlene				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
76	May	Marylyn				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
77	Ryan	Rick				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
78	Schaladach	Tim				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
79	Sheldon	Matthew				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
80	Welz	Dave				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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81	Brown	Erika				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
82	Fenberg	Tamra				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
83	Giblin	Matt				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
84	Holleb	Josh				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
85	Holmes	Doug				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
86	Goltz	Gregory				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
87	Hughes	David				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
88	Moorefield	Laura				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
89	Koch	Scott				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
90	Richard	Robin				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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91	Connolly	Marjorie				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
92	Wilton	Jess				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
93	Inteman	Conor				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
94	Blaine	David				No substantive comments	NA
95	Kane	Mary				No substantive comments	NA
96	Paak	Lissa				No substantive comments	NA
97	Belson	Aaron	Counselor	Fort Lewis College Counseling Center		FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
98	Holvenstot	Bridget				No substantive comments	NA
99	O'Leary	Dennis			99.01	I comment as a retired USGS geologist familiar with the geology of the salt valleys. The best alternative is to cease the salt extraction program altogether. As long as the Dolores River crosses Paradox Valley it will dissolve and transport salt and the underlying anticline will rise to maintain the stream gradient. The only solution is to case the channel of the river with	This proposal is identified in Table 2-7, Summary of other alternatives considered and reason for elimination, in the DEIS. Additional information is as follows. We have added two references (USGS 2019; Reclamation 2019) to Table 2-7. Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the Paradox Valley Unit (PVU). A conceptual model

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						concrete to isolate the salt from the flowing water.	of brine discharge to the river is presented at three scales. At a regional scale, groundwater derived from recharge at higher altitudes in the valley, including the La Sal Mountains, drives dissolution of salt in the Paradox Formation and flow of brine into the alluvial aquifer (USGS 2019). At an intermediate scale, surface-water-groundwater interactions at the scale of the alluvial aquifer control seasonal and interannual brine discharge to the river (USGS 2019). At the finest scale, diurnal fluctuations in river stage appear to drive exchange of fresh river water with saltier groundwater in the hyporheic zone increasing brine discharge to the river during the winter (USGS 2019). A June 2019 presentation to the Salinity Control Forum provides an overview of U.S. Geological Survey (USGS) activities at the PVU including groundwater-age dating conducted in 2011 and development of a density-dependent groundwater-flow and solute-transport model for the Paradox Valley (Reclamation 2019). These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in

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							<p>the subsurface. Recharge to the Paradox Valley from the surrounding uplands is diffuse meaning that precipitation falling on the land surface infiltrates to the subsurface in diffuse patterns rather than at discrete locations (such as a sinkhole for example). Previous groundwater-age and isotopic-tracer data were collected from wells along the approximate axis of the Paradox Valley from northwest to southeast (Reclamation 2019). Results from this effort indicate that recharge from upland areas takes about 60 years to travel to wells in the northwestern end of the Paradox Valley (Reclamation 2019). Some samples were identified as mixtures of modern and old waters. Modern (present day) groundwater is found near West Paradox Creek and the Dolores River, where the aquifer is influenced by surface water. On the basis of carbon-14 groundwater dating, the oldest brine groundwater age is estimated in the range of 7,600 to 8,100 years (Reclamation 2019). These groundwater-age dating results indicate that even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine</p>

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							discharge to dissipate. Therefore, recharge to the Paradox Valley would continue regardless of whether the river was lined. The hydraulic gradient would continue to drive brine creation and the brine would accumulate until it either overtopped the liner or found a way around the liner into the Dolores River downstream.
100	Summers	Kellee and Doug				No substantive comments	NA
101	Hut	Martha				No substantive comments	NA
102	Carter	Jeff				No substantive comments	NA
103	Weimer	Joseph				No substantive comments	NA
104	Johnson	Stephen		Stephen B. Johnson Law Firm, P.C.	104.01	BuRec should act to reduce out-of-basin Colorado river diversions and increased Colorado River depletions, to avoid increasing salinity and allow greater salinity dilution, an alternative not addressed but which should have been.	Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction;

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							<p>therefore, this alternative does not meet the purpose and need. We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These references say that the result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of</p>

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							<p>the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.</p>
104	Johnson	Stephen		Stephen B. Johnson Law Firm, P.C.	104.02	DEIS: The PVU is in western Montrose County, Colorado, approximately 50 miles southwest of Grand Junction	The DEIS states the correct amount. The PVU currently removes about 95,000 tons of salt per year that would otherwise enter the Colorado River.

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						<p>and 10 miles east of the Colorado-Utah border. The PVU extracts naturally occurring brine groundwater in Paradox Valley which prevents brine from entering the Dolores River, a tributary to the Colorado River. The brine is then injected deep underground into a permeable, porous rock formation, thus improving water quality in both the Dolores and Colorado Rivers. The PVU currently removes about 95,000 tons of salt per year that would otherwise enter the Colorado River. This tonnage represents 7 percent (%) of the current salinity control in the Colorado River at Imperial Dam, just upstream of the Northerly International Boundart (NIB) with Mexico.</p> <p>BuRec press release: The PVU consists of facilities to intercept shallow brine and inject it into the Leadville Geologic formation via a Class V deep injection well. The PVU has been injecting brine since 1996.</p>	<p>Previously, the PVU removed 100,000 tons of salt per year. The comment does not reference the date of the press release, but that press release likely predates the DEIS.</p>

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						<p>Approximately 100,000 tons of salt are injected annually; this correlates to about ten percent of the total salinity control in the Colorado River, making the PVU one of the most effective salinity control projects in the Colorado River Basin.</p> <p>So your fundamental factual predicates for the purpose and need are misrepresented. Which are correct?</p>	
104	Johnson	Stephen		Stephen B. Johnson Law Firm, P.C.	104.03	<p>I want to point out that the cultural resources in the Paradox are incredible. Rock climbers as well as archeologists have found numerous panels, etc. that deserve utmost protection.</p> <p>The DEIS failed to properly document the existing cultural resources, as well as climbing areas upstream of Bedrock. They are there, and now your BLM field staff know it. They will be desecrated by activity in and around and approaching a new injection well site (Alternative B). These need to be fully documented in a supplemental analysis.</p>	<p>Cultural resources are discussed in Section 3.19, "Cultural Resources." After issuance of a Record of Decision, cultural resources will be surveyed and consultation completed pursuant to the terms of the Programmatic Agreement, Appendix M.</p> <p>Some dispersed rock climbing does occur on lands adjacent to existing Reclamation land, upstream of Bedrock. Under Alternative B-Area B1, access to these areas would remain unchanged, although the presence of additional facilities and infrastructure under Alternative B-Area B1 would adversely impact the recreational experience. To acknowledge impacts to rock climbing experiences upstream of Bedrock,</p>

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							Section 3.11.1.1 of the EIS, "Affect Environment, Land Acquisition and USE" has been edited to add rock climbing as a recreational use and Section 3.11.2, "Environmental Consequences" has been edited to acknowledge the visual effects of additional facilities and infrastructure on recreational experiences based on solitude and natural setting.
105	Ludwig	Drew			105.01	If I had to choose one I would choose option A as any salinity control in the valley appears to be more about the treaty with Mexico then actually getting to the root of salinity in the Colorado River corridor. A PEIS on the entire Salinity Control Program is needed. Salinity in the Colorado River has only increased since the Paradox program began. There has never been a thorough analysis, and the benefits of the Paradox project are not making a bit of difference when the agency doesn't address the root causes. That would be irrigation, over-appropriation, and the dams. They have a lot more analysis	As noted in Section 1.3, Purpose of and "Need for Action" of the DEIS, "The need for the proposed action is to control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin. The PVU has injected naturally occurring brine from Paradox Valley into a deep subsurface reservoir since 1996, but the injection well may be nearing the end of its useful life. Because the underground reservoir pressure and induced seismicity have increased, and brine disposal rates have had to be substantially reduced. In response, a new brine control and disposal facility is needed to enhance and protect the quality of water available in the Colorado River for use in the United States and the Republic of

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						and disclosure to do in the DEIS in my opinion.	Mexico." As described in Section 4.2, "Cumulative Impacts Analysis," in the Water Quality row, the ongoing Salinity Control Program and EQIP would be expected to cumulatively result in the decrease in salinity in the lower Colorado River.
105	Ludwig	Drew			105.02	Option B1 would be disastrous to our efforts towards building a recreation economy. If you want lasting, sustainable jobs, don't put an injection well, two bridges and infrastructure farther up a river corridor that is currently a wilderness study area and under consideration as a wild and scenic river.	<p>Section 3.11.2, "Impacts on Land Acquisition and Land Use," and Section 3.13.2, "Impacts on Areas of Special Designation," in the DEIS analyze effects of the alternatives on recreation uses and recreational experience in the project area. Section 3.16.2 in the DEIS, Impacts on Noise, analyzes long-term and short-term noise effects from the alternatives, and Section 3.12.2 in the DEIS, "Impacts on Visual Resources," analyzes impacts on scenery. Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative.</p> <p>Information has been added to Section 3.15.1.2 of the FEIS, "Socioeconomics, Affected Environment, Economy and Employment" to describe the recreation economy in the project area. Analysis in Section 3.15.2 of the FEIS, "Impacts on Socioeconomics," has been updated to</p>

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							<p>explain that the recreation economy may be adversely affected by impacts on the recreation experience, as described in Sections 3.11.2, 3.12.2, and 3.13.2.</p> <p>Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.</p>

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106	Corra	Andt				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
107	Young	Diane				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
108	Spain	Janet				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
109	Woodall	Kristina				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
110	Wylie	Michael				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
111	Johnson	April				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
112	Mullen	Dean				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
113	Lee	Laurie				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
114	Post	Richard				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
115	Selbin	Susan				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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116	Maiorano III	John				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
117	Wardell	Mark				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
118	Vasquez	Irene				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
119	Rosapepe	John				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
120	trieshmann	susan			120.01	it is my understanding that the original injection site has been in operation for about 20 years and is now filled to capacity. What happens when the proposed site is filled? We just built another one, and then another one? This is not sustainable and a massive use and waste of taxpayer money.	Information on closure and decommissioning of the injection well is described in Section 2.3.4, "Closure and Decommissioning" of the EIS. This section also notes that closure and plugging of the injection well may not occur. Reclamation would cap and plug any abandoned collection wells pursuant to 2 CCR 402-2. Any Federal facilities on BLM-administered lands that are also abandoned by Reclamation under Subpart E of 41 CFR Part 102-75 would be reclaimed by Reclamation.  As described in Section 3.3.2.2, "Geology and Geological Hazards, Alternative B--Injection Well," the new proposed well sites under Alternative B have a substantially larger underground

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							reservoir. Appendix F, Geomechanical and Flow Modeling for Paradox Valley Unit Study for USBR: Summary Report, provides further information on the underground reservoir for the proposed new wells. Because the underground reservoir is substantially larger, the lifetime of the wells proposed under Alternative B-Area B1 is expected to be longer than that of the current injection well.
120	trieshmann	susan			120.02	while there may be some short term economic gain for the local community who might get to help build the new project, ultimately, they will be the losers in the long run as their backyard is turned to a defunct industrial clean up project. not to mention the threat of even more, even bigger earthquakes directly related to this practice.	Impacts to the community related to socioeconomics, specially designated areas, visual resources, recreation, and geological hazards are described throughout Chapter 3, and in particular, in Section 3.15.2, "Impacts on Socioeconomics" of the EIS. Impacts relate to economic damages, employment, property values and property taxes. Impacts disclosed here relate to those significant foreseeable impacts as a result of the proposed action. Alternatives would be designed and implemented to comply with relevant permit and regulatory requirements, etc. to minimize environmental impacts, and as noted in Section 2.9, "Environmental Commitments," design features would

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							be implemented to avoid and minimize and compensate for such impacts.
120	trieshmann	susan			120.03	the local community stands a better chance at long term economic benefit by drawing in tourists to enjoy the beauty and recreational opportunities of an unspoiled and unique landscape. The local farmers and ranchers also deserve to work in an agricultural environment polluted by industrial byproducts.	<p>Section 3.11.2, "Impacts on Land Acquisition and Land Use," and Section 3.13.2, "Impacts on Areas of Special Designation," in the DEIS analyze effects of the alternatives on recreation uses and recreational experience in the project area. Section 3.16.2 in the DEIS, "Impacts on Noise," analyzes long-term and short-term noise effects from the alternatives, and Section 3.12.2 in the DEIS, Impacts on Visual Resources, analyzes impacts on scenery. Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative.</p> <p>Information has been added to Section 3.15.1.2 of the FEIS, "Socioeconomics, Affected Environment, Economy and Employment," to describe the recreation economy in the project area. Analysis in Section 3.15.2 of the FEIS, "Impacts on Socioeconomics," has been updated to explain that the recreation economy may be adversely affected by impacts on the recreation experience, as described in Sections 3.11.2, 3.12.2, and 3.13.2.</p>

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121	Nevle	Richard				No substantive comments	NA
122	Gick	Elisabeth				No substantive comments	NA
123	Craft	Nancy				No substantive comments	NA
124	Carter	Don				No substantive comments	NA
125	Roth	Kristen				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
126	Werneke	Angela				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
127	Skiba	Gar				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
128	Ribe	Tom			128.01	I suggest that land close to civilization be used instead. Leave wild areas alone. Find a place close to a highway and use that. Leave our wild river wild.	Site selection for an injection well was dependent on several criteria, including geology, potential for induced seismicity, logistics, and environmental impacts. Geological criteria included the characteristics of the Leadville formation underground reservoir (e.g., thickness, spatial extent, degree of faulting, depth, porosity, and permeability), the characteristics of the Paradox formation confining layer (e.g., thickness, spatial extent, fracture gradient, composition, and integrity), anticipated flow paths and barriers for the injected fluid, the estimated reservoir capacity, and the degree of confidence in the geophysical and geological interpretations for the

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							<p>site. The potential for induced seismicity depends on the finding areas of the Leadville formation that are relatively unfaulted, and hydrologically isolated from the currently pressurized parts of the formation. Logistical considerations included the distance and elevation difference between the extraction field and the injection well, level of drilling difficulty, the anticipated longevity of the well, and access issues. Additional constraints included non-disturbance of sage grouse habitat and nesting areas, avoidance of wilderness study areas, and use of existing roads where possible. Approximately 20 potential well sites were identified throughout the Paradox Valley region, including near Uravan, within existing Reclamation lands, in the southeastern end of the Paradox Valley, across Monogram Mesa, and in Big Gypsum Valley. After comparing the potential well sites with the site selection criteria previously discussed, sites identified in the EIS as Area B1 and Area B2 were determined to be the sites which would most likely result in a successful injection well for a 50 year project life. While other locations on Monogram Mesa also appeared to possess the required</p>

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							criteria, they were removed from further consideration due to their distance from existing infrastructure and proximity to Gunnison sage grouse critical habitat and breeding grounds. As identified in Section 2.4.2.1, "3-Dimensional Seismic Survey," a 3D seismic survey would need to be completed before final selection of a new well-head site could be determined. Impacts to resources, including recreation, are disclosed in Chapter 3, Affected Environment and Environmental Consequences. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
129	McCord	Marilyn				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
130	Long	Elizabeth				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
131	Lewis	Theodore				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
132	Knutsen	Karinne				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
133	Kisberg	Ralph				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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134	Keelan	Patrick				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
135	Harriss	Gail				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
136	Floyd-Hanna	Lisa				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
137	Ellison	Steve				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
138	Brown	Brian				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
139	Bodnar	Russell				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
140	Biggs	Dorothy				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
141	Barker	Gregory			141.01	Alternative D is summarized as "26,700 MWh of energy use, 4,630 kW of electrical demand, and 4,200,000 hundred cubic feet (CCF) of natural gas required annually." The Bureau is looking for a 50-year solution and needs to consider the atmospheric carbon impact of	The potential for incorporating renewable energy was evaluated in the report "Paradox Valley Unit Brine Crystallization Technology Assessment" from 2016. This report is available on the Paradox Valley Unit website ( <a href="https://www.usbr.gov/uc/progact/paradox/index.html">https://www.usbr.gov/uc/progact/paradox/index.html</a> ). In this report, photovoltaic solar, solar thermal, and

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						<p>its energy use here. Salinity reduction create huge economic benefits for downstream users, and allows for water use in downstream states that enables billions of dollars in agricultural productivity. Keeping all that created value in mind, the Bureau can redesign Alternative D to use electricity generated nearby from abundant solar resources and avoid creating 50 years of carbon dioxide pollution that will contribute to the worldwide climate impacts that are worsening desertification in this region.</p>	<p>geothermal energy were evaluated for incorporation. The photovoltaic solar and geothermal sources are not expected to reduce the operating costs of the crystallizers by enough to offset the increased capital costs of the renewable energy technology. One vendor of ZLD technologies incorporated solar thermal into their systems. A pilot study was conducted at the PVU with solar thermal troughs from a different vendor but the intensive operation, maintenance, and replacement demonstrated did not identify that it would offset the capital costs of the solar troughs. Also, natural gas would still be required for the periods of time when these renewable resources are not able to produce energy. However, renewable energy resources could be incorporated during final design should data become available demonstrating their viability at the PVU.</p> <p>Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. Based on the information provided, it appears the</p>

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							<p>solar thermal troughs could potentially be viable as a design improvement to supplement energy for Alternative D. However, no information was provided regarding capital, operation, maintenance, or replacement costs of the solar thermal troughs. Pilot testing would be required to verify the viability and applicability of the technology and to provide data on anticipated costs and benefits. Pilot testing would occur after the Record of Decision if Alternative D is identified as the preferred alternative. Selection of technologies to be pilot tested would be subject to a competitive contracting process at that time. The constraints for inclusion would include that the technology is commercially available and not in research or development stages. Reclamation would continue to evaluate methods to further minimize impacts during the design process. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed.</p>

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							In Section 2.6.2.1 of the Final EIS, "Zero-Liquid Discharge Facility," a sentence has been added to the end of the last paragraph that says, "Reclamation would continue to evaluate methods to further minimize impacts during the design process. In addition, alternative energy technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."
142	Curry	Chris				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
143	Young	Jo				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
144	Newens	Jessica				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
145	Narwid	Heather				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
146	Ledgerwood	Madison				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
147	Kuenzi	Amanda				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.

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148	Hickerson	Karen				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
149	Lewis	John		High Desert Workshop Ilc	149.01	I'm writing to express my concern about the Bureau's plans to build access roads, bridges, and an injection well in the Dolores River Canyon, near the confluence with Wild Steer Canyon. After reading the EIS, I see that alternatives to this potentially disruptive plan exist, and are under consideration. In my opinion, the Bureau should be allocating budget to provide the least disruptive solution, even if it costs more. The Dolores River Canyon, as you know, is one of the most scenic, magnificent, unique, and undisturbed public area left on the Colorado Plateau. I urge the Bureau to consider it precious, not only for its own merits, but as a bulwark against further encroachment of development in the region. Especially in light of recent setbacks in the region—most notably where industry interests trumped public interests in downsizing the	Sections 3.12.2.2 and 3.13.2.2, both called "Alternative B—Injection Well" identify potential impacts to the scenic quality and the wilderness character of Dolores River as a result of Alternative B-Area B1 and further notes that 1. with the implementation of mitigation measures after construction (see Section 2.9, "Environmental Commitments"), the degree of contrast would be minimized or eliminated, and the level of change to the characteristic landscape would eventually be low, and the degree of contrast created by the pipeline scar would be weak; and 2. such impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river. Further impacts related to noise during construction would occur only in the short term. The impacts described are adequate such that no change to the DEIS needs to be made.

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						Grand Staircase-Escalante National Monument and in The Bears' Ears—I believe we need to allocate resources generously, in the true spirit of conservation, to this beautiful and wild place.	
150	Mickel	Alex		Mild to Wild Rafting and Jeep Trail Tours, Inc.		No substantive comments	NA
151	Moss	Jim				No substantive comments	NA
152	Diaz	Ashleih	Managing Partner	4Corners Riversports		FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
153	Thorne	Anna				FORM PLUS LETTER 1 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to letter #8, above.
154	Schoettgen	Scott			154.01	<p>Salinity Control Program. I am very concerned that the impacts from the proposed Alternative B1 would be devastating to the scenic qualities of the Dolores River Canyon.</p> <p>The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as</p>	Sections 3.12.2.2 and 3.13.2.2 identify potential impacts to the scenic quality and the wilderness character of Dolores River as a result of Alternative B-Area B1 and further notes that 1. with the implementation of mitigation measures after construction (see Section 2.9), the degree of contrast would be minimized or eliminated, and the level of change to the characteristic landscape would eventually be low, and the degree of contrast created by the pipeline scar would be weak; and 2. such impacts on scenic ORVs would be minor since the

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						<p>boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them crisscrossed by power lines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.</p> <p>A new road, two river crossings, and associated infrastructure would damage the outstanding values of this popular stretch of river.</p>	<p>topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river. Further impacts related to noise during construction would occur only in the short term. The impacts described are adequate such that no change to the DEIS needs to be made.</p>
154	Schoettgen	Scott			154.02	<p>However, I also have concerns that the new bridges would impose a safety hazard not present elsewhere in the reach.</p>	<p>The bridge would span the active river channel and allow for continued boating opportunities; therefore, there would be no additional public hazards created beyond inherent hazards that presently exist for boating along the Dolores River. There are other bridges across the Dolores River in this reach from Slick Rock to Bedrock: on Colorado Highway 141 at Slick Rock; on S8 Road below Slick Rock; on Gypsum Valley Road at the Montrose and San Miguel County line; and on Colorado Highway 90 at Bedrock.</p> <p>Language in Table 2-5, "Environmental Commitments," of the FEIS has been</p>

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							<p>edited to include "and allow for continued boating opportunities." Table 2-5 will now read "Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing conditions and allow for continued boating opportunities; in other words, bridge piers would not constructed in the active river channel."</p>
154	Schoettgen	Scott			154.03	<p>The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.</p>	<p>Impacts to these resources are disclosed in the EIS. Section 3.13.2 of the DEIS, "Impacts on Areas of Special Designation," discusses the process for evaluating potential impacts to wild and scenic rivers. Issues identified in relation to wild and scenic river segments include adverse impacts on the values (free-flowing condition, water quality, tentative classification, and outstandingly remarkable values). The procedures in BLM Manual 6400 (Wild and Scenic Rivers-Policy and Program Direction for Identification, Evaluation, Planning, and Management) were used to evaluate impacts to wild and scenic river values.</p> <p>Section 3.13.1.1 of the DEIS, "Wild and Scenic Rivers," disclosed that the segment of the Dolores River through</p>

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							<p>Reclamation land had a preliminary classification of recreational, which allowed for some development. At the end of the response add: Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.</p>
154	Schoettgen	Scott			154.04	As an avid outdoor recreationist, I encourage the Bureau to more carefully take	Site selection for the injection well was dependent on several criteria, including geology, potential for induced

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						<p>impacts to recreational and social values into consideration in the proposed alternatives. Other locations for potential brine injection wells should be considered that would not be as socially and environmentally impactful.</p>	<p>seismicity, logistics, and environmental impacts. Geological criteria included the characteristics of the Leadville formation underground reservoir (e.g., thickness, spatial extent, degree of faulting, depth, porosity, and permeability), the characteristics of the Paradox formation confining layer (e.g., thickness, spatial extent, fracture gradient, composition, and integrity), anticipated flow paths and barriers for the injected fluid, the estimated reservoir capacity, and the degree of confidence in the geophysical and geological interpretations for the site. The potential for induced seismicity depends on the finding areas of the Leadville formation that are relatively unfaulted, and hydrologically isolated from the currently pressurized parts of the formation. Logistical considerations included the distance and elevation difference between the extraction field and the injection well, level of drilling difficulty, the anticipated longevity of the well, and access issues. Additional constraints included non-disturbance of sage grouse habitat and nesting areas, avoidance of wilderness study areas, and use of existing roads where possible. Approximately 20 potential well sites were identified throughout the</p>

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							<p>Paradox Valley region, including near Uravan, within existing Reclamation lands, in the southeastern end of the Paradox Valley, across Monogram Mesa, and in Big Gypsum Valley. After comparing the potential well sites with the site selection criteria previously discussed, sites identified in the EIS as Area B1 and Area B2 were determined to be the sites which would most likely result in a successful injection well for a 50 year project life. While other locations on Monogram Mesa also appeared to possess the required criteria, they were removed from further consideration due to their distance from existing infrastructure and proximity to Gunnison sage grouse critical habitat and breeding grounds. As identified in Section 2.4.2.1, "3-Dimensional Seismic Survey," a 3D seismic survey would need to be completed before final selection of a new well-head site could be determined. Impacts to resources, including recreation, are disclosed in Chapter 3, Affected Environment and Environmental Consequences. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.</p>

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	Adams	Brett				FORM LETTER 3	See responses to comments in letter 154
	Ahles	Shaina				FORM LETTER 3	See responses to comments in letter 154
	Althage	Andrew				FORM LETTER 3	See responses to comments in letter 154
	Anders	Jason				FORM LETTER 3	See responses to comments in letter 154
	Barry	Tom				FORM LETTER 3	See responses to comments in letter 154
	Berry	Austin				FORM LETTER 3	See responses to comments in letter 154
	Chemistruck	Victoria				FORM LETTER 3	See responses to comments in letter 154
	Connors	Jackson				FORM LETTER 3	See responses to comments in letter 154
	Dalton	Gordon				FORM LETTER 3	See responses to comments in letter 154
	Foster	Nathan				FORM LETTER 3	See responses to comments in letter 154
	Gill	Justin				FORM LETTER 3	See responses to comments in letter 154
	Howard	Kyle				FORM LETTER 3	See responses to comments in letter 154
	Ingalls	Nicholas				FORM LETTER 3	See responses to comments in letter 154
	Kerce	Kimberly				FORM LETTER 3	See responses to comments in letter 154

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	Kinzer	Cole				FORM LETTER 3	See responses to comments in letter 154
	Lawley	Spencer				FORM LETTER 3	See responses to comments in letter 154
	Legere	Anna				FORM LETTER 3	See responses to comments in letter 154
	McGinty	Patrick				FORM LETTER 3	See responses to comments in letter 154
	McMurty	Abbygail				FORM LETTER 3	See responses to comments in letter 154
	Rouzer	Resford				FORM LETTER 3	See responses to comments in letter 154
	Shiflett	Kim				FORM LETTER 3	See responses to comments in letter 154
	Snyder	Bennett				FORM LETTER 3	See responses to comments in letter 154
	Stasser	Erin				FORM LETTER 3	See responses to comments in letter 154
	Turnbo	Tyler				FORM LETTER 3	See responses to comments in letter 154
	Vojta	Copi				FORM LETTER 3	See responses to comments in letter 154
	Whitten	Harrison				FORM LETTER 3	See responses to comments in letter 154
	Yopp	Kaitlyn				FORM LETTER 3	See responses to comments in letter 154
	Bauman	Kevin				FORM LETTER 3	See responses to comments in letter 154

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	Bellah	Ben				FORM LETTER 3	See responses to comments in letter 154
	Darwin	Olivia				FORM LETTER 3	See responses to comments in letter 154
	Johnson	Nannette				FORM LETTER 3	See responses to comments in letter 154
	Rosentein	Sarah				FORM LETTER 3	See responses to comments in letter 154
	Shelton	Terri				FORM LETTER 3	See responses to comments in letter 154
	Varvoutis	Anthony				FORM LETTER 3	See responses to comments in letter 154
	Welch	James				FORM LETTER 3	See responses to comments in letter 154
	Bazile	Vince				FORM LETTER 3	See responses to comments in letter 154
	Gerard	Raymond				FORM LETTER 3	See responses to comments in letter 154
	Curiak	Mike				FORM LETTER 3	See responses to comments in letter 154
	Focardi	Dave				FORM LETTER 3	See responses to comments in letter 154
	Hare	Bruce				FORM LETTER 3	See responses to comments in letter 154
	Konigsberg	David				FORM LETTER 3	See responses to comments in letter 154
	Mallard	Angela				FORM LETTER 3	See responses to comments in letter 154

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	Schreiber	Philip				FORM LETTER 3	See responses to comments in letter 154
	Gricus	Eric				FORM LETTER 3	See responses to comments in letter 154
	Kunin	Timothy				FORM LETTER 3	See responses to comments in letter 154
	Oleson	Evan				FORM LETTER 3	See responses to comments in letter 154
	Baum	Andrew				FORM LETTER 3	See responses to comments in letter 154
	Brion	Geneva				FORM LETTER 3	See responses to comments in letter 154
	Elder	Chris				FORM LETTER 3	See responses to comments in letter 154
	Fornstrom	Cindy				FORM LETTER 3	See responses to comments in letter 154
	Brown	Slader				FORM LETTER 3	See responses to comments in letter 154
	Darwin	Olivia				FORM LETTER 3	See responses to comments in letter 154
	Blackshire	John				FORM LETTER 3	See responses to comments in letter 154
	Downs	John				FORM LETTER 3	See responses to comments in letter 154
	Doyle	Caroline				FORM LETTER 3	See responses to comments in letter 154
	Frickle	Kirsten				FORM LETTER 3	See responses to comments in letter 154

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	Good	Dylan				FORM LETTER 3	See responses to comments in letter 154
	Isaacson	Margaret				FORM LETTER 3	See responses to comments in letter 154
	Jackman	George				FORM LETTER 3	See responses to comments in letter 154
	LaViolette	Corinne				FORM LETTER 3	See responses to comments in letter 154
	Mattson	Annessa				FORM LETTER 3	See responses to comments in letter 154
	McGrady	Ryan				FORM LETTER 3	See responses to comments in letter 154
	Melzer	Stephanie				FORM LETTER 3	See responses to comments in letter 154
	Milton	Virginia				FORM LETTER 3	See responses to comments in letter 154
	Rezabek	Jon				FORM LETTER 3	See responses to comments in letter 154
	Rosenstein	Sarah				FORM LETTER 3	See responses to comments in letter 154
	Schooley	William				FORM LETTER 3	See responses to comments in letter 154
	Sinclair	Dylan				FORM LETTER 3	See responses to comments in letter 154
	Siskind	Paul				FORM LETTER 3	See responses to comments in letter 154
	Tango	Casey				FORM LETTER 3	See responses to comments in letter 154

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	Trouillot	Jared				FORM LETTER 3	See responses to comments in letter 154
	Updegrove	Eric				FORM LETTER 3	See responses to comments in letter 154
	Blado	Alan				FORM LETTER 3	See responses to comments in letter 154
	Cvengros	Benjamin				FORM LETTER 3	See responses to comments in letter 154
	Greene	Jason				FORM LETTER 3	See responses to comments in letter 154
	Hansell	Connor				FORM LETTER 3	See responses to comments in letter 154
	Johnson	Chris				FORM LETTER 3	See responses to comments in letter 154
	MacCleary	Steve				FORM LETTER 3	See responses to comments in letter 154
	Wasuta	Cody				FORM LETTER 3	See responses to comments in letter 154
	Althage	Andrew				FORM LETTER 3	See responses to comments in letter 154
	Malmstrom	Lindsee				FORM LETTER 3	See responses to comments in letter 154
	Sande	Casey				FORM LETTER 3	See responses to comments in letter 154
	Tipton	Jill				FORM LETTER 3	See responses to comments in letter 154
	Barry	Colin				FORM LETTER 3	See responses to comments in letter 154

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	Hayes	Thomas				FORM LETTER 3	See responses to comments in letter 154
	Curry	Brett				FORM LETTER 3	See responses to comments in letter 154
	Lewandowski	April				FORM LETTER 3	See responses to comments in letter 154
	Carrasco-Songer	Mia				FORM LETTER 3	See responses to comments in letter 154
	Welch	James				FORM LETTER 3	See responses to comments in letter 154
155	Collis	Robert				FORM PLUS LETTER 3 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to comments in letter 154
156	Franz	Lynn			156.01	This alternative would impact the river corridor below Wild Steer Canyon. It would also significantly alter the experience of boaters seeking to explore and enjoy the history, geology, and natural richness of the area. I'm concerned about the possibility of boating safety hazards created by the new bridges. The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.	The bridge would span the active river channel and allow for continued boating opportunities; therefore, there would be no additional public hazards created beyond inherent hazards that presently exist for boating along the Dolores River. There are other bridges across the Dolores River in this reach from Slick Rock to Bedrock: on Colorado Highway 141 at Slick Rock; on S8 Road below Slick Rock; on Gypsum Valley Road at the Montrose and San Miguel County line; and on Colorado Highway 90 at Bedrock. Language in Table 2-5, "Environmental Commitments," of the FEIS has been edited to include "and allow for continued boating opportunities." Table 2-5 will now read

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							<p>"Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing conditions and allow for continued boating opportunities; in other words, bridge piers would not be constructed in the active river channel." Section 3.13.2 of the DEIS, "Impacts on Areas of Special Designation," discusses the process for evaluating potential impacts to wild and scenic rivers. Issues identified in relation to wild and scenic river segments include adverse impacts on the values (free-flowing condition, water quality, tentative classification, and outstandingly remarkable values). The procedures in BLM Manual 6400 (Wild and Scenic Rivers-Policy and Program Direction for Identification, Evaluation, Planning, and Management) were used to evaluate impacts to wild and scenic river values. Section 3.13.1.1, "Wild and Scenic Rivers," of the DEIS disclosed that the segment of the Dolores River through Reclamation land had a tentative classification of recreational, while Section 3.13.2.2 disclosed the impacts to the values identified for this river segment. The DEIS identified several impacts to the Outstandingly Remarkable Values</p>

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							<p>(ORVs) found in these segments; these impacts were not expected to alter the tentative classification or eligibility. Additional roads and bridges associated with Alternative B1 would occur on Reclamation lands assigned a tentative classification of recreational, which are allowable under BLM policy. Section 3.6.B.3 of BLM Manual 6400 states, "bridge crossings and river access are allowed" for river segments with a recreational tentative classification. Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e.</p>

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							Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.
157	Frishman	Andrew				FORM PLUS LETTER 3 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to comments in letter 154
158	Giordano	Mike				FORM PLUS LETTER 3 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to comments in letter 154
159	Heckard	Andrew				FORM PLUS LETTER 3 - NO UNIQUE SUBSTANTIVE COMMENT	See responses to comments in letter 154
160	Weimer	Jody			160.01	I have an idea that would benefit this area. How about taking the saltwater, filling large water containers, and shipping the salt to the ocean. This will create new revenue for roads and jobs. In the end, the clean H2O5 Act will be met, and Mexico will be happy.	From reviewing Google Maps, it is approximately 800 miles from Bedrock, Colorado to the nearest access to the Pacific Ocean, which is in Southern California. From the "Final Feasibility and Cost Analysis Findings and Recommendation Report" (Amec 2017d), it was noted transportation costs were a limiting constraint for marketing the brine. Table 10 in Section 10.2 of that report shows transportation costs of bitterns, which is approximately \$0.00075/(mile*gallon). At 300 gpm, the PVU would produce 157,680,000 gallons of brine per year (approximately 32,505 truck loads per year). Combining this information

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							<p>provides an annual transportation cost of \$94,608,000 per year. Over the 50 year design life, the project would cost around \$4,730,400,000. This figure does not include damages to the road infrastructure or environmental impacts from fuel consumption. Also, these costs could fluctuate dramatically with fuel prices. The costs alone eliminate this proposal from further consideration, but the environmental impacts on the haul route would also be considerable.</p> <p>This alternative has been added to Table 2-7, "Summary of other alternatives considered and reason for elimination," of the FEIS to document the rationale for its elimination from detailed consideration.</p>
161	Will	Sarah				No substantive comments.	NA
162	Mayfield	Lyra				No substantive comments.	NA
163	Allee	Lisa				No substantive comments.	NA
164	Matthews	Neal				No substantive comments.	NA
165	Kent	Melanie				No substantive comments.	NA

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166	Brown	Charla			166.01	<p>The impacts of a new injection well site in Paradox Valley would be devastating to the wild character of the Dolores River. The Dolores River is one of the last, best unspoiled places on the Colorado Plateau. The Bureau of Reclamation's plan to relocate the well to Wild Steer Canyon would forever change the last few miles of the magical float through the slickrock canyon. Please consider any options that would not turn this pristine area into an industrial zone. There are surely better options than sacrificing the extraordinary, and irreplaceable, beauty and serenity of the Dolores River Canyon, options like alternate sites for injection wells or higher tech solutions like zero-liquid discharge technology</p>	<p>As noted in Table 2-5 of Section 2.9 of the DEIS, "Environmental Commitments," there would be design features and mitigation measures to minimize impacts on visual resources. These are included in the visual resources analysis report (See Appendix K, "Visual Resources Analysis Report"). Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing condition.</p> <p>Further, as noted in Section 2.4.2, "Design and Construction," of the DEIS, final identification of the injection well location would be based on findings of the 3D seismic survey investigation, which would be conducted if Alternative B is the preferred alternative.</p> <p>The EIS contemplates the least impactful placement of the injection facilities for Area B1, as seen throughout chapter 2. These facilities would be located in upland areas, outside of the 100 year floodplain, outside of the WSA, on Reclamation land. This can be seen in Figure 2-2, "Alternative B New Injection Well Area B1." Two bridges and a brine pipeline would need to be</p>

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							constructed on Reclamation land where the proposed road crosses the Dolores River. A description of these facilities can be found in Section 2.4, "Alternative B--New Deep Injection Well" of the DEIS. As noted, Reclamation land is surrounded by the WSA; therefore the only access to the proposed facility site is via the identified access road. Section 2.4.2.2, Injection Well Facilities, discusses the injection well or directional bore which would need to pass beneath the WSA. Section 3.13.2.2, Areas of Special Designation, Alternative B," discloses the impacts of the infrastructure on the WSA."
167	Pearson	Cande			167.01	I am concerned about any impacts that a new project could have on the Dolores River. I do not want to see any new bridges over the river, and to minimize new roads and development adjacent to the Dolores River corridor, as it is one of the last wilderness areas of it's kind. I do not think that any type of project that includes injection into the ground is a good idea, because nobody really knows what impact that could have in the future, but I	Table 2-5 of Section 2.9 of the DEIS, "Environmental Commitments," summarizes best management practices, design features, and other avoidance and minimization measures to mitigate impacts, including visual resources, noise and wildlife impacts. Access to the river would not be impacted. Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing condition and allow for continued boating opportunities.

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						would be in favor of other technology that would be the least invasive. Please make sure that any alternative mitigates as many visual, noise, and wildlife impacts and access for all users of the river.	
168	Hays	Randy			168.01	I am writing to inform you that I oppose the new roads, powerlines, and bridges proposed for the Dolores River. Constructing these new roads and bridges will significantly alter the current character of the river corridor and leave a permanent scar. I respectfully request you find an alternate location for the new injection well.	Table 2-5 of Section 2.9 of the DEIS, "Environmental Commitments," summarizes best management practices, design features, and other avoidance and minimization measures to mitigate impacts. Visual resources are further analyzed in the Visual Resources Analysis Report (See Appendix K). Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing condition.  Further, as noted in Section 2.4.2, "Design and Construction," final identification of the injection well location would be based on findings of the 3D seismic survey investigation, which would be conducted if Alternative B is the preferred alternative.
169	Kremer	Kassidy			169.01	Is there an alternate spot of the injection well? The infrastructure alone sounds extremely expensive	Site selection for the injection well was dependent on several criteria, including geology, potential for induced seismicity, logistics, and environmental

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							<p>impacts. Geological criteria included the characteristics of the Leadville formation underground reservoir (e.g., thickness, spatial extent, degree of faulting, depth, porosity, and permeability), the characteristics of the Paradox formation confining layer (e.g., thickness, spatial extent, fracture gradient, composition, and integrity), anticipated flow paths and barriers for the injected fluid, the estimated reservoir capacity, and the degree of confidence in the geophysical and geological interpretations for the site. The potential for induced seismicity depends on the finding areas of the Leadville formation that are relatively unfaulted, and hydrologically isolated from the currently pressurized parts of the formation. Logistical considerations included the distance and elevation difference between the extraction field and the injection well, level of drilling difficulty, the anticipated longevity of the well, and access issues. Additional constraints included non-disturbance of sage grouse habitat and nesting areas, avoidance of wilderness study areas, and use of existing roads where possible.</p> <p>Approximately 20 potential well sites</p>

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							<p>were identified throughout the Paradox Valley region, including near Uravan, within existing Reclamation lands, in the southeastern end of the Paradox Valley, across Monogram Mesa, and in Big Gypsum Valley. After comparing the potential well sites with the site selection criteria previously discussed, sites identified in the EIS as Area B1 and Area B2 were determined to be the sites which would most likely result in a successful injection well for a 50 year project life. While other locations on Monogram Mesa also appeared to possess the required criteria, they were removed from further consideration due to their distance from existing infrastructure and proximity to Gunnison sage grouse critical habitat and breeding grounds. As identified in Section 2.4.2.1, "3- Dimensional Seismic Survey," a 3D seismic survey would need to be completed before final selection of a new well-head site could be determined. Impacts to resources, including recreation, are disclosed in Chapter 3, Affected Environment and Environmental Consequences.</p> <p>Costs were evaluated based on a 30% design study, and are adequate for the</p>

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							<p>purposes of this DEIS. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.</p>
170	Margolis	Ronald			170.01	<p>We do not need a new deep injection well and underground pipeline in the Dolores River bed for any reason. This area, if I am not mistaken is already designated as a WSA(Wilderness Study Area) and this type of facility there, would destroy its beauty and the Wilderness for which it is noted.</p>	<p>The injection facilities for Area B1 would be located in upland areas, outside of the 100 year floodplain, outside of the WSA, on Reclamation land. This can be seen in Figure 2-2, Alternative B New Injection Well Area B1. Two bridges and a brine pipeline would need to be constructed on Reclamation land where the proposed road crosses the Dolores River in that figure. A description of these facilities can be found in Section 2.4, "Alternative B--New Deep Injection Well" of the DEIS. As noted, Reclamation land is surrounded by the WSA, therefore the only access to the proposed facility site is via the identified access road. Section 2.4.2.2, "Injection Well Facilities," of the DEIS discusses the injection well or directional bore which would need to pass beneath the WSA.</p> <p>Section 3.13.2.2, "Areas of Special Designation, Alternative B--Injection Well," discloses the impacts of the infrastructure on the WSA. It identifies potential impacts to the scenic quality of Dolores River as a result of</p>

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							<p>Alternative B1 and further notes that 1. with the implementation of mitigation measures after construction (see Section 2.9), the degree of contrast would be minimized or eliminated, and the level of change to the characteristic landscape would eventually be low, and the degree of contrast created by the pipeline scar would be weak. Visual resources are further analyzed in Appendix K, Visual Resources Analysis Report.</p> <p>This analysis adequately describes these impacts such that no change to the EIS is necessary.</p>
170	Margolis	Ronald			170.02	Alternative A would seem to be the best option for preserving the airshed at Arches National Park.	<p>Hydrogen sulfide is naturally occurring in the brine and present in all alternatives. For Alternative A, the hydrogen sulfide would no longer be captured by the PVU and would be released to the atmosphere (See Section 3.1.2.2, "Alternative A—No Action Alternative" of the DEIS). Anticipated emissions of air pollutants from each of the alternatives can be found in Section 3.1, "Air Quality, Odors, and Meteorology and Climate" of the DEIS.</p> <p>Effects on air quality at Arches National Park under each alternative are</p>

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							disclosed in Section 3.1.2, "Impacts on Air Quality, Odors, Meteorology and Climate," as well as Appendix E, Air Quality Technical Report. While each alternative would have slightly different requirements to address any potential emissions, as stated in Section 3.1.2, no alternatives would alter the Class I airshed at Arches National Park.
170	Margolis	Ronald			170.03	You could also just choose to plug the current well and abandon it. This option would save the taxpayers money in addition to maintaining this glorious land's beauty and wildness.	This option is considered and Analyzed under Alternative A of the DEIS. Information on this alternative can be found in Section 2.3 , "Alternative A" of the EIS, and impacts related to this alternative are discussed in Chapter 3 of the EIS.
170	Margolis	Ronald			170.04	If I am not mistaken there are Big Horn Sheep in that area and we would not want to upset their habitat.	Bighorn sheep are discussed in Section 2.10, Table 2-6, "Summary of Impacts by Alternative"; Section 3.9., "Terrestrial and Aquatic Wildlife"; Section 4.2, Table 4-2, "Potential for Cumulative Impacts on Resources Analyzed in EIS"; and Appendix I, Biological Evaluation Report.
171	Russell and Wardman	Jenny and Clay			171.01	Please put me on the list for information as this process moves forward. We are very gravely concerned with all of the proposed actions.	Reclamation has solely been utilizing physical mailing addresses to provide information and project updates. No address or specific contact information was provided in the comment letter. Reclamation added the commenter's email address to the Paradox EIS distribution list.

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172	Fulton	Kathryn			172.01	The Bureau of Reclamation should develop a more reasonable range of alternatives that are not as socially and environmentally destructive, and should also consider the future prospects of the overall salinity removal effort in the context of climate change and ever decreasing snowpack and runoff.	The DEIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the DEIS, including those alternatives considered but eliminated from further analysis as well as the analyzed action alternatives, consist of the practical and feasible options that would achieve the Purpose and Need of the project. Alternatives considered but eliminated from further consideration are described in Section 2.11 and Table 2-7 of the DEIS, "Alternatives Considered but Eliminated from Further Consideration."
173	Foster	Ellen			173.01	A better alternative would be to build a pipeline across the Paradox Valley (3-5 miles) that would transport the Dolores River from the south edge to the north edge of the valley. Prevent the river from flowing through the salt deposit of the Paradox Valley. It would be more efficient and less expensive to keep the salt out of the river to start with than having to get it out of the river after it flows through the Paradox Valley. The Dolores River picks up 205,000 tons of salt annually as it passes	This proposal is identified in Table 2-7, "Summary of other alternatives considered and reason for elimination," in the DEIS. Clarified that the proposal involves either lining or piping the river through the Paradox Valley. Additional information is as follows. We have added two references (USGS 2019; Reclamation 2019) to Table 2-7. Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2017; USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the Paradox Valley Unit (PVU). A conceptual

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						<p>through the Paradox Valley. According to Ed Warner, Area Manager of Reclamation's Western Colorado Office, the desalination plant removes 95,000 tons of salt annually. That means that 110,000 tons of salt picked up in the Paradox Valley remain in the Dolores when it meets the Colorado River. If the river doesn't flow through the salt deposits of the Paradox Valley, an estimated 205,000 tons of salt annually will be prevented from entering the Dolores River. That would be 95,000 tons more than is accomplished by the Paradox Valley Unit. The concentration of salt in the Dolores River, before it meets the Colorado River, would be less than it is now after treatment at the desalination plant. In addition, water that would have been pumped down the injection well would continue down the Dolores River instead. ....A pipeline would eliminate the need for a desalination plant to remove the salt. There would be</p>	<p>model of brine discharge to the river is presented at three scales. At a regional scale, groundwater derived from recharge at higher altitudes in the valley, including the La Sal Mountains, drives dissolution of salt in the Paradox Formation and flow of brine into the alluvial aquifer (USGS 2019). At an intermediate scale, surface-water-groundwater interactions at the scale of the alluvial aquifer control seasonal and interannual brine discharge to the river (USGS 2019). At the finest scale, diurnal fluctuations in river stage appear to drive exchange of fresh river water with saltier groundwater in the hyporheic zone increasing brine discharge to the river during the winter (USGS 2019). A June 2019 presentation to the Salinity Control Forum provides an overview of U.S. Geological Survey (USGS) activities at the PVU including groundwater-age dating conducted in 2011 and development of a density-dependent groundwater-flow and solute-transport model for the Paradox Valley (Reclamation 2019). These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in</p>

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						<p>no need for a new injection well to dispose of brine fluids (Alternative B) There would be no need for evaporation ponds and their associated drawbacks.(Alternative C) There would be no need for a 60-acre onsite salt landfill. (Alternative C) There would be no need for a hydrogen-sulfide treatment system to remove H<sub>2</sub>S before brine is discharged to the evaporation ponds. (Alternative C)There would be no need for a zero-liquid discharge facility to evaporate water from the brine. (Alternative D) Seismic activity would be greatly reduced. People with water rights for irrigation in the Paradox Valley would receive less salty water.</p>	<p>the subsurface. Recharge to the Paradox Valley from the surrounding uplands is diffuse meaning that precipitation falling on the land surface infiltrates to the subsurface in diffuse patterns rather than at discrete locations (such as a sinkhole for example). Previous groundwater-age and isotopic-tracer data were collected from wells along the approximate axis of the Paradox Valley from northwest to southeast (Reclamation 2019). Results from this effort indicate that recharge from upland areas takes about 60 years to travel to wells in the northwestern end of the Paradox Valley (Reclamation 2019). Some samples were identified as mixtures of modern and old waters. Modern (present day) groundwater is found near West Paradox Creek and the Dolores River, where the aquifer is influenced by surface water. On the basis of carbon-14 groundwater dating, the oldest brine groundwater age is estimated in the range of 7,600 to 8,100 years (Reclamation 2019). These groundwater-age dating results indicate that even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine</p>

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							discharge to dissipate. Therefore, recharge to the Paradox Valley would continue regardless of whether the river was piped. The hydraulic gradient would continue to drive brine creation and the brine would accumulate until it either overtopped the liner or found a way around the liner into the Dolores River downstream.
173	Foster	Ellen			173.02	Since the Paradox unit began operating in 1991, over 6,000 earthquakes have been recorded. Bigger quakes are happening more frequently. Well pressure is reaching permit threshold standards, an indication that the total capacity of the Leadville formation site storing the brine has been reached. A new injection well 1 or 2 miles from the existing well will only increase the size and frequency of earthquakes.	Seismic monitoring of the Paradox Valley area began in 1983, and has continued through to the present. An array of 20 remote seismic stations currently monitors the area in real time using highly sensitive instruments that detect earthquakes as small as magnitude -1.5. While earthquakes smaller than about M 2.5 are rarely felt by humans, the data from these monitoring stations provide a wealth of scientific information about how earth's crust is currently deforming and where future earthquakes are likely to occur. While it is not possible to accurately predict the frequency of induced seismic events, the rates at which the smaller magnitude quakes occur and are recorded at these monitoring stations can be used to extrapolate the rates at which larger, potentially damaging earthquakes may occur. Most

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							<p>of the 6,000+ induced earthquakes recorded since the start of PVU fluid injection were too small to be felt by residents and no damage was reported; however, at least 75 of these earthquakes were above the M 2.5 threshold where earthquakes can be felt, and at least 5 of them had <math>M \geq 3.5</math> and were strongly felt (Block et al. 2014). Reclamation has a protocol to suspend injection after events of larger magnitudes to determine if changes to operations are warranted.</p> <p>The potential for induced seismicity was considered for Alternative B.1 and B.2. Approximately 20 sites were evaluated in terms of the potential for induced seismicity and other criteria, from which the final two alternative sites were selected. The potential for induced seismicity is lower for the alternative sites than for the current injection well because a larger underground reservoir is available. The underground reservoir used by the current injection well is limited in size because of the presence of several impermeable faults. The sites considered for alternatives B.1 and B.2 are further away from populated areas, which reduces the effects of ground</p>

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							shaking and the potential for damage. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
174	VanderZanden	Karla				No substantive comments	NA
175	S	A				No substantive comments	NA
	Barlow	John				FORM LETTER 4	See responses to letter 175.
	Creany	Eugene				FORM LETTER 4	See responses to letter 175.
	Dunabar	Miriam				FORM LETTER 4	See responses to letter 175.
	Feldman	Katrina				FORM LETTER 4	See responses to letter 175.
	Gage	Beth				FORM LETTER 4	See responses to letter 175.
	Gillett	Julia				FORM LETTER 4	See responses to letter 175.
	Kramer	Steve				FORM LETTER 4	See responses to letter 175.
	Moore	Betsy				FORM LETTER 4	See responses to letter 175.
	Robertson	Ani				FORM LETTER 4	See responses to letter 175.
	Sady	Sophia				FORM LETTER 4	See responses to letter 175.
	Sargent	Patrick				FORM LETTER 4	See responses to letter 175.
	Spero	Maria				FORM LETTER 4	See responses to letter 175.
	Taft	David				FORM LETTER 4	See responses to letter 175.
	Walker	Errin				FORM LETTER 4	See responses to letter 175.
	Brown	Eliot				FORM LETTER 4	See responses to letter 175.
	Calvert	Victoria				FORM LETTER 4	See responses to letter 175.
	DalVera	Anne				FORM LETTER 4	See responses to letter 175.
	Daniel	Morgenstern				FORM LETTER 4	See responses to letter 175.
	Eickman	Roberta				FORM LETTER 4	See responses to letter 175.
	Gick	Elisabeth				FORM LETTER 4	See responses to letter 175.
	Griffith	Ben				FORM LETTER 4	See responses to letter 175.
	Holmes	TJ				FORM LETTER 4	See responses to letter 175.

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	Juracka	Kathleen				FORM LETTER 4	See responses to letter 175.
	Kaiser	Connie				FORM LETTER 4	See responses to letter 175.
	King-Stoval	Denise				FORM LETTER 4	See responses to letter 175.
	Lampe	Frank				FORM LETTER 4	See responses to letter 175.
	Malach	Michele				FORM LETTER 4	See responses to letter 175.
	Matson	Jojo				FORM LETTER 4	See responses to letter 175.
	McClintock	Amy				FORM LETTER 4	See responses to letter 175.
	McCord	Marilyn				FORM LETTER 4	See responses to letter 175.
	Montgomery	Susan				FORM LETTER 4	See responses to letter 175.
	Pearlman	Marianne				FORM LETTER 4	See responses to letter 175.
	Ristow	Susan				FORM LETTER 4	See responses to letter 175.
	Roig	Eric				FORM LETTER 4	See responses to letter 175.
	Saftler	Michael				FORM LETTER 4	See responses to letter 175.
	Seneff	John				FORM LETTER 4	See responses to letter 175.
	Siegel	William				FORM LETTER 4	See responses to letter 175.
	Spence	Liter				FORM LETTER 4	See responses to letter 175.
	Stack	Ken				FORM LETTER 4	See responses to letter 175.
	Stephenson	John				FORM LETTER 4	See responses to letter 175.
	Villarreal	Augustino				FORM LETTER 4	See responses to letter 175.
	Andrus	James				FORM LETTER 4	See responses to letter 175.
	DeForest	Lennette				FORM LETTER 4	See responses to letter 175.
	Gengel	Julia				FORM LETTER 4	See responses to letter 175.
	Dobson	Ed				FORM LETTER 4	See responses to letter 175.
	Grizzard	James				FORM LETTER 4	See responses to letter 175.
	Allsop	Alicia				FORM LETTER 4	See responses to letter 175.
	Barlow	Gale				FORM LETTER 4	See responses to letter 175.
	Cornell	Matt				FORM LETTER 4	See responses to letter 175.
	Mundy	Jaye				FORM LETTER 4	See responses to letter 175.

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	Senger	James				FORM LETTER 4	See responses to letter 175.
	Wesson	Alexander				FORM LETTER 4	See responses to letter 175.
	C	J				FORM LETTER 4	See responses to letter 175.
	Vanian	Michael				FORM LETTER 4	See responses to letter 175.
	Young	Matt				FORM LETTER 4	See responses to letter 175.
	Grizzard	Mary				FORM LETTER 4	See responses to letter 175.
	MacKay	Carolyn				FORM LETTER 4	See responses to letter 175.
	McGuffey	Lucy				FORM LETTER 4	See responses to letter 175.
176	Fielder	John				No substantive comments	NA
177	Greiner	Joe				No substantive comments	NA
178	Baseman	Alex				No substantive comments	NA
179	Packman	Richard				No substantive comments	NA
180	Russell	Vivian				No substantive comments	NA
181	Logan	Chris				No substantive comments	NA
182	Capelin	Doug	Founder/Owner	Deerhill Expeditions		No substantive comments	NA
183	Graham	Scott and Susan				No substantive comments	NA
184	Kolner	BettyAnn				No substantive comments	NA
185	Fulton	Rica	Restoration Coordinator	Dolores River Restoration Project		No substantive comments	NA
186	Koons	William				No substantive comments	NA
187	Stover	Jim			187.01	Some EIS documents detail options considered but not carried forward. This EIS just has three options with all three carried forward. It seems there must be some options that were	The DEIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the DEIS, including those alternatives considered but eliminated from further analysis as

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						<p>considered but not carried forward like lining the river or completely rerouting the river. I think the EIS is faulty for not listing all of the options considered but not carried forward.</p>	<p>well as the analyzed action alternatives, consist of the practical and feasible options that would achieve the Purpose and Need of the project. Alternatives considered but eliminated from further consideration are described in Section 2.11 and Table 2-7, "Alternatives Considered but Eliminated from Further Consideration." This table shows that such an alternative was considered but eliminated from further analysis because it did not achieve the purpose and need of the project.</p>
187	Stover	Jim			187.02	<p>The three options have a life span of 50 years. I think the EIS should have a vision for technical advances that will occur in the next 10 or so years that could impact the decisions made this year. Alternative D (zero liquid discharge) assumes natural gas will provide the necessary heat for the next 50 years. There have been recent advances in small modular nuclear reactors. What would the economics look like for Alternative D if the fuel was derived from a small nuclear reactor in years 10 through 50?</p>	<p>Small nuclear reactors (or micro-reactors) are in development, but the permitting process is lengthy and much of the design and licensing information is still under development. The United States Nuclear Regulatory Commission (NRC) would need to approve construction of the nuclear power plant as well as an operating license, and it would need to be operated by NRC-licensed personnel. The Department of Defense is currently in the process of acquiring their first micro-reactors with a goal of domestic installation before 2027. The estimated duration for licensing, construction, and startup is expected to be 7 years (initiated in the Fall of 2019) and could be up to 10</p>

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						There may be small modular nuclear reactors available today.	years. There are numerous challenges in this process including design and licensing of the systems, construction of the systems, acquiring fuel, system security, and disposal of spent fuel. As much of this information is still in the research and development stage, it is not feasible to include in this EIS analysis. If these systems become commercially available in the future, they could be analyzed at that time for inclusion into the ZLD Technology system. Additional information on this topic can be viewed on the NRC website at <a href="https://www.nrc.gov/">https://www.nrc.gov/</a> and the "Roadmap for the Deployment of Micro-Reactors for U.S. Department of Defense Domestic Installations" (NEI 2018). In Section 2.6.2.1 of the Final EIS, "Zero-Liquid Discharge Facility," a sentence has been added to the end of the last paragraph that says, "Reclamation would continue to evaluate methods to further minimize impacts during the design process. In addition, alternative energy technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."
187	Stover	Jim			187.03	An attendee at the Montrose meeting indicated there might	The CEQ regulations require the EIS to analyze only those impacts that are

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						<p>be mining in the surrounding area at some point in the future and he was concerned how the earthquakes would impact future mining.</p>	<p>reasonably foreseeable (40 CFR 1508.8). Reasonably foreseeable future actions include those federal and non-federal activities not yet undertaken, but sufficiently likely to occur, that a Responsible Official of ordinary prudence would take such activities into account in reaching a decision. These federal and non-federal activities that must be taken into account in the analysis of cumulative impact include, but are not limited to, activities for which there are existing decisions, funding, or proposals identified by the bureau. Reasonably foreseeable future actions do not include those actions that are highly speculative or indefinite (43 CFR 46.30). References to mining in the area, particularly in this context, are so speculative that they are not likely to be considered reasonably foreseeable. Accordingly, such actions will not be considered in the analysis. Section 3.3.2 of the DEIS, "Impacts on Geological Hazards" describe the reasonably foreseeable impacts of the proposed action on geological hazards in the project area, namely ground shaking from induced seismicity. This analysis adequately describes these impacts</p>

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							such that no change to the EIS is necessary.
187	Stover	Jim			187.04	It might be worthwhile to have some evaporation ponds to give flexibility to Alternatives B and D. If there was a problem with the injection well and or the zero liquid discharge option, the brine could be temporarily diverted to the pond(s).	Table 2-7 of Section 2.11, "Alternatives Considered but Eliminated from Further Consideration," includes implementation of a combination of alternatives and describes that at this time, this alternative would be cost prohibitive; however, implementation of a combination of alternatives would be considered in the future should a specific combination be determined to be cost effective. This alternative was eliminated from further consideration because it does not optimize the annual cost of salt removed and because construction, engineering, and technical capability would be impractical or is unproven.
188	Winslow	Lee				No substantive comments	NA
189	Westphal	Brian			189.01	First off, my major complaint is the fact that one of the requirements for the EIS is to "remove 100k ton/yr of salt" which is presumptuous in that any alternative that does not remove salt from the Dolores river will fail the basic premise of the EIS. It is as if the conclusion is predetermined particularly considering the pilot	100,000 tons of salt control per year is an objective of, and not a requirement of, the action alternatives, as described in Section 1.4 "Goals and Objectives." It was included as an objective based on the desire to control salinity in the Paradox Valley at a level comparable to the historic efficiency of the existing PVU. The pumping rate of the existing PVU has lowered over recent years, resulting in a decrease of salt control

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						<p>plant studies and dollars spent on options B, C, and D to date. I also am not sure where the 100k ton/yr salt increase to the Dolores river comes from when the USGS [1] data indicates a value of 74k ton/yr of salt (and not 95k ton/yr as stated in [2]) is currently being removed from the Dolores river by the current injection technology (PVU). I think the public is being misled by this inflation of the real data from 74k to 95k ton/yr. Additionally, the current EIS [2] also states approximately 150k ton/yr of salt would be added to the Dolores river without the PVU which is an inflation by a factor of two to the real data. I realize it is difficult to quantify exactly the contribution but giving three different values is confusing and misleading.</p>	<p>from over 100,000 tons per year to its current efficiency of 95,000 tons per year. The EIS discloses assumptions and data limitations in Section 2.1, "Assumptions and Data Limitations." This section acknowledges USGS investigations to evaluate salt loading in the Paradox Valley; however, the USGS studies have their own extensive set of assumptions and data limitations, and complete models of salt control do not exist with which to better determine the salinity control of the PVU operations. Therefore, the EIS utilizes best available scientific information and estimates salinity control in the Paradox Valley based on the historical assumption that the quantity of brine intercepted and disposed of by the PVU is equal to the quantify of brine that would eventually enter the Dolores River. The EIS discloses in Section 3.6.2.1, "Impacts Associated with Salinity in the Dolores River (All Alternatives)," that under the No Action Alternative, 95,000 tons/year of salt would no longer be prevented from entering the Dolores River. The EIS does not state that 150,000 tons of salt per year would be added to the Dolores River under any</p>

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							alternative. The analysis adequately describes these impacts such that no change to the EIS is necessary.
189	Westphal	Brian			189.02	Another bothersome item is the lack of a model for the entire Colorado river basin concerning salinity control. Given the ability of computers and relative costs to pilot studies, modeling holds the key to any solution, assuming you trust the model. A comprehensive computer model of the entire Colorado river basin salinity program should be created and utilized for predictive purposes and exploration of potential solutions to the problem.	As discussed in Section 3.6.2.2 "Impacts Associated with Salinity in the Colorado River (All Alternatives)," effects of each alternative on salinity levels in the Lower Colorado River were modeled using the salinity module of the Colorado River Support System (CRSS) RiverWare model. The model run included influences throughout the Colorado River basin resulting from the ongoing Colorado River Salinity Control Program. A report detailing the model run is included in Appendix H, "Hydrologic Modeling Report and Memoranda."
189	Westphal	Brian			189.03	To take a step back and look at the problem and potential solutions I think is needed at this time. As stated in the draft EIS [2], 9.2 mg/l of salt would be added by the Dolores river at Imperial Dam. This amount of salt would only change the overall salt content by 1.2% (9.2/786) at Imperial Dam if the No Action option is selected. I cannot understand how	Comment acknowledged. The costs of the alternatives are disclosed in Section 2.7.1, "Costs of Alternatives," in the DEIS and the impacts of the alternatives on salinity concentrations in the Colorado River are disclosed in Section 3.6.2.2, "Impacts Associated with Salinity in the Colorado River (All Alternatives)" of the DEIS.

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						<p>spending more than \$100 million for options B, C, and D justifies only 1.2% of the problem. I also understand mitigation of the problem may be needed but when the Dolores river only contributes 1.2% of the salt, it would seem that efforts should be applied elsewhere.</p>	
189	Westphal	Brian			189.04	<p>Furthermore, it would seem that all three alternatives (Options B, C, and D) in the EIS are reactionary fixes to the problem, that is, it is assumed that salt HAS to enter the Dolores river and then be removed. In so doing, injection, evaporation, and salt crystallization technologies further the damage to the environment by seismic, visual, energy consumption, and waste disposal issues. Just because a lot of money has been spent to date on Options B, C, and D, does not mean other solutions should be excluded from the draft EIS.</p>	<p>The DEIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the DEIS, including those alternatives considered but eliminated from further analysis as well as the analyzed action alternatives, consist of the practical and feasible options that would achieve the Purpose and Need of the project.</p> <p>Section 2.11 and Table 2-7, "Alternatives Considered but Eliminated from Further Consideration," of the DEIS describe other alternatives that were considered but not further analyzed and the reasons for their elimination.</p>
189	Westphal	Brian			189.05	<p>To address the problem, prevent salt getting into the</p>	<p>This proposal is identified in Table 2-7, "Summary of other alternatives</p>

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						<p>river, I think should be the goal. The previous EIS [3] for the PVU briefly mentions the creation of a bypass channel for the Dolores river with “uncertain outcomes”. There is no data in either the former [3] or latter [2] EIS addressing how much a bypass channel would cost or how much environmental damage to the valley would be incurred. In fact, the recent EIS [2] (Table 2-7) goes further and states that lining the Dolores river would not solve the problem although no data is given, particularly for the contribution of the La Sal mountains to the problem. It has been 40 years since the original EIS [3] was issued and yet it appears that the conclusions have not changed despite the passage of time.</p>	<p>considered and reason for elimination,” in the DEIS. Clarified in Table 2-7 of the FEIS that this alternative could involve lining, piping, or bypass through the Paradox Valley. Additional information is as follows. We have added two references (USGS 2019; Reclamation 2019) to Table 2-7. Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2017; USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the Paradox Valley Unit (PVU). A conceptual model of brine discharge to the river is presented at three scales. At a regional scale, groundwater derived from recharge at higher altitudes in the valley, including the La Sal Mountains, drives dissolution of salt in the Paradox Formation and flow of brine into the alluvial aquifer (USGS 2019). At an intermediate scale, surface-water-groundwater interactions at the scale of the alluvial aquifer control seasonal and interannual brine discharge to the river (USGS 2019). At the finest scale, diurnal fluctuations in river stage appear to drive exchange of fresh river water with saltier groundwater in the hyporheic zone increasing brine discharge to the</p>

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							<p>river during the winter (USGS 2019). A June 2019 presentation to the Salinity Control Forum provides an overview of U.S. Geological Survey (USGS) activities at the PVU including groundwater-age dating conducted in 2011 and development of a density-dependent groundwater-flow and solute-transport model for the Paradox Valley (Reclamation 2019). These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in the subsurface.</p> <p>Recharge to the Paradox Valley from the surrounding uplands is diffuse meaning that precipitation falling on the land surface infiltrates to the subsurface in diffuse patterns rather than at discrete locations (such as a sinkhole for example). Previous groundwater-age and isotopic-tracer data were collected from wells along the approximate axis of the Paradox Valley from northwest to southeast (Reclamation 2019). Results from this effort indicate that recharge from upland areas takes about 60 years to travel to wells in the northwestern end</p>

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							<p>of the Paradox Valley (Reclamation 2019). Some samples were identified as mixtures of modern and old waters. Modern (present day) groundwater is found near West Paradox Creek and the Dolores River, where the aquifer is influenced by surface water. On the basis of carbon-14 groundwater dating, the oldest brine groundwater age is estimated in the range of 7,600 to 8,100 years (Reclamation 2019). These groundwater-age dating results indicate that even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine discharge to dissipate. Therefore, recharge to the Paradox Valley would continue regardless of whether a bypass channel was constructed. The hydraulic gradient would continue to drive brine creation and the brine would accumulate until it either overtopped the bypass channel or found a way around it into the Dolores River downstream.</p>
190	Mueller	Mary Beth			190.01	Any new injection well site (Alternatives B1 & B2) would require building new roads, thereby damaging an immense amount of fragile,	As noted in Table 3-22 of Section 3.20, "Resources not Analyzed," soil resources are not analyzed in this EIS because no highly sensitive soils, including erodible soils , are in the study areas. However,

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						high desert earth. Roads, not to mention the construction thereof, with heavy machinery, loud noise and unnatural lights would be devastating to this area...	Impacts on resources related to ground disturbance and erosion are described throughout the document (See Air Quality (Section 3.1), Water Quality (Section 3.6), Vegetation (Section 3.7), Special Status Plant Species (Section 3.8), Terrestrial and Aquatic Wildlife (Section 3.9), and Federally Listed Species (Section 3.10). Table 2-5, Environmental Commitments, describes impacts from erosion on various resources and includes measures to suppress dust, control erosion, and minimize sedimentation. Sections 3.7.2.2, "Impacts Common to Alternatives B, C, and D," Section 3.7.2.3, "Alternative B--Injection Well," Section 3.7.2.4, "Alternative C--Evaporation Ponds," and Section 3.7.2.5, "Alternative D--Zero-Liquid Discharge Technology" also describe impacts to soil under each alternative in relation to vegetation. These sections sufficiently acknowledge and describe impacts to soil resources in the planning area such that no change to the EIS is needed.
190	Mueller	Mary Beth			190.02	Building bridges over and pipeline under the Dolores River would cause permanent degradation of the wild and exceptional Lower Dolores	Because the Dolores River flows through the collapsed salt dome of the Paradox Valley, there is no permanent solution to this naturally-occurring salinity source. Therefore, long-term

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						River, without ever guaranteeing a permanent fix to the salinity problem.	<p>action alternatives are being proposed and analyzed at a 50-year life.</p> <p>The potential impacts to the Dolores River Canyon as they relate to areas of special designation, visual, and recreation resources, are adequately described in the DEIS in Section 3.11, "Land Acquisition and Use"; Section 3.12, "Visual Resources"; and Section 3.13, "Areas of Special Designation" such that no change to the EIS is needed.</p>
190	Mueller	Mary Beth			190.03	Evaporation Ponds in the Paradox Valley (Alternative C) would have broad negative impacts on local residents and wildlife, and would restrict vital winter range for migrating species.	<p>The potential impacts to the Dolores River Canyon as they relate to residents and their socioeconomic values as well as wildlife are adequately described in the DEIS in Section 3.9, "Terrestrial and Aquatic Wildlife"; Section 3.10, "Federally Listed Species"; Section 3.11, "Land Acquisition and Use"; and Section 3.15, "Socioeconomics" such that no change to the EIS is needed.</p> <p>Further, An adaptive management plan is described in the Predictive Ecological Risk Assessment (PERA), Appendix J in the DEIS, which was developed due to the uncertainty regarding effects on wildlife, including migratory birds. The PERA recommended and Alternative C</p>

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							incorporated several measures including effectiveness monitoring of mitigation measures and allowing for adaptive management. Impacts to wildlife, including elk and deer winter range, are evaluated in the Biological Evaluation Report at EIS Appendix I, and in section 3.9, "Aquatic and Terrestrial Wildlife."
190	Mueller	Mary Beth			190.04	The risks created by noxious chemicals and hydrogen sulfide gas in this option are a threat to humans and animals alike and should not be imposed upon residents, even of a sparsely populated place.	Hydrogen sulfide is a naturally occurring component of the brine, and therefore is a factor under all alternatives. Under Alternative A, brine would no longer be captured by the PVU, and the hydrogen sulfide within the brine would be released to the atmosphere (3.1.2.2, "Alternative A—No Action Alternative"). Under Alternative B, the hydrogen sulfide would be injected into the Leadville formation along with the controlled brine, as is currently done with the existing injection well. Under Alternative C, the brine would be chemically treated to oxidize the hydrogen sulfide and to treat the byproducts of the oxidization. This treatment process would result in a brine which would be safe to expose to open air (Section 2.5.2.2, "Hydrogen Sulfide Treatment"). Under Alternative D, the brine would be treated to chemically oxidize the hydrogen sulfide

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							to reduce corrosion potential, and the brine and hydrogen sulfide would not be exposed to the atmosphere (Section 2.6.2.2, "Hydrogen Sulfide Treatment"). Anticipated emissions of hydrogen sulfide from each of the alternatives is disclosed in section 3.1 "Air Quality, Odors, and Meteorology and Climate."
190	Mueller	Mary Beth			190.05	It is essential to think with a very long view about this and other water issues in the West. Please do not accept any plan that does not consider the changing climate of our region and the impact of future drought conditions on the Colorado River Basin.	Section 3.1.1.2, "Meteorology and Climate," describes the many climatic factors that impact future water supply in the planning area, including temperature, precipitation, snowpack, runoff, and drought. This section also acknowledges the future variability of surface water supplies in the planning area as a result of climate change. Section 3.1.2, "Impacts on Air Quality, Odors, Meteorology, and Climate" describes impacts related to increased emissions and their effect on the climatic factors listed in Section 3.1.1.2. Further, Table 4-2 of Section 4.2, "Cumulative Impacts Analysis," describes the effects of climate change and meteorology in the planning area, including the potential impacts of drought. It states the following: "long-term climate trends are projected to increase variability in surface water flows in the Colorado River Basin,

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							including the cumulative effects analysis area." This section then describes an augmentation plan and other conservation and mitigation methods to address water depletions. These sections together demonstrate that Reclamation has considered the changing climatic and Metrologic conditions in the region throughout its analysis such that no change to the DEIS is needed.
190	Mueller	Mary Beth			190.06	I believe there needs to be a more thorough analysis done on the impacts of the PVU on Colorado River desalinization efforts. How effective is this program as a whole, in light of the over-allocation of the Colorado River? The answer matters, and should be examined by the BOR and other participating agencies.	Effects of the PVU on salinity concentrations measured at the 3 downstream locations on the Colorado River -- below Hoover Dam, below Parker Dam, and at Imperial Dam -- were evaluated and discussed in Section 3.6.1.2, "Salinity in the Colorado River," and Appendix B of the EIS. This section also covers the history of Colorado River Basin Salinity Control policy and points out that the PVU is the largest single contributor to the Colorado River Basin Salinity Control Forum. This information contextualizes the need for the proposed action, regardless of Colorado River allocations--which is out of scope of the project and will not be considered. Accordingly no change to the EIS is needed.
191	Croke	Sheamus				No substantive comments	NA

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192	Kelly	Jon				No substantive comments	NA
193	Ford	Kent			193.01	I am aware of the damage the Dolores/ Agricultural salinity overload has downstream in the Colorado River basin. The salinity mitigation project would fit better in the zone just above the Colorado River, downstream of the WSA, by Dewey Bridge, or elsewhere in Paradox valley.	Alternative B - Area B2, Alternative C, and Alternative D are all located downstream of the WSA. Alternative locations for controlling salt other than the Paradox Valley, Montrose County, Colorado, was identified as a proposed alternative during scoping, and was eliminated from further consideration in this EIS due to the concerns outlined in Table 2-7 in Section 2.11 "Alternatives Considered but Eliminated from Further Consideration," including the concern that the Salinity Control Act authorizes construction and O&M of the PVU specifically in Montrose County, Colorado. While the suggestion to control salt at a location outside of the Paradox Valley, Montrose County, Colorado is not precluded under any of the alternatives, it is outside of the scope of this EIS.
193	Ford	Kent			193.02	Alternative B1, would have an adverse impact on the Dolores River. This is the only and worst industrial facility on the entire Dolores. Any further work, including decommissioning, at this facility should include a boat ramp to reduce overcrowding at the existing	The EIS discloses impacts resulting from Alternative B Area B1 on recreation (Section 3.11.2.1, "Alternative A—No Action Alternative"), Wild and Scenic Rivers, and wilderness (Section 3.13.2.2, "Alternative B—Injection Well"). Construction of a new boat ramp is not relevant to salinity control or impacts associated with any of the alternatives,

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						boat ramp downstream. A project expansion at this location would significantly impact the recreational, wild and scenic, and wilderness qualities of the Dolores River.	and therefore is not included as part of an alternative or as mitigation for any alternative.
194	Davis	Pete			194.01	Specifically, as a professional archaeologist, I am most concerned about several significant and UNDOCUMENTED archaeological sites I have discovered that are directly in the path of the Alternative B1 proposal to put a new well in upstream of the existing one. I led the local BLM officials to these sites several years ago and they confirmed that the sites are, as of now, still undocumented, so there is no way that BOR officials could have known of this when doing their class 1 file search to aid with this proposal. We are working towards a full recordation of these sites in the near future. These cultural sites also have pretty good access by foot (about a mile of walking) and could be much more	Section 3.19.1, "Affected Environment" of the Cultural Resources section of the DEIS catalogues all documented and previously documented sites in the planning area and notes the following regarding undocumented sites:  In conformance with Executive Order 13007, potentially affected Indian tribes were notified of the proposed project and asked to identify any known sacred sites they would like Reclamation to consider in the planning process. The Ute Mountain Ute Tribe, the Southern Ute Indian Tribe, the Ute Indian Tribe of the Uintah and Ouray Reservation, the Hopi Tribe, Navajo Nation, and the Zuni Pueblo were all contacted, and no tribe identified any sacred sites. Lack of identification early in the planning process does not guarantee that such sites do not exist, as tribes can be reluctant to share this information. Reclamation will continue to conduct tribal consultation throughout the

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						valuable as a tourist attraction in the budding new economic engine of the West End of Montrose County.	<p>identification and evaluation phase after a preferred alternative is chosen. Consultation is an ongoing process. If sacred sites are identified by tribes, project effects on those sites will be considered and avoided, if possible.</p> <p>Section 3.19.2, "Impacts on Cultural Resources," of the DEIS also discusses issues related to known and unknown or sharable and unsharable sites. Class III cultural surveys will be conducted and consultation with the SHPO will be completed after the ROD, pursuant to the Programmatic Agreement, Appendix M. Accordingly, the BLM has considered and acknowledged in the EIS impacts related to the discovery of archaeological sites under Alternative B-Area B1 such that no further changes to the EIS are needed.</p>
194	Davis	Pete			194.02	There are also several established and named rock climbing areas on BLM land directly to the east of the proposed path to the new well. Access to these areas will certainly be compromised for the public if Alternative B1 goes forth.	Some dispersed rock climbing does occur on lands adjacent to existing Reclamation land, upstream of Bedrock. Under Alternative B-Area B1, access to these areas would remain unchanged, although the presence of additional facilities and infrastructure under Alternative B-Area B1 would adversely impact the recreational experience. To acknowledge impacts to rock climbing

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							experiences upstream of Bedrock, Section 3.11.1.1, "Affected Environment" of the FEIS has been edited to add rock climbing as a recreational use and Section 3.11.2, "Environmental Consequences" of the FEIS has been edited to acknowledge the visual effects of additional facilities and infrastructure on recreational experiences based on solitude and natural setting.
195	Mutchnick	Patrick				No substantive comments.	NA
196	Trudeau	Lindsay				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
197	Wilkins	Chris				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
198	Trudeau	Mimi				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
199	Novak	Ken				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
200	McGrath	Allie				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
201	Becktel	Jaime				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8

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202	Wheeler	Tim				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
203	Hammond	Sarah				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
204	Granholm	Gini				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
205	Dobronyi	Jeff				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
206	Williams	Griffin				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
207	Throop	Ryan				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
208	Manus	Elizabeth				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
209	Kelly	Kit				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
210	Johnson	Ty				FORM 1 PLUS LETTER - NO UNIQUE SUBSTANTIVE COMMENTS	See response to Letter 8
211	Wildbear	Rebecca			211.01	1) Wilderness Study Areas (WSAs) are identified by BLM as suitable for designation as	The injection facilities for Area B1 would be located in upland areas, outside of the 100-year floodplain, outside of the

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						<p>wilderness and are recommended for such designation through Congress. The Dolores WSA has been determined to possess wilderness area characteristics: minimum roadless size, apparent naturalness, outstanding opportunities for solitude or primitive and unconfined recreation, and supplemental values. There is no need for a new deep injection well and underground pipeline directly in the Dolores River bed, ruining the most beautiful aspect of this watershed and adversely affecting WSA preservation. Please do no more harm, and instead continue to maintain our wilderness to the highest standards possible.</p>	<p>WSA, on Reclamation land. This can be seen in Figure 2-2, "Alternative B New Injection Well Area B1." Two bridges and a brine pipeline would need to be constructed on Reclamation land where the proposed road crosses the Dolores River in that figure. A description of these facilities can be found in Section 2.4, "Alternative B," of the EIS. As noted, Reclamation land is surrounded by the WSA, therefore the only access to the proposed facility site would be via the identified access road. Section 2.4.2.2, "Injection Well Facilities" of the EIS discusses the injection well or directional bore which would need to pass beneath the WSA under Alternative B-Area B1. Section 3.13.2.2, "Alternative B--Injection Well" of the EIS discloses impacts on the wilderness characteristics of Dolores River Canyon WSA.</p> <p>The BLM's management policy for designated Wilderness Study Areas is to continue resource uses in a manner that maintains the area's suitability for preservation as wilderness. Policy states that wilderness characteristics in WSAs will be maintained, and all new,</p>

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							<p>discretionary uses must meet the non-impairment standard. Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness.</p> <p>After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.</p>
211	Wildbear	Rebecca			211.02	2) The primary recreational activities on BLM-administered lands in the vicinity of the Paradox Valley are hunting, river-related uses, such as	Section 3.11, 3.11 "Land Acquisition and Land Use" in the DEIS describes the popularity of these recreational activities on BLM-administered areas in the project area as well as the potential

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						fishing, rafting, and canoeing, off-highway vehicle use, hiking, rock climbing, mountain biking, backpacking, and camping. Recreational opportunities based on solitude and natural setting near the study area would be affected by noise and construction impacts such as the construction of two bridges and facilities that would be visible from Reclamation land to rafters and hikers, this change to the characteristic landscape would be visible, and so would the scar created by the installation of an underground pipeline which is not ideal.	impacts on recreation under the alternatives. Specific impacts to recreation related to noise and degradation of scenic values are also disclosed in Sections 3.16, "Noise Resources," Section 3.12, "Visual Resources," and Section 3.13, "Areas of Special Designation." In addition to acknowledging and describing these impacts, the EIS includes measures to mitigate such impacts. Accordingly, no further changes to the EIS are needed.
211	Wildbear	Rebecca			211.03	3) There is no need for excess roads and infrastructure in this pristine natural area. Alternative B1 has severe impact and is not a good option because accessing the top of Skein Mesa for the Vertical Injection Well would require widening sections of County Roads and a ½-mile access road would need to be constructed to the new well head location. Construction of the facility would require	Table 2-5 of Section 2.9 of the DEIS, "Environmental Commitments," summarizes best management practices, design features, and other avoidance and minimization measures to mitigate impacts. Visual resources are further analyzed in the Appendix K, Visual Resources Analysis Report. Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing condition. Further, as noted in Section 2.4.2, "Design and

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						<p>numerous pieces of heavy equipment, such as a drilling rig, pile driver, dozers, excavators, motor graders, compactors, dump trucks, backhoes, pipe layers, and forklifts. All of which will adversely alter the natural environmental beauty of this special area.</p>	<p>Construction," final identification of the injection well location would be based on findings of the 3D seismic survey investigation, which would be conducted if Alternative B is the preferred alternative.</p> <p>Section 3.16.2.2 in the DEIS, "Noise, Alternative B--Injection Well," describes that further impacts related to noise during construction would occur primarily in the short term; long-term noise associated with O&amp;M activities would be in compliance with both Colorado and Montrose County noise standards and would attenuate to background noise levels ~0.12 mile from the project site. The impacts are adequately described in the DEIS such that no change to the EIS needs to be made.</p>
211	Wildbear	Rebecca			211.04	<p>4) Emissions of air pollutants (including GHGs), the release of H2S in reportable quantities, and odor potential are not favorable. Alternative A is the best option for the least Emissions and would have no further effect on the airshed at Arches National Park.</p>	<p>Hydrogen sulfide is naturally occurring in the brine and present in all alternatives. For Alternative A, the hydrogen sulfide would no longer be captured by the PVU and would be released to the atmosphere (Section 3.1.2.2, "Alternative A—No Action Alternative") Anticipated emissions of air pollutants from each of the alternatives can be found in section 3.1</p>

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							<p>"Air Quality, Odors, and Meteorology and Climate".</p> <p>Effects on air quality at Arches National Park under each alternative are disclosed in section 3.1.2, "Impacts on Air Quality, Odors, Meteorology and Climate," as well as Appendix E, Air Quality Technical Report. While each alternative would have slightly different requirements to address any potential emissions, as stated in Section 3.1.2, no alternatives would alter the Class I airshed at Arches National Park.</p>
211	Wildbear	Rebecca			211.05	5) The geologic potential of increased ground shaking and changes in the frequency, magnitude, and spatial distribution of earthquakes, compared with existing and historical trends is the primary identified hazard for the project - involving loss of human life, as well as economic and environmental impacts.	The potential for induced earthquakes for alternatives B.1 and B.2 was analyzed and found to be lower than that at the current injection well. This is the result of a larger underground reservoir for these alternatives, fewer impermeable faults than are present at the current well, and a greater distance from potential induced seismicity to populated areas. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
211	Wildbear	Rebecca			211.06	6) The most affordable option is to plug the current well and abandon it. Other options are expensive and would have impacts like increased traffic,	This option is considered and Analyzed under Alternative A of the DEIS. Information on this alternative can be found in Section 2.3, "Alternative A -- No Action Alternative" of the EIS, and

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						increased air emissions and noise, wildlife habitat and vegetation loss, small mammal and reptile mortality, and localized impacts on land. Gunnison sage-grouse and big horn sheep are of concern.	impacts related to this alternative are discussed in Chapter 3 of the EIS.
211	Wildbear	Rebecca			211.07	Why has compliance with the US-Mexico Water Treaty, in addition to compliance with the Salinity Control Act become the standard? Is the salinity coming from the Dolores River in Paradox basin toxic or natural? Let us consider that the ecosystem is more valuable than money, then we can work to change previous agreements in an effort to protect this natural resource without further disturbances.	Compliance with obligations under the U.S.-Mexico Agreement are required; however, the project purpose & need is not tied to the U.S.-Mexico Agreement. As stated in Section 1.3 of the EIS, "Purpose of and Need for the Proposed Action" is to control salinity in the Colorado River contributed by naturally-occurring sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin. The purpose of the proposed action is to comply with Title II, Section 202(a)(1) of the Colorado River Basin Salinity Control Act and the approved state water quality standards under the Clean Water Act.
212	Schlaefli	Cie'na	Natural Resources Specialist	San Xavier District of the Tohono O'odham Nation	212.01	Applying CAP water over time with higher salinity content will adversely affect the land, crop yields, groundwater quality, and increase maintenance on pipeline systems on the District. It could also mean that	Economic damages to downstream users resulting from salinity levels in the Lower Colorado River under each of the alternatives has been acknowledged and described in Section 3.15.2 of the DEIS, "Impacts on Socioeconomics." As noted there, data was developed using

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						treatment of the water will fall on the District as an end user if this issue is not addressed upstream.	the CRSS and IMPLAN models. This analysis is based on the best available information; accordingly, no changes to the EIS are needed.
212	Schlaefli	Cie'na	Natural Resources Specialist	San Xavier District of the Tohono O'odham Nation	212.02	The district would like to express these concerns regarding the impacts this project has on the surrounding environment, and to the users of CAP water down the line. The CAP water is of great importance to the community's way of life and should be of a quality that will not burden the TOhono O'odham in the future.	Economic damages to downstream users resulting from salinity levels in the Lower Colorado River under each of the alternatives has been acknowledged and described in Section 3.15.2 of the DEIS, "Impacts on Socioeconomics." As noted there, data was developed using the CRSS and IMPLAN models. This analysis is based on the best available information; accordingly, no changes to the EIS are needed.
213	Dudley	Jesse	Assistant Regional Director	Central West Slope, Colorado Chapter of Backcountry Hunters and Anglers	213.01	In light of these values, we are strongly opposed to Alternative B1 of this plan for the effects it will have on the Dolores River Canyon's recreational value, solitude, and wildlife, as well as it's encroachment on the wilderness character of the Dolores River Canyon WSA. The draft EIS acknowledges that "Scenic outstandingly remarkable values (ORVs) for river segments, with preliminary classification of recreational and wild, [are] negatively affected by construction of proposed	Section 3.13.2, "Impacts on Areas of Special Designation" of the DEIS discusses the process for evaluating impacts to wild and scenic rivers. Issues identified in relation to wild and scenic river segments include adverse impacts on the values (free-flowing condition, water quality, tentative classification, and outstandingly remarkable values). The procedures in BLM Manual 6400 (Wild and Scenic Rivers-Policy and Program Direction for Identification, Evaluation, Planning, and Management) were used to evaluate impacts to wild and scenic river values.

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						<p>facilities" under Alternative B1. It also acknowledges the effect on wilderness character of the WSA: "Implementing Alternative B in Area B1 would result in a minor noise impact on the Dolores River Canyon WSA during construction, and a permanent indirect impact due to human imprints (new facilities or surface disturbance) within and observable from the WSA. There would be minor impacts on the scenic, recreational, and vegetation ORVs on segments of the Dolores River that have been determined eligible for inclusion in the National Wild and Scenic River System." The area affected by Alternative B1 also includes a large portion of the Dolores Canyon that has such great recreation value that it has been proposed as a Special Recreation Management Area in the PRMP. This Alternative would detract greatly from that recreational value by greeting boaters 1.3 miles further upstream than the current</p>	<p>Section 3.13.1.1, "Wild and Scenic Rivers," of the DEIS disclosed that the segment of the Dolores River through Reclamation land had a tentative classification of recreational, while Section 3.13.2.2 disclosed the impacts to the values identified for this river segment. The DEIS identified several impacts to the Outstandingly Remarkable Values (ORVs) found in these segments; these impacts were not expected to alter the tentative classification or eligibility. Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere,</p>

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						<p>facility with two bridges, power lines, pump noise, and other industrial facilities and equipment. A calm section of river, boaters flock to the Slickrock to Bedrock section for its peace and solitude, and Alternative B1 would permanently shorten that unique experience by over a mile, contrary to the intent of the PRMP.</p>	<p>as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect. Additional roads and bridges associated with Alternative B-Area B1 would occur on Reclamation lands assigned a tentative classification of recreational, which are allowable under BLM policy. Section 3.6.B.3 of BLM Manual 6400 states, "bridge crossings and river access are allowed" for river segments with a recreational classification. Section 3.13.2.2 of the DEIS discloses impacts on the wilderness characteristics of Dolores River Canyon WSA. The injection facilities for Area B1 would be located in upland areas, outside of the 100 year floodplain, outside of the WSA, on Reclamation land. This can be seen in Figure 2-2, "Alternative B New Injection Well Area B1" of the DEIS. Two bridges and a brine pipeline would be constructed on Reclamation land where the proposed road crosses the Dolores River in the figure. A description of these facilities can be found in Section 2.4. As noted, Reclamation land is surrounded by the WSA, therefore the</p>

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							<p>only access to the proposed facility site is via the identified access road. Potential impacts to the Dolores River Canyon as they relate to recreation are disclosed in the DEIS in Section 3.11, "Land Acquisition and Land Use." The BLM manages the Dolores River Canyon as a Special Recreation Management Area (SRMA), with a focus on the recreational activities of whitewater rafting, boating, fishing, and camping. Area B1 of Alternative B along the Dolores River would be on Reclamation land. Although this area is outside of BLM's SRMA, some indirect impacts to the recreational experience in the SRMA is expected. These impacts are in Section 3.11.2.2, "Alternative B - Injection Well." Additionally, Section 3.11.2.2 of the FEIS has been edited to include additional language disclosing impacts to the recreational experience.</p>
213	Dudley	Jesse	Assistant Regional Director	Central West Slope, Colorado Chapter of Backcountry Hunters and Anglers	213.02	<p>The Colorado Chapter of BHA is extremely concerned about the pattern of big game winter range destruction and disturbance in this state, and the Paradox Valley and Monogram Mesa are locally known to be well-used by elk and deer in the winter. While</p>	<p>Appendix I, Biological Evaluation Report, provides details for the information provided in Section 3.9, "Terrestrial and Aquatic Wildlife," of the DEIS. Information regarding the condition of elk herds in the CPW data analysis unit which overlap the DEIS alternatives were obtained from CPW's most recent elk management plan for the</p>

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						<p>the permanent impacts of B2 are less than the other alternatives, we cannot support a plan that permanently takes valuable and dwindling winter range out of inventory for our local elk herd, especially in light of significant and (as of yet) scientifically unexplained drop in calf recruitment over the last decade. The position that the elk herds are stable is becoming untenable. The draft EIS recognizes the importance of habitat in maintaining populations, saying "Winter range is recognized by state wildlife agencies as the limiting factor in maintaining sustainable big game populations (Austin 2010). Overcrowding of species, such as mule deer in winter ranges, could cause density-dependent effects, such as increased fawn mortality (Sawyer et al. 2006)."</p>	<p>Disappointment Creek elk herd (E-24). Section 3.9 and Appendix I sufficiently describe impacts to effects on elk herds and big game winter range such that no change to the EIS is needed.</p>

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213	Dudley	Jesse	Assistant Regional Director	Central West Slope, Colorado Chapter of Backcountry Hunters and Anglers	213.03	The destruction of Gunnison sage grouse habitat, whether occupied or not, is of special concern to us as well. Gunnison sage grouse now exist in such low numbers because of habitat Destruction, as stated in the draft EIS: "Habitat loss and fragmentation are attributed as the primary causes for Gunnison sage-grouse decline in abundance and distribution (FWS 2014a)." If there is to be hope for their recovery, we cannot destroy more habitat, especially in those areas that are Designated critical. In addition, the destruction of habitat on Monogram Mesa is counterproductive to previous efforts and money spent towards sage grouse recovery, as the draft EIS states: "The BLM has conducted several habitat improvement projects to benefit Gunnison Sage-grouse on Monogram Mesa." The compromise of these previous projects is wasteful and makes it inconsistent with the wildlife recovery goals of the BLM.	BLM's habitat improvement projects on Monogram Mesa have primarily consisted of pinyon and juniper tree removal in sagebrush habitat as described in Appendix I, Biological Evaluation Report, of the DEIS. As disclosed in Section 2.4.2, "Design and Construction" of the DEIS, "The buried brine pipeline from the STF to the new injection well would be routed along County Road Y11, Colorado Highway (Hwy) 90, County Road EE21, and County Road DD19 and would follow the alignment of the new access road." Table 2-5, "Environmental Commitments," include measures to located utilities in existing ROWs to the greatest extent practicable. Further, Section 3.10.2, Impacts on Federally Listed Species, explains "The injection well location in Area B2 would be outside of critical habitat and in unsuitable Gunnison sage-grouse habitat;" and "The installation of the brine pipeline parallel to County Roads EE21 and DD19 would temporarily remove vegetation in critical habitat on Monogram Mesa along the road corridor. Since the pipeline and utility corridor would be revegetated and would be within an area already

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							<p>affected by the county roads and overhead powerlines, impacts would be temporary and there would be no additional habitat decline due to habitat loss or fragmentation." BLM and Fish and Wildlife Service are cooperating agencies involved in the DEIS review process. Alternative B includes many of BLM's sage-grouse best management practices (e.g. placing utility developments in existing utility or transportation corridors, revegetating, place infrastructure in previously disturbed locations, etc.) as well as recommendations from Fish and Wildlife Service. Alternative B would require consultation with Fish and Wildlife Service and a BLM Right-Of-Way permit which would include stipulations and measures that take into account the recovery goals for sage-grouse.</p>
213	Dudley	Jesse	Assistant Regional Director	Central West Slope, Colorado Chapter of Backcountry Hunters and Anglers	213.04	<p>As stated in the draft EIS, Alternative C has the "potential cause major wildlife mortality", as well as significant degradation of visual resources. The draft EIS admits that it conflicts with the stated objectives of the EIS from the beginning by being inconsistent</p>	<p>An adaptive management plan is described in the Predictive Ecological Risk Assessment (PERA), Appendix J in the DEIS, which was developed due to the uncertainty regarding effects on wildlife, including migratory birds. The PERA recommended and Alternative C incorporated several measures including effectiveness monitoring of mitigation</p>

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						<p>with the existing RMP: The evaporation ponds and salt landfill would negatively affect the visual landscape of the Paradox Valley. This would not be in conformance with the UFO RMP, so an RMP amendment would be required. Alternative C would have the greatest indirect impacts of all the action alternatives on cultural resources, due to the potential visual impacts on cultural resources whose landscape, setting, and feeling are part of their importance. Alternative C would also have the greatest impact of all the action alternatives on wildlife, particularly migratory birds. Due to the significant impacts on elk and deer winter range alone, as well as migratory birds, we cannot support this alternative. There seems to be some uncertainty as well about the effectiveness of the mitigations planned for migratory birds and the health effects on birds that is an unacceptable risk.</p>	<p>measures and allowing for adaptive management. Impacts to wildlife, including elk and deer winter range, are evaluated in the Biological Evaluation Report at EIS Appendix I, and in Section 3.9, "Aquatic and Terrestrial Wildlife."</p>

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214	Cooper	Jessi			214.01	<p>There are 5 permittees that graze on 16,255 acres of BLM for approximately 75 days each year. If Option C is chosen the 1530 acres needed for the study area would reduce our total AUMs by 362 or 150 head. The permanent reduction of 29% of the total AUMs would be a significant impact on our winter grazing as we would have to find alternative pasture or buy hay for those cattle. We purchased the permit with the current AUMs so if we lose AUMs our permit would be devalued by 29%.</p>	<p>Section 3.11.1 in the EIS identifies the number of impacted AUMs within each of the alternatives and acknowledges that supplemental analysis would be conducted after an alternative is identified as the preferred alternative to further analyze the effects of loss of AUMs. Section 3.11.2 states that the impacts are analyzed for a larger area than the actual permanent disturbance. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed.</p> <p>The FEIS has been revised in multiple locations to acknowledge financial impacts to grazing permittees identified. First, Table ES-1 in Section ES.8 has been updated to disclose the additional annual costs to permittees resulting from the loss of AUMs under Alternative B - Area B2 and C, as such impacts could be more controversial than under the other alternatives. Table 2-5, Environmental Commitments, has been revised to discuss in greater detail the mitigations for the lost stock pond</p>

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							<p>and newly identified impacts to a trailing corridor under Alternative C. Table 2-6, Summary of impacts by alternative, has been revised to include the additional annual costs to permittees that would result from lost AUMs under each of the alternatives. Section 3.11.1, Affected Environment, now discusses in greater detail the allotments at issue under Alternative C. A new section identified as 3.11.2.2 describing impacts on grazing that are common to all action alternatives has been added to Section 3.11.2, Impacts on Land Acquisition and Land Use. This section specifies potential economic impacts to permittees under each of the action alternatives, including lost AUMs and resulting additional annual costs. Finally, what is now identified as Section 3.11.2.4, under Impacts under Alternative C, the analysis has been updated to discuss in greater detail the mitigation for the lost stock pond and trailing corridor that would occur as a result of this alternative.</p>
214	Cooper	Jessi			214.02	Option C also impacts road BB16. This road is the only access to a large portion of BLM land. It is the road we use to haul water to 2 tank locations	County Road BB16 would be within the project site for Alternative C, so it would be reconstructed and rerouted around the perimeter of the site to maintain existing access to the areas identified.

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						for 30 days of our grazing period. We also use the road to put out salt and supplement for cattle that is also utilized by wildlife. If the road is destroyed, another one would need to be built for access for the permittees as well as recreationalists and the general public.	This is noted in Section 2.5.2.1, "Evaporation Pond System" and Section 3.18.2.3, "Alternative C -- Evaporation Ponds."
214	Cooper	Jessi			214.03	Option C also impacts a pond known as the Rock Pond because it has a rock bank built by the (( workers in the 1930's. In addition to its historical significance, it is one of only 2 ponds on the BLM permit that catches and stores water for cattle and other wildlife. If the pond is ruined, a valuable water source will no longer be available for use by the multiple animal species.	Cultural resources will be surveyed and consultation completed with the SHPO pursuant to the terms of the Programmatic Agreement, EIS Appendix M.  Mitigation for the stock pond is described in the Environmental Commitments in EIS Section 2.9, "Environmental Commitments," as: Reclamation would coordinate with the BLM on appropriate mitigation for the stock pond removal, such as reconstruction of the stock pond in an alternate location that could utilize the same water right.
215	Daniels	Rick				No substantive comments	NA
216	Waschbusch	John	Deputy County Manager	Montrose County, Colorado - Montrose	216.01	As noted in the DEIS, the existing well has been a cause of ongoing seismic activity since the beginning of operations.	The potential for induced earthquakes for alternatives B.1 and B.2 was analyzed and found to be lower than that at the current injection well. This is the result

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				County Board of Commissioners		<p>Some of the recorded events have exceeded 3.5 magnitude (Section 3.3.1.2, DEIS). Ground shaking has been observed by residents during these events. Ground shaking from induced seismic events has the potential to cause significant damage to structures and could pose a threat to the safety of impacted residents. ....</p> <p>As BOR has noted, there are numerous unknowns when injecting to the depth necessary to reach the Leadville Formation. The uncertainty of future seismic activity creates a risk to Montrose County residents that is unacceptable to this Board. In addition to above ground structures, we are concerned that continued induced seismicity could result in the collapse of underground mines and associated works that are common in the Paradox Valley and surrounding region.</p>	<p>of a larger underground reservoir for these alternatives, fewer impermeable faults than are present at the current well, and a greater distance from potential induced seismicity to populated areas. Extensive studies were conducted to evaluate the suitability and feasibility of the injection well alternatives. These included seismic reflection data reprocessing and interpretation, well log studies, aeromagnetic data collection and interpretation, geologic investigations, analysis of induced earthquakes, geomechanical and flow modeling studies, drilling feasibility analyses, and a 30% well and surface facility design study. These studies were reviewed by an independent consultant review board. A drilling feasibility study and a 30 % design study were conducted to evaluate drilling and injecting in to the Leadville formation for alternatives B.1 and B.2. Below-ground motions from earthquakes generally are smaller than above-ground motions because of the amplification effects of the free surface. No reports of damage to mines or related structures have been received as a result of operations of the current injection well. References for this</p>

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							information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
216	Waschbusch	John	Deputy County Manager	Montrose County, Colorado - Montrose County Board of Commissioners	216.02	In addition to the safety risks associated with this alternative [Alternative B], we also have concerns about the efficiency of this option. It is an extremely expensive proposition to drill an additional well. The actual feasibility of the well will remain unknown until drilling is well underway. It is reasonably foreseeable that BOR could invest millions of dollars into drilling the new well only to discover that a location is not feasible. This creates a risky expenditure for BOR in terms of time and expense as the agency may be put into the position of revisiting prior alternatives in the event a well drilling does not prove possible. Furthermore, BOR estimates that the total tonnage of salt removed through this alternative is significantly less than that anticipated through other alternatives considered in the DEIS.	<p>Risks associated with the cost estimates of each of the alternatives are disclosed in EIS Section 2.7, "Costs of Alternatives, Risks, and Funding Mechanisms." Additional risk analysis and assumptions can be found in the Paradox Valley Unit 2nd Well Design report (Petrotek 2018), which is referenced in Section 3.2.2.2, "Impacts on Energy Demand and Utility Systems (All Alternatives" of the EIS.</p> <p>Alternative B is analyzed at a 200 gpm pumping rate which equates to 114,000 tons of salt being prevented from entering the Dolores River annually, which is above the 100,000 tons/year of salt identified as one of the objectives to be considered (EIS Section 1.4, "Goals and Objectives")</p>

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216	Waschbusch	John	Deputy County Manager	Montrose County, Colorado - Montrose County Board of Commissioners	216.03	<p>The Paradox Valley is an incredibly beautiful and unique landscape. The visual impact of the evaporation ponds would significantly diminish the aesthetic resources of the area. As this region continues to diversify the local economy through tourism and recreation, it is more critical than ever to protect the scenic values of the area. The proposed 600 acres of surface disturbance associated with this alternative would be visible for miles in every direction as well as from Highway 90. For the region to suffer this level of visual blight in order to address a salinity issue for lower basin states is not a reasonable socioeconomic tradeoff. ...</p> <p>The fact that Alternative C is not consistent with the current, interim or draft RMP should be reason enough to remove this alternative from further consideration. BLM will play an integral role in the implementation of any alternative and to disregard the</p>	<p>Section 3.11.2, "Impacts on Land Acquisition and Land Use," and Section 3.13.2, "Impacts on Areas of Special Designation," in the DEIS analyze effects of the alternatives on recreation uses and recreational experience in the project area. Section 3.16.2 in the DEIS, "Impacts on Noise," analyzes long-term and short-term noise effects from the alternatives, and Section 3.12.2 in the DEIS, "Impacts on Visual Resources," analyzes impacts on scenery. Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative.</p> <p>Information has been added to Section 3.15.1.2 of the FEIS, "Socioeconomics, Affected Environment, Economy and Employment," to describe the recreation economy in the project area. Analysis in Section 3.15.2 of the FEIS, "Impacts on Socioeconomics," has been updated to explain that the recreation economy may be adversely affected by impacts on the recreation experience, as described in Section 3.11.2, "Impacts on Land Acquisition and Land Use"; Section 3.12.2, "Impacts on Visual Resources";</p>

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						plans of that agency with regard to this proposed action would be short sighted.	and Section 3.13.2, "Impacts on Areas of Special Designation."
217	Reams	Carla		Skillful-West End		No substantive comments.	NA
218	Stover	Jim		T S Landfill, Inc.	218.01	I have one additional comment on the draft EIS. TS Landfill, Inc. has a large capacity landfill located within a few miles of the study area. It is located in Township 45 North, Range 15 West, SW corner of Section 15. If the Bureau needs landfill space ours is available.	The use of the TS Landfill was evaluated in the Final Feasibility and Cost Analysis Findings and Recommendation Report (Amec 2017d). The conclusion was that a dedicated storage facility adjacent to the treatment facility (Alternative C or D) would be the best option due to high transportation costs involved with hauling the salt. Another consideration against using a privately owned facility involved future liabilities to the federal government due to the potential for commingled wastes deposited in the private landfill over which the federal government would not have control.
219	Gutierrez	Jeff				No substantive comments	NA
220	Uhey	David				No substantive comments	NA
221	Myers	Cody			221.01	After viewing alternative D. I can't help but wonder, why the solid sodium chloride is being sent to a land fill. After looking at the analysis of the solids, why is this not able to be sold to the state as a deicing agent for the highway. I have not found a analysis of the current salt agent	Typical salt specifications for deicing use can be found in Tables 2 & 3 in the "Final Feasibility and Cost Analysis Findings and Recommendations Report" (Amec 2017d). Based upon the results from the ZLD Technology pilot study (SaltWorks 2019), the produced salt byproduct would not meet two of the requirements. The specification requires

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						the highway department uses, but I would be fairly sure it contains more and higher levels of other elements than what is in this " waste product"	a minimum NaCl concentration of 97.9%, while the produced byproduct had 96.9%. The specification also requires a maximum sulfate concentration of 0.5%, while the byproduct had 1.61%. However, some technologies might be able to meet the desired specifications through their unique operations. Alternative C, Evaporation Ponds, can be operated to sort out the various constituents in certain ponds, thereby allowing for the byproducts to meet these specifications. If marketing the salt produced was determined to be beneficial to consumers in the future, then additional NEPA analysis would be completed to analyze the action. This marketing statement has been added to Section 2.6.3.1, "Landfill" of the FEIS: "Additional NEPA analyses would be completed if, in the future, marketing the produced salt from the ZLD facility was determined to be beneficial to consumers."
222	Korb	Julie				No substantive comments	NA
223	Chehayl	Dan				No substantive comments	NA
224	Larson	Todd		Larson Building Solutions	224.01	As an alternative, let us consider a combination system that draws from the best of some of these options while eliminating	The proposed alternative is essentially to add renewable energy to Alternative D, Zero Liquid Discharge Technologies. It should be noted that the natural gas

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						<p>some of the cons. Envision if you will a closed loop solar system that harnesses the potential energy of the sun and transmits it to a central location for the evaporation process. Like the natural gas option the water vapor is available for condensation and return to the river. By concentrating the solar energy through the use of curved mirrors temperatures far in excess of those required for evaporation can be achieved. This concentration effect means that far less acreage would be required for solar collectors as compared to traditional brine pools. By eliminating the open pools the threat to birds and wildlife is also greatly reduced.</p>	<p>is required for heating the brine while the electrical energy is required to operate the crystallizer units and associated pumps, valves, SCADA systems, lights, etc. For the electrical energy requirement to be replaced by solar troughs, a power plant would need to be added to the facility (as well as a way to store the produced energy). The PVU needs to be able to operate on demand based upon brine inflow to the river. If energy can only be provided from the solar troughs for short periods of the day (4 hours a day was cited in the proposal), then additional infrastructure would be required to store the brine or energy (or both) when solar energy is not available. The potential for incorporating renewable energy was evaluated in the report "Paradox Valley Unit Brine Crystallization Technology Assessment" from 2016. This report is available on the Paradox Valley Unit website (<a href="https://www.usbr.gov/uc/progact/paradox/index.html">https://www.usbr.gov/uc/progact/paradox/index.html</a>). In this report, photovoltaic solar, solar thermal, and geothermal energy were evaluated for incorporation. The photovoltaic solar and geothermal sources are not expected to reduce the operating costs</p>

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							<p>of the crystallizers by enough to offset the increased capital costs of the renewable energy technology. One vendor of ZLD technologies incorporates solar thermal into their systems. A pilot study was conducted at the PVU with solar thermal troughs from a different vendor but the intensive operation, maintenance, and replacement demonstrated did not identify that it would offset the capital costs of the solar troughs. Also, natural gas would still be required for the periods of time when these renewable resources are not able to produce energy. However, renewable energy resources could be incorporated during final design should data become available demonstrating their viability at the PVU. Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. Based on the information provided, it appears the solar thermal troughs could potentially be viable as a design improvement to supplement energy for Alternative D. However, no information was provided regarding capital, operation, maintenance, or replacement</p>

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							<p>costs of the solar thermal troughs. Pilot testing would be required to verify the viability and applicability of the technology and to provide data on anticipated costs and benefits. Pilot testing would occur after the Record of Decision if Alternative D is identified as the preferred alternative. Selection of technologies to be pilot tested would be subject to a competitive contracting process at that time. The constraints for inclusion would include that the technology is commercially available and not in research or development stages. Reclamation would continue to evaluate methods to further minimize impacts during the design process. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed. In Section 2.6.2.1 of the Final EIS, "Zero-Liquid Discharge Facility," a sentence has been added to the end of the last paragraph that says, "Reclamation would continue to evaluate methods to further minimize impacts during the design process. In addition, alternative energy</p>

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							technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."
224	Larson	Todd		Larson Building Solutions	224.02	<p>The cost of installing pipeline from existing gas distribution infrastructure would also be eliminated with the solar alternative.</p> <p>In conclusion, an option utilizing concentrated solar energy would create the desired outcomes while eliminating many potential negative aspects of present options.</p>	<p>The PVU needs to be able to operate on demand based upon brine inflow to the river. If energy can only be provided from the solar troughs for short periods of the day (4 hours a day was cited in the proposal), then additional infrastructure would be required to store the brine or energy (or both) when solar energy is not available. There are commercially available ZLD Technologies that use renewable resources to supplement the energy demand, but they are energy intensive systems and require a reliable energy to deliver steady operations. As there are no commercially available ZLD technologies that operate entirely on solar energy, the natural gas will continue to be evaluated as a requirement in the EIS.</p>
225	Vreeland	Russell		Eastern Shore Microbes	225.01	<p>I urge you to seriously consider Option C Evaporation lagoons in order to establish a zero-discharge system in place of any other options. As would be clear from our website we have developed a green, sustainable microbial process that can</p>	<p>Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. Based upon the information provided, it appears the proposed microbiologically enhanced evaporation method could potentially</p>

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						<p>accelerate the evaporation of nearly all types of wastewaters containing high levels of salt. There are several different processes that claim to be able to evaporate brines. However, none have the flexibility or cost effectiveness of the H.E.A.T process. I noted that in 2012 your Department set up some test evaporation lagoons in the area. In my experience, salt concentrations as high as those present in the Paradox Valley ultimately evaporate at about 1/3 the rate of fresh water. Those same brines treated with our process can evaporate at the same rate as fresh water.</p> <p>The HEAT process is safe, sustainable and does not harm the environment or the fauna. It can be applied to existing, or new lagoons without modification or any additional infrastructure. This process can make the use of evaporation lagoons a competitive control process and eliminate the need</p>	<p>be viable as a design improvement to Alternative C. Pilot testing would be required to verify the viability and applicability of the technology to the Paradox brine and to provide data to confirm anticipated costs and benefits. Pilot testing would occur after the Record of Decision if Alternative C is identified as the preferred alternative. Selection of optimization technologies, such as the H.E.A.T. process, to be pilot tested would be subject to a competitive contracting process at that time. The constraints for inclusion would include that the technology is commercially available and not in research or development stages. Reclamation would continue to evaluate methods to further minimize environmental impacts during the design process. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed.</p> <p>In Section 2.5.2.1 of the Final EIS, "Evaporation Pond System," the</p>

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						for additional deep injection wells.	following language has been added to the end of the first paragraph: "Reclamation will continue to evaluate methods to further minimize impacts during the design process. In addition, enhanced evaporation technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."
226	Harvey	Sherri				No substantive comments	NA
227	Uhey	David				No substantive comments	NA
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.01	Table ES-1 on p. ES-8 of the DEIS indicates that induced seismicity is anticipated to occur at a lower rate for injection at Area B 1 than for injection at the existing well and that induced seismicity rates are expected to be lower for injection at Area B2 than for injection at Area B1. To be consistent with the modeling results presented in Appendix F (p. 20-23), it would be more accurate to state that the risk of induced seismicity would be lower for injection at Area B 1 than for injection at the existing well and the risk of induced seismicity is expected to be lower for injection at Area B2 than for injection at Area B 1.	For earthquake hazards and risks, the terms "rate" and "risk" are generally synonymous in practice. A lower rate of induced earthquakes is synonymous with a lower risk of induced earthquakes. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.

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						Recommend revising the DEIS text to be consistent with the modeling reporting Appendix F.	
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.02	Page 2-6 of the DEIS (section 2.4.1) states that "Seismic reflection data, well log data, aeromagnetic survey data, gravity data, and induced seismicity data show that the Leadville Formation ... should have sufficient permeability and porosity to accept the injected brine at a continuous rate of 200 gpm, while keeping wellhead pressures below 5,000 pounds per square inch over 50 years." To be consistent with the results of modeling presented in Appendix F (p. 18, Table 2), it would be more accurate to state that seismic reflection data, well log data, aeromagnetic survey data, gravity data, and numerical (or geomechanical) modeling indicate that the Leadville Formation (in the vicinity of Area B2) should have sufficient permeability and porosity to accept the injected brine at a continuous rate of 240 gpm (0.0151 m3/sec), while	The values presented in the DEIS are rounded to reflect the uncertainty in assumptions and data, and are intended to be conservative. The DEIS considers brine disposal rates of 200 and 300 gpm. Considering the uncertainty of the data and assumptions, we do not attempt to distinguish between the modeled value of 240 gpm, and the rate of 200 gpm considered in the DEIS. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.

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						keeping wellhead pressures below 5,000 pounds per square inch over 50 years. Recommend revising the DEIS text to be consistent with the modeling report.	
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.03	Although the geomechanical model generally appears to be well-calibrated to wellhead pressures at the existing well (Appendix F, p. 15), the results of simulated slip potential after 25.4 years (Appendix F, p. 22, Figure 18) appear to have discrepancies with the extent of recently-observed seismic events. The DEIS (p. 3-15, section 3.3.1.2) states that earthquakes related to PVU fluid injection now have been observed at a distance of up to 12 miles from the injection well. Similarly, recent maps of earthquakes I 2013-2016 and 2017 (Figures 2-9) show earthquakes occurring up to about 11 miles southeast and about 15 miles northwest of the current PVU-I injection site. However, DEIS model results (Appendix F, p. 22, Figure 18)	The resolution of the geomechanical model is insufficient to model distant earthquakes. The vast majority of the earthquakes recorded to data are near or within the area identified by the model as having the greatest potential for Coulomb failure, which we use as a proxy for earthquakes. Acquisition of 3D seismic data would greatly improve the resolution of the geomechanical model, which was constrained by the regional-scale 2D seismic data currently available. It is anticipated that more refined geomechanical modeling would be performed if 3D seismic surveys were conducted. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.

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						<p>show that the potential for slip occurs only up to about 2.7 miles southeast and about 4.2 miles northwest after 25.24 years (i.e. in 2016) of injection at PVU-I. This discrepancy underscores the need for more detailed analysis, such as the 3D seismic survey described in section 2.4.2.1 of the DEIS (p. 2-7). The EPA also recommends conducting additional geomechanical modeling using updated information from the 3D survey and calibrating the model to observed seismicity to provide for better estimation of the risk of induced seismicity at the selected injection site.</p>	
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.04	<p>Although modeling results in Appendix F (p. 26, Figure 21) indicate that Area B2 would have a lower risk of induced seismicity (far-field slip) than Area B1, Area B2 is located substantially nearer to the population centers of Naturita and Nucla. It is recommended that the proximity of these population centers be considered when evaluating the</p>	<p>Seismic ground motions attenuate with increasing distance. Populated areas nearest to the existing injection well, and which have experienced the greatest shaking during past earthquakes, include the towns of Paradox and Bedrock. Although there are more populated areas at larger distances, such as Naturita and Nucla, the potential for damaging ground motions is greater at Paradox and Bedrock. The distance to populated</p>

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						suitability of Areas B1 and B2 with respect to seismicity.	areas was considered as a key criteria for site selection of alternatives B.1 and B.2. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.05	During scoping the EPA was able to share our recommendations with the Bureau regarding the emission inventory and those recommendations have been incorporated in the current analysis. We have also discussed several other issues with the Bureau which we have agreed will be important to air quality moving forward. In particular, the DEIS identifies the need to minimize the release of hydrogen sulfide (H <sub>2</sub> S) and chlorine gas. Should the BOR select Alternative C or D, the EPA recommends that the design include contingencies for the installation of scrubbers or other controls to limit gas releases. We are supportive of the BOR's plans to use automated alarms to alert operators of H <sub>2</sub> S or chlorine gas releases so that brine transfer	"Scrubbers" for H <sub>2</sub> S or chlorine gas are identified in Sections 2.5.2.2 and 2.6.2.2, "Hydrogen Sulfide Treatment," as well as in Table 2-5, "Environmental Commitments" of the DEIS. These sections state that scrubbers would be incorporated if they are determined to be needed through additional testing or final design. Sections 3.1.2.4, "Alternative C—Evaporation Ponds" and 3.1.2.5, "Alternative D—Zero-Liquid Discharge Technology" state that after implementation of the alternative, if any H <sub>2</sub> S emissions over the 2 tons/year are experienced then the features and operational measures in Section 2.9, "Environmental Commitments" (i.e., scrubbers) would be incorporated.

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						may be temporarily halted until the release can be curtailed or limited.	
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.06	In addition, it will be important to keep wind-blown dust to a minimum due to the arid climate and the acreage that would be disturbed to construct and operate any of the alternatives. If dust from truck traffic on unpaved roads associated with long-term facility operation and maintenance proves to be a concern for the local or regional population, it may be appropriate to consider paving roads or implementing other dust control measures.	Dust suppression measures for construction are identified in Table 2-5, "Environmental Commitments," of the DEIS.  O&M has been added to the environmental commitment for dust suppression measures in Table 2-5 to clarify dust suppression measures would be implemented during both construction and O&M for all alternatives.
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.07	In Section ES.2 Project Description the DEIS provides background on the salinity removal attributed to the PVU stating that "the PVU is the largest single contributor to the Colorado River Basin Salinity Control Program (Colorado River Basin Salinity Control Forum 2017)." Table 1 in the 2017 Review - Water Quality Standards for Salinity Colorado	The control measures listed in Table 1 of the 2017 Review-Water Quality Standards for Salinity Colorado River System report for the four agricultural basin control measures and BLM measures show greater tons/year than the PVU because those measures include multiple projects within the Basin, whereas the PVU is the largest single project that provides the greatest salinity control. To clarify this, the language in Sections ES.2, "Project

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						River System lists the control measures in place through 2017. In Table 1, the PVU appears to be smaller than four of the agricultural basin control projects and smaller than BLM's measures. We therefore recommend clarifying this statement in the Final EIS.	Description" and 1.1, "Background and Project History," of the EIS has been revised to state "As a result, the PVU is the largest project in the Colorado River Basin Salinity Control Program (Colorado River Basin Salinity Control Forum 2017)."
228	Strobel	Philip	Director, NEPA Branch, Office of the Regional Administrator	Environmental Protection Agency	228.08	The DEIS notes that "under Alternative A, any downstream segments of the Colorado River which are on state 303(d) lists for TDS or salinity would be further impacted due to salinity at Paradox no longer being controlled." We recommend identifying these specific 303(d) listed segments in Section 3.6.2 Water Quality, and identify the magnitude of impact or benefit to those segments under each alternative.	The Colorado River Support System (CRSS) model is only capable of modeling salinity concentrations of the 20 CRSS gage nodes that model salinity (15 in the upper basin, 5 in the lower basin), and is not capable of modeling changes in salinity concentrations in various segments along the Colorado River. Therefore, Reclamation is unable to identify the magnitude of impact or benefit to specific 303(d)-listed Colorado River segments. The following language has been added to Section 3.6.1.3 of the FEIS: 'Colorado River segments which are on the state 303(d) list are publicly available on state-managed water quality internet sites'

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229	Fiebig	Michael	Director, Southwest River Protection Program	American Rivers	229.01	In particular, we oppose Alternative B because it is incompatible with the non-impairment standards required for management of Wild and Scenic eligible and suitable rivers, and adjoining BLM lands in the Dolores River Canyon Wilderness Study Area (WSA).	<p>Development under Alternative B1 may or may not compromise the area's suitability for future designation as wilderness. After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.</p> <p>Section 3.13.1.1, "Wild and Scenic Rivers," of the Draft EIS disclosed that the segment of the Dolores River through Reclamation land had a tentative classification of recreational, while Section 3.13.2.2 disclosed the impacts to the values identified for this</p>

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							<p>river segment. The Draft EIS identified several impacts to the Outstandingly Remarkable Values (ORVs) found in these segments; these impacts were not expected to alter the tentative classification or eligibility. Further, between the time of the release of the Draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The Final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the Draft EIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments were edited or deleted in the Final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.</p>

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229	Fiebig	Michael	Director, Southwest River Protection Program	American Rivers	229.02	We recommend that BOR complete a holistic analysis of the costs and benefits associated with the entire Colorado River Salinity Control Program, weighing the future of the Paradox Valley Unit (PVU) against other potential new salinity control measures that could be carried out in the basin, ideally in a lower impact, more cost-effective manner.	The purpose of and need for this EIS is limited to salinity control at the Paradox Valley, Montrose County. None of the alternatives preclude Reclamation funding of other agriculturally-based salinity control projects through the Salinity Control Program. However, a cost-benefit analysis of devoting PVU funding to other salinity control projects would be speculative because it is unknown if or how much future funding of salinity projects would be available, which potential salinity projects which would be funded, when the projects would be completed, and how much salt would be controlled to develop a cost per ton.
229	Fiebig	Michael	Director, Southwest River Protection Program	American Rivers	229.03	The potential impacts to the Dolores River corridor and surrounding mesas in this alternative would be far too great, including large seismic studies, surface facilities, new roads, two new bridges over the river in the suitable Wild and Scenic corridor, extension of powerline corridors, a new pipeline, and potentially new pump stations, depending upon which site is chosen.	Impacts to Wild and Scenic Rivers are disclosed in Section 3.13.2, "Impacts on Areas of Special Designation," of the DEIS. Impacts to cultural resources are disclosed in Section 3.19.2, "Impacts on Cultural Resources," of the DEIS. Impacts to visual resources are disclosed in Section 3.12.2, "Impacts on Visual Resources," of the DEIS. Impacts to recreation are disclosed in Section 3.11.2, "Impacts on Land Acquisition and Use," of the DEIS. Impacts to fish and other wildlife are disclosed in Section 3.9.2, "Impacts on Fish and

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						<p>Native American archeological sites, scenery, river-based recreation, fish, wildlife and vegetation Outstandingly Remarkable Values (ORVs) would likely be damaged, degraded or destroyed, permanently impacting the lower end of the Slickrock Canyon stretch of the Dolores River. This canyon is largely considered the most beautiful and accessible of the three main whitewater boating runs below Bradfield Bridge on the Dolores River, offering multi-day whitewater recreationists mellow rapids, incredible scenery, and a sense of solitude and timelessness. This section of the Dolores River was also found to be both eligible and suitable for designation under the Wild and Scenic Rivers Act by the Bureau of Land Management's Uncompaghere Field Office, conferring protection on its free-flowing character and suite of ORVs for the life of the Resource Management Plan (RMP).</p>	<p>Wildlife," of the DEIS. Impacts to vegetation are disclosed in Section 3.7.2. Impacts to ORVs are disclosed in Section 3.13.2. Conformance with the UFO RMP is discussed in Section 3.11.2.</p> <p>Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness. After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-8 of the Final EIS have also been edited accordingly.</p>

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						Impacts of the project would also extend into the Dolores River Canyon WSA, in violation of the non-degradation standards required by that designation.	Section 3.13.1.1, "Wild and Scenic Rivers," of the Draft EIS disclosed that the segment of the Dolores River through Reclamation land had a tentative classification of recreational, while Section 3.13.2.2 disclosed the impacts to the values identified for this river segment. The DEIS identified several impacts to the Outstandingly Remarkable Values (ORVs) found in these segments; these impacts were not expected to alter the tentative classification or eligibility. Further, between the time of the release of the Draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The Final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the Draft EIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments were edited or deleted in the Final EIS in Section 3.13

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							and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.
229	Fiebig	Michael	Director, Southwest River Protection Program	American Rivers	229.04	The massive project would include a include a "27-acre surge pond, a 39-acre concentrator pond, 290 acres of crystallizer ponds, a 24-acre bittern (remaining liquid) concentration pond, and a 10-acre-foot bittern storage pond. A hydrogen sulfide (H2S) treatment system would be included to remove H2S before brine is discharged to the evaporation ponds. Salt would be harvested from the evaporation ponds and disposed of in a 60-acre, onsite salt landfill, which would reach an ultimate vertical height of 100 feet above the ground surface," rivalling the industrial impact of a large mining operation. The Dolores River is chronically dewatered even in wet years. American Rivers is concerned about potential	An augmentation plan would be obtained for any alternative which would require additional water from the Dolores River, as described in Section 3.4.2, "Impacts on Surface Water and Water Rights," of the DEIS. Because the water would be augmentation water released from McPhee Reservoir for PVU project purposes, flows past this gage would remain representative of the flows cited in the affected environment.

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						water usage with this alternative as well.	
229	Fiebig	Michael	Director, Southwest River Protection Program	American Rivers	229.05	Alternative D would nevertheless permanently change the rural character of the Paradox Valley to an industrial one. The Dolores River is chronically dewatered even in wet years. American Rivers is concerned about potential water usage with this alternative as well.	"The DEIS discloses potential impacts on scenic and aesthetic qualities in the project area as a result of each of the action alternatives in multiple locations in the document. These potential impacts are disclosed in Section 3.11, "Land Acquisition and Land Use"; Section 3.12, "Visual Resources"; Section 3.13, "Areas of Special Designation"; and Section 3.17, "Artificial Light." Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative. As stated in Section 3.15.2, "Impacts on Socioeconomics," property values and property taxes would not change under any alternative because property values are already at the low base property value. The impacts are adequately described in the DEIS such that no change to the EIS needs to be made."
230	May	Joan			230.01	Alternative A will give BOR an opportunity to provide more data such as water quality analysis in the Dolores River as well as cost-benefit analyses of various alternatives. More analysis of how well the salinity	Data on salinity concentrations at Imperial Dam will not yet include the impacts resulting from Paradox's temporary cessation of operations. It will take three to four years before the effects of reduced Paradox operations will be realized above Imperial Dam due

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						<p>plant performed its intended purpose while it was operational and what the impacts to the river and adjacent lands have been since the plant closed are also needed in the context of the entire Colorado River Salinity Control Program before the best decision can be made.</p>	<p>to retention times in both Lakes Powell and Mead, which average 1.5 to 2 years each. Therefore, there is no applicable data available to show an observed reduction in salinity at Imperial Dam. The analysis included in the EIS is based on best available scientific information and provides downstream salinity concentrations based on the CRSS model of the Colorado River basin. The analysis sufficiently shows the relative difference between alternatives for purposes of comparing effects on downstream salinity. No change is needed to EIS.</p>
231	Loschert	Jay				<p>No substantive comments.</p>	<p>Section 3.6.2.2. discloses that the alternatives could impact water released from Lake Mead; however, it is uncertain if the potential changes in releases from Lake Mead may be realized through actual operations. Therefore, the Environmental Commitment in Table 2-5 has been edited so that it's consistent with the language in Section 3.6.2.2: "Should it be determined, after issuance of the ROD, that implementing the identified preferred alternative would require additional water to be released from Lake Mead to comply with IBWC Minute No. 242, Reclamation would consider</p>

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							implementing mitigation measures to address the potential loss of water storage in Lake Mead."
232	Craig	Richard	Mayor	Town of Nucla Board of Trustees		No substantive comments.	n/a
233	Fanshier	Craig	Senior Program Manager/Senior Hydrologist			No substantive comments.	n/a
234	Clark	Amber	Executive Director	Dolores River Boating Advocates	234.01	On the same page, however, the DEIS inaccurately concludes that, "Impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river" (3-59). This is inaccurate for several reasons. Bridges have a significant impact from water or land and Alternative B1 proposes two of them. Bridges significantly modify the recreational experience of boaters floating on the river. There is also a trail from the Bedrock take out along the Dolores River in the area that would be disturbed and	Section 3.12.2, "Impacts on Visual Resources," of the EIS discusses the anticipated changes to the visual landscape among the proposed alternatives. Impacts are described in terms of the degree of contrast between existing condition and future conditions from identified key observations points. This section acknowledges that under Alternative B-Area B1, "bridges and facilities would be visible from Reclamation land to rafters and hikers." Changes to the characteristic landscape would only be on Reclamation lands, and additional facilities would be similar to those currently existing. Section 3.13.2, "Impacts on Areas of Special Designation," discusses the process for evaluating impacts to wild and scenic rivers. Issues identified include adverse

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						<p>impacted in Alternative B1. The trail provides for hiking and horseback riding. Boaters also stop and hike as well. The DEIS analysis of impacts to ORVs and impacts to recreation and scenery falls considerably short. To assume that recreationists won't see the impacts, thus making the impact to their experience minimal, is a completely false conclusion. Alternative B1 would require a right-of-way across BLM land. The proposed ROW is not compatible with the protection and enhancement of identified ORVs, and BLM should deny application for this alternative in conformance with its own policy direction and the Wild and Scenic Rivers Act.</p> <p>Conclusion: Alternative B1 must be rejected based on significant long-term impacts to recreation, impairment of wilderness values which violated FLPMA, and the degradation of wild and scenic values.</p>	<p>impacts on the values (free-flowing condition, water quality, tentative classification, and outstandingly remarkable values). The procedures in BLM Manual 6400 were used to evaluate impacts to wild and scenic river values. Section 3.13.1.1 of the DEIS disclosed that the segment of the Dolores River through Reclamation land had a preliminary classification of recreational. Section 3.13.2.2 disclosed the impacts to the values identified for this river segment. The DEIS identified several impacts to the Outstandingly Remarkable Values (ORVs) found in these segments; these impacts were not expected to alter the tentative classification or eligibility. The additional roads and bridges associated with Alternative B-Area B1 would occur on Reclamation lands assigned a tentative classification of recreational, which are allowable under BLM policy. Section 3.6.B.3 of BLM Manual 6400 states, "bridge crossings and river access are allowed" for river segments with a recreational tentative classification.</p> <p>Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO</p>

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							<p>RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any impacts, particularly regarding Alternative B, would be indirect.</p> <p>Section 3.11.2.2, "Alternative B" of the FEIS has been edited to include additional language disclosing impacts to recreational experiences along the Dolores River Canyon Trail (also referred to as Y9 road in the EIS).. Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness. After</p>

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							<p>further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.</p>
234	Clark	Amber	Executive Director	Dolores River Boating Advocates	234.02	<p>The DEIS identifies that the purpose identified for this project is to "control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin." The need is established based on the fact that the existing well is reaching capacity and will not</p>	<p>Table 2-1, "Amount of salt intercepted by the PVU and estimated amount of salt continuing to enter the Dolores River from 1971 to 2018" of the DEIS shows the history of salt entering the Dolores River and what has been removed from the system by the PVU. The table shows significant reductions in salt entering the Dolores River when the PVU is in operation. The assumptions utilized in the analysis are</p>

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						<p>be able to be used for much longer. Given that the purpose is to reduce salinity and that there has been an existing injection well in operation since 1996, the BOR needs to be able to prove that this program is actually having the desired impact in order for the public to gauge if the purpose and need would be met. The DEIS does not, however, clearly identify the actual impact of the existing well since it began being used in 1996. In fact, it leaves a great deal of ambiguity around what impact the well has actually had and if it is indeed having a large impact. The DEIS states that, "no complete models of salt control in the Paradox Valley exist with which to determine the salinity control effect of PVU operations; therefore, based on best available scientific information, Reclamation is continuing to estimate salt control in the Paradox Valley based on its historical determination."</p>	<p>outlined in Section 2.1.1, "Effect on Dolores River Salinity Levels" of the DEIS. The best available information was used to develop information in the EIS regarding the effectiveness of salinity control in the Paradox Valley.</p>

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234	Clark	Amber	Executive Director	Dolores River Boating Advocates	234.03	Further, this action needs to be considered in the context of all possible actions that could be taken to reduce salinity more broadly. Would it be more cost effective to look at other sources of salinity introduction to the Colorado River in other locations? The public needs to be assured that anything approved in the Paradox Valley is the highest and best use of funding and public land resources and will have the greatest possible impact within the bigger picture.	Section 1.2, "Proposed Action," and Section 1.3, "Purpose of and Need for Action" of the DEIS describe the collection and disposal of saline groundwater of Paradox Valley, which is authorized by Title II of the Colorado River Basin Salinity Control Act, Section 202(a)(1). Therefore, the geographic scope of analysis is appropriately limited to those areas that could achieve collection and disposal of saline groundwater of the Paradox Valley. The costs of each alternative are included in section 2.7.1, Table 2-3, "Costs of Alternatives" of the EIS. Salinity control in the Paradox Valley does not preclude funding or implementation of other salinity control projects through the Basin wide and Basin States salinity control programs.
234	Clark	Amber	Executive Director	Dolores River Boating Advocates	234.04	The Draft Environmental Impact Statement does not present a reasonable range of alternatives as is required by the National Environmental Policy Act. As noted above, deciding to implement Alternatives B, C, or D as considered in this DEIS would inflict major inarguably negative impacts to natural, cultural, wildlife, recreational,	Approximately 20 potential well sites were identified throughout the Paradox Valley region, including near Uravan in existing Reclamation lands, in the southeastern end of the Paradox Valley, across Monogram Mesa, and in Big Gypsum Valley. After comparing the potential well sites with the site selection criteria previously discussed, sites identified in the EIS as Area B1 and Area B2 were determined to be the sites

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						<p>and socioeconomic resources of the study area....At the same time, the DEIS did not consider other possible alternatives such as other potential injection well locations, addressing other salinity inputs instead, or adding more fresh water to the system. The DEIS should describe all other alternative injection well locations that have been evaluated, including why they were discarded. Conclusion: the BOR needs to develop a more reasonable range of alternatives to present to the public, including alternatives that have less harmful impacts to local communities and to natural, cultural, wildlife, recreational, and socioeconomic resources.</p>	<p>which would most likely result in a successful injection well for a 50 year project life. While other locations on Monogram Mesa also appeared to possess the required criteria, they were removed from further consideration due to their distance from existing infrastructure and proximity to Gunnison sage grouse critical habitat and breeding grounds. As identified in Section 2.4.2.1, "3- Dimensional Seismic Survey," of the DEIS, a 3D seismic survey would need to be completed before final selection of a new well-head site could be determined. Impacts to resources, including recreation, are disclosed in Chapter 3. Section 1.2, and Section 1.3, of the DEIS describe the collection and disposal of saline groundwater of Paradox Valley, which is authorized by the Salinity Control Act. Therefore, the geographic scope of analysis is appropriately limited to those areas that could achieve collection and disposal of saline groundwater of the Paradox Valley. Salinity control in the Paradox Valley would not preclude funding or implementation of other salinity control projects through the Basin wide and Basin States salinity control programs. References for this</p>

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							<p>information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS. The DEIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the DEIS consist of the practical and feasible options that would achieve the Purpose and Need of the project. Table 2-7 in the DEIS lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need. We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These references say that the result of allowing more water to flow downstream is akin to a previous</p>

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							<p>proposal of constructing a low-head dam in the river (also included in Table 2-7).</p> <p>Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Bureau of Reclamation, 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased</p>

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							evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.
235	Christensen	Jeremy				No substantive comments.	n/a
236	Maggert	Taylor				No substantive comments.	n/a
237	Huisjen	Dan			237.01	I am curious why directional drilling from the current facility near Bedrock was not considered as one of the analyzed or dismissed Alternatives. If directional drilling is possible from the existing injection well site it would eliminate both the	Directional drilling from the existing facility was evaluated in the Paradox Valley Unit 2nd Well Design Report (Petrotek 2018). This surface location is identified as "BIF2" and the injection target location is "TBIF 1.5" in the Report. Section 4.0 "Evaluation and Suitability of Sites" of the Report states: "The original BIF2-TBIF 1.5 well design

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						<p>impacts of any of the Alternatives analyzed as well as the costs associated with constructing new infrastructure to access a new portion of the Leadville Limestone. There appears to be directional drilling associated with both Alternatives B1 and B2 from new surface locations so it is clearly a cost effective option, at least in those locations. From the diagrams and discussions it appears to me as a layperson that this might be a very reasonable option, particularly with the advances in directional drilling technology over the past few decades. It would be interesting to bring in an additional expert or two in directional drilling to see if they think it could be done and if they are up to the challenge!</p>	<p>required over 8,000 feet of offset (displacement) from the surface location to the TBIF bottomhole location. This well design has significant risk due to: (1) the great total well depth (over 16,700 feet MD), (2) high angle required to achieve the displacement (58 degrees), (3) large offset (over 8,000 feet), (4) the presence of salt and numerous structural elements (identified and unidentified), (5) significant torque and drag that would be encountered, and (6) the well could require one or more sidetracks to reach completion depth. As a result of these risks, it is uncertain whether this well could be drilled for any reasonable cost, or at all. Hence this well was removed from further consideration." This Report includes other supporting information including figures with locations.</p>
237	Huisjen	Dan			237.02	<p>Much of the land that the seismic survey for Alternative B1 and B2 would be implemented on are within the Wilderness Study Area. Though the impact of potential explosions to solitude (the wilderness</p>	<p>Section 2.4.2.1 "3 Dimensional Seismic Survey" of the DEIS discusses the need for additional site-specific NEPA analysis for the 3D seismic survey prior to selection of a new well-head site. Once the details of the survey are known, Reclamation would coordinate with BLM</p>

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						experience) are briefly discussed the long-term impacts to wilderness character from the seismic survey are not discussed. How many explosions will take place within the WSA? How impactful will these explosions be to the soil, vegetation, and long-term wilderness characteristics?	on completion of site-specific NEPA, tiered to this EIS, to analyze effects of the 3D seismic survey and to develop an appropriate 3D seismic survey plan that would include methods to avoid and minimize impacts to resources, including WSA, Federally-listed species, wildlife, vegetation, and cultural resources.
237	Huisjen	Dan			237.03	Again, though the BLM manages this area for 'non-impairment', the document does state elsewhere that the BLM can compromise that strict standard of management to achieve other legal requirements of the government. This potential for legalized impairment, when combined with other previous, and potential future actions, could further impair the Dolores Canyon WSA and compromise its potential to be designated as Wilderness in the future.	<p>The BLM's management policy for designated Wilderness Study Areas is to continue resource uses in a manner that maintains the area's suitability for preservation as wilderness. Policy states that wilderness characteristics in WSAs will be maintained, and all new, discretionary uses must meet the non-impairment standard. Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness.</p> <p>After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the</p>

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							WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.
237	Huisjen	Dan			237.04	In the unfortunate event that Alternative B1 is selected it is imperative that the following mitigations be applied: Mitigation 1): Bridges must attempt to blend in with the natural landscape (color, style). (Regardless of any attempt to 'blend in' these two bridges, 100s and 1000s of boaters would have to float under them for decades to come; the bridges would be an affront to this beautiful, natural landscape, and to the visitor experience.) Mitigation 2): Bridges must be constructed so that they are high enough above the highest possible river flows (consider	Mitigation 1: Section 3.12.2.2, "Alternative B—Injection Well" of the DEIS states bridge design features and mitigation measures would not change the visual resource conformance determination. However, bridge design features and mitigation would minimize the impacts on visual resources (Section 3.12.2.2 and Table 2-5, "Environmental Commitments").  Mitigation 2: Language in Table 2-5, "Environmental Commitments" of the FEIS has been edited to specifically include "and allow for continued boating opportunities." Table 2-5 now reads "Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-

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						<p>huge snowmelt years coupled with maximum releases from McPhee Reservoir and maximum potential spring downpours: think climate change), so that boaters can safely float beneath them. If bridges are not constructed to these types of standards and events the BOR and US Government might become involved in litigation if negative impacts occur to river users from poorly designed bridges. Additionally, if bridges are not constructed high enough it might further preclude use of a river that is already limited in use due to low flows from McPhee Dam; it would be ironic to preclude use at adequate/high flows due to another poorly designed man-made intrusion.</p> <p>Mitigation 3): Powerlines should be buried beside/with the low pressure pipeline so that the poles and wires are not an additional, and significant, intrusion on the recreational experience.</p>	<p>flowing conditions and allow for continued boating opportunities; in other words, bridge piers would not be constructed in the active river channel." Further, Table 2-5 in the DEIS states "Timing of bridge construction would occur during low flow conditions" and Section 3.11.2.2, "Land Acquisition and Land Use, Alternative B-Injection Well," states boating opportunities would not be affected.</p> <p>The bridge would span the active river channel and allow for continued boating opportunities; therefore, there would be no additional public hazards created beyond inherent hazards that presently exist for boating along the Dolores River. There are other bridges across the Dolores River in this reach from Slick Rock to Bedrock: on Colorado Highway 141 at Slick Rock; on S8 Road below Slick Rock; on Gypsum Valley Road at the Montrose and San Miguel County line; and on Colorado Highway 90 at Bedrock.</p> <p>Mitigation 3: The type and capacity of the powerlines required to operate the injection facility cannot be buried.</p>

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						Mitigation 4): Noise dampening construction design should be utilized at any pumping or injection station to minimize the noise impacts to the numerous river users who float by the facilities.	Mitigation 4: Section 3.16.2.2, "Alternative B—Injection Well" states the noise generated by the pumping facility would be below the Colorado and Montrose County thresholds and therefore in compliance with both standards. The noise would attenuate to background levels 0.12 mile for the project site.
238	Cook	Paul	General Manager	Irvine Ranch Water District		No substantive comments	n/a
239	James	Leslie	Executive Director	Colorado River Energy Distributors Association	239.01	At this time, CREDA recommends Reclamation adopt a restated No Action Alternative (Alternative A) in a final EIS and Record of Decision (ROD); alternatively, CREDA recommends Reclamation develop and analyze a "least cost" alternative, including an associated monetary and non-monetary cost/benefit analysis, and supplement this NEPA process appropriately. By "restated" Alternative A, we mean that the PVU would continue operating (albeit at an appropriately reduced level), as opposed to completely shutting down.	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the EIS to clarify that the existing PVU may continue to operate under any

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							of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3 of the FEIS clarifying Alternative A-No Action Alternative.
239	James	Leslie	Executive Director	Colorado River Energy Distributors Association	239.02	Through mid-2019, CRSP power revenues have contributed over \$46 million <sup>1</sup> in operation and maintenance funding to this non-power program, included in CRSP rates. As described in section 2.7.3, the costs of the alternatives that have to be repaid (25% of total costs) from the upper and lower basin funds can be significant and the upper basin share (15% of the 25%) will be repaid from CRSP power revenues and may impact CRSP firm electric service rates. The impacts assessment (section 3.15) and table of impacts (section 2.10) lack any financial or economic impact analysis on the CRSP firm electric service customers, many of whom reside in some of the poorest counties in the Nation. Due to uncertain costs and benefits associated with the alternatives described in the PVDEIS, and	<p>If an action alternative is identified as the preferred alternative and is funded under the authority of the original PVU, the 25% repayment of construction costs to the United States Treasury would be handled as explained in Section 2.7.3 of the EIS, and the impact to the Lower and Upper Basin Funds would be in about 50 years after construction. Reclamation manages the Basin Funds to meet the repayment obligations to the United States Treasury when they are due.</p> <p>Information in Section 2.10, "Summary of Potential Impacts Associated with the Alternatives" of the DEIS does not include financial or economic impact analysis on the CRSP or electric service customers because the costs are uncertain and therefore too speculative to be fully analyzed. No change needed to EIS.</p>

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						the dearth of information on impacts to the upper Colorado River Basin Fund, CREDA cannot support any of the action alternatives at this time.	
239	James	Leslie	Executive Director	Colorado River Energy Distributors Association	239.03	Further, as salinity o&m costs are included in the processes associated with the 1992 Work Plan Agreement process, <sup>2</sup> CREDA should be included in any future discussion of alternatives, funding sources and cost sharing for Salinity Control Program.	Reclamation will continue to keep Western Area Power Administration and CREDA informed of salinity control projects that will require funding, per the Salinity Control Act, from the Basin Funds.
240	Wilson	Charley	Executive Director	Southern California Water Coalition		No substantive comments	Reclamation is preparing the EIS on the premise that whatever action alternative is identified as the preferred alternative will be funded under the same authority as the original PVU. Under the original authority 100% of the funding for construction will be Federal appropriations. Once constructed, 25% of the construction costs will be repaid to the Treasury without interest from the Colorado River Basin Funds (Basin Funds) with 85% of the repayment coming from the Lower Colorado River Basin Development Fund and 15% from the Upper Colorado River Basin Fund. As directed by the Act, the costs allocated to the Basin Funds "shall be

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							repaid within a fifty-year period or within a period equal to the estimated life of the unit." Since the repayment will be without interest, it is expected that the costs will be repaid in the last years of the repayment period.
241	Curtis	Kenneth	General Manager	Dolores Water Conservancy District		No substantive comments	NA
242	Fulton	Richard	John Weisheit, Co-founder Living Rivers & Colorado Riverkeeper Rica Fulton, Program Director Upper Green River Network Sarah Stock, Program Director Living Rivers & Colorado Riverkeeper Lauren Wood, Program Director Green River	Waterkeeper Alliance: Living Rivers & Colorado Riverkeeper, Upper Green River Network, Green River AcHon Network, Las Vegas Water Defender and Canyonlands Watershed Council	242.01	Reducing the volume of the inter-basin diversion from the Dolores River to the San Juan Basin, and increasing the quantity of water released downstream, would supplement Reclamation's action towards reducing salt loads in Paradox Valley. Reduced flows lead to higher concentrations of salinity in all river systems, which has especially compounded the salinity issue for the Dolores River. We understand releasing more water downstream to mitigate salinity is challenging in the overallocated system, as currently, only 700 acre-feet a year is allocated specifically for the Paradox Valley Unit (PVU). However, Reclamation, as the primary owner and operator of	Section 1.2, "Proposed Action" and Section 1.3, "Purpose of and Need for the Proposed Action," of the DEIS describe the collection and disposal of saline groundwater of Paradox Valley, which is authorized by Title II of the Colorado River Basin Salinity Control Act, Section 202(a)(1). Therefore, the geographic scope of analysis is appropriately limited to those areas that could achieve collection and disposal of saline groundwater of the Paradox Valley. Salinity control in the Paradox Valley would not preclude funding or implementation of other salinity control projects through the Basin wide and Basin States salinity control programs. Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration.

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			Action Network Tick Segerblom, Program Director Las Vegas Water Defender Dave Erley, President Canyonlands Watershed Council			the Dolores Project alongside the Dolores Water Conservancy District (DWCD), has a responsibility to manage the river downstream of McPhee Dam, as well as to the larger Colorado River. We suggest that the efficiency of water used by Dolores Project Full-Service Farmers and Montezuma Valley Irrigation Company (MVIC) be studied by the Reclamation in order to understand how private and federal water systems are functioning. Outcomes from such an exercise may lead to installation of more water-efficient delivery systems (particularly on outdated MVIC infrastructure) with “saved” water allocated downstream in a manner consistent with a more natural flow regime.	One of these alternatives considers increasing releases from the McPhee Reservoir. Added interbasin diversions and water efficient irrigation practices to this row of the table. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need. We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. The result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions (USGS 2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the

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							<p>hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however,</p>

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							brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved. A water efficiency analysis of water used by Dolores Project Full-Service Farmers and Montezuma Valley Irrigation Company would not provide information necessary for the analysis of the alternatives carried forward in the EIS. No change.
242	Fulton	Richard	John Weisheit, Co-founder  Living Rivers & Colorado Riverkeeper  Rica Fulton, Program Director  Upper Green River Network  Sarah Stock, Program Director	Waterkeeper Alliance: Living Rivers & Colorado Riverkeeper, Upper Green River Network, Green River AcHon Network, Las Vegas Water Defender and Canyonlands Watershed Council	242.02	We do reiterate the importance of conducting a more in-depth EIS if Alternative D is chosen. Some aspects may need to be improved, however. Constructing solar panels at suitable locations in order to meet high energy requirements is suggested to mitigate any need to develop additional power lines. New natural gas pipelines should not cross the floodplain of the Dolores River in case a flood, leak or spill were ever to occur, in particular with the frequency of seismic activity in the region. Further, it is important that water being discharged into the Dolores	Chapter 3, 3rd paragraph, states that after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed. The potential for incorporating renewable energy was evaluated in the report "Paradox Valley Unit Brine Crystallization Technology Assessment" from 2016. This report is available on the Paradox Valley Unit website ( <a href="https://www.usbr.gov/uc/progact/paradox/index.html">https://www.usbr.gov/uc/progact/paradox/index.html</a> ). In this report, photovoltaic solar, solar thermal, and geothermal energy were evaluated for incorporation. The photovoltaic solar and geothermal sources are not

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			Living Rivers & Colorado Riverkeeper			River be filtered to an appropriate extent by current WOTUS (Waters of the United States) standards that include ephemeral water bodies and wetlands.	expected to reduce the operating costs of the crystallizers by enough to offset the increased capital costs of the renewable energy technology. One vendor of ZLD technologies incorporates solar thermal into their systems. A pilot study was conducted at the PVU with solar thermal troughs from a different vendor but the intensive operation, maintenance, and replacement demonstrated did not identify that it would offset the capital costs of the solar troughs. Also, natural gas is required regardless for the periods of time when these renewable resources are not able to produce energy. However, renewable energy resources could be incorporated during final design should data become available demonstrating their viability at the PVU. Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. Based on the information provided, it appears the solar thermal troughs could potentially be viable as a design improvement to supplement energy for Alternative D. However, no information was provided regarding capital,
			Lauren Wood, Program Director				
			Green River Action Network				
			Tick Segerblom, Program Director				
			Las Vegas Water Defender				
			Dave Erley, President				
			Canyonlands Watershed Council				

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							<p>operation, maintenance, or replacement costs of the solar thermal troughs. Pilot testing would be required to verify the viability and applicability of the technology and to provide data on anticipated costs and benefits. Pilot testing would occur after the Record of Decision if Alternative D is identified as the preferred alternative. Selection of technologies to be pilot tested would be subject to a competitive contracting process at that time. The constraints for inclusion would include that the technology is commercially available and not in research or development stages. Reclamation would continue to evaluate methods to further minimize impacts during the design process. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed. Any additional NEPA analysis would be tiered to this EIS. In Section 2.6.2.1 of the Final EIS, "Zero-Liquid Discharge Facility," a sentence has been added to the end of the last paragraph that says, "Reclamation would continue to evaluate methods to</p>

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							<p>further minimize impacts during the design process. In addition, alternative energy technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."</p> <p>As cited in Section 3.6.2.6, "Alternative D—Zero-Liquid Discharge Technology" of the DEIS, Reclamation would work with CDPHE to ensure the produced freshwater in Alternative D would be treated to meet composition and temperature requirements of the CWA prior to discharge to the Dolores River. A condensed water cooler has been included in the design of Alternative D to meet this requirement, and additional treatment requirements are also included in the cost estimate.</p>
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.01	The DEIS identifies the project's purpose as the reduction of salinity levels in the lower Colorado River Basin. It would be most advantageous to reviewers for the DEIS to provide a baseline assessment of the benefit of the past 30 years of operation of the Paradox Valley Unit of the Colorado River Basin Salinity	A baseline assessment of the benefit of the past 30 years of operation is not relevant to comparison of the effects of the alternatives on downstream salinity, and therefore is not included in the EIS. Data on salinity concentrations at Imperial Dam will not yet include the impacts resulting from Paradox's temporary cessation of operations. It will take three to four years before the effects of reduced Paradox operations

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						<p>Control program. The program has removed apparently several million tons of salt. Has there been a corresponding observed reduction in salinity a thousand miles downstream at Imperial Dam?</p> <p>Specifically, the brine injection facility has been off-line for much of the past year. What has been the observed impact to salinity levels at Imperial Dam as a consequence of the Paradox Valley Unit's cessation? Is there a measurable impact of brine injection at the point of salinity level measurement at Imperial Dam?</p> <p>Has there been a cost-benefit analysis of devoting additional resources to other known major source contributors, like the agricultural operations in the Uncompahgre Valley and the Grand Valley, that might suggest more bang for the buck in amplifying efforts there instead of the Paradox Valley Unit?</p>	<p>will be realized above Imperial Dam due to retention times in both Lakes Powell and Mead, which average 1.5 to 2 years each. Therefore, there is no applicable data available to show an observed reduction in salinity at Imperial Dam. The water quality analysis included in the EIS is based on best available scientific information and provides downstream salinity concentrations based on the CRSS model of the Colorado River basin (see Section 3.6). The analysis sufficiently shows the relative difference between alternatives for purposes of comparing effects on downstream salinity. No change is needed to the EIS.</p> <p>The scope of the EIS is limited to salinity control at the Paradox Valley. None of the alternatives preclude Reclamation funding other agriculturally-based salinity control projects through the Salinity Control Program. However, a cost-benefit analysis of devoting PVU funding to other salinity control projects would be speculative, as it would rely on assumptions regarding which other potential salinity projects would be funded and how much salt would be controlled to develop a cost per ton.</p>

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243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.02	Unfortunately, it appears none of the analyzed alternatives come close to satisfying these goals. As is described in our comments that follow, while perhaps the goal of removing salt might be achieved by some of the action alternatives, these alternatives other than No Action bring significant adverse impacts, conflict with existing BLM management plans and policies, violate the law, and are not in the public's best interest.	The intent of the goals and objectives are to provide additional items for the Secretary to consider in their decision. The ability for each alternative to meet the goals and objectives are disclosed in Table ES-1, "Ability of each alternative to meet the goals and objectives of the proposed action," of the DEIS. Impacts resulting from the implementation of the alternatives are disclosed in Chapter 3.
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.03	For a proposal to be consistent with the non-impairment standard, it has to be both temporary and not create surface disturbance. The Wilderness Study Area includes all surface and subsurface features. As the DEIS notes, Alternative B1 creates permanent impairment because of the permanent nature of the proposed pipeline through the WSA.  The directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on	The BLM's management policy for designated Wilderness Study Areas is to continue resource uses in a manner that maintains the area's suitability for preservation as wilderness. Policy states that wilderness characteristics in WSAs will be maintained, and all new, discretionary uses must meet the non-impairment standard. Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness.  After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well

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						<p>Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This would not meet the BLM non-impairment standard. (DEIS at 3-60)                      Thus, Alternative B1 fails to meet this standard because it is not temporary. In brief, Alternative B1 violates FLMPA's requirement to maintain the wilderness character in an unimpaired condition. Alternative B1 is a not a lawful alternative, and for that reason alone must be rejected. The DEIS attempts to override the WSA management policy by referring to an exception that generically describes other legal obligations, and cites the Colorado River Basin Salinity Control Act as such an obligation. This citation to the Colorado River Basin Salinity Control Act as overriding BLM's FLPMA requirements to maintain unimpaired the WSA's wilderness characteristics fails on multiple counts.</p>	<p>and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.</p>

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243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.04	<p>To summarize, since there are other alternatives outside the WSA that would satisfy implementation of the Paradox Valley Unit of the Colorado River Basin Salinity Control Act, it is incorrect to say an exception to non-impairment has been met. As well, FLPMA says BLM "shall" not allow impairment; this does not provide for BLM to authorize discretionary activities like salinity reduction facilities. The Salinity Control Act does not require specific action in the WSA, and does not override FLPMA.</p> <p>In conclusion, there is no defensible justification for BLM to ignore the plain requirements of FLPMA to protect the wilderness character of Dolores River Canyon WSA.</p>	<p>The BLM's management policy for designated Wilderness Study Areas is to continue resource uses in a manner that maintains the area's suitability for preservation as wilderness. Policy states that wilderness characteristics in WSAs will be maintained, and all new, discretionary uses must meet the non-impairment standard. Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness.</p> <p>After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of</p>

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							the Final EIS have also been edited accordingly.
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.05	<p>The DEIS appropriately notes the impacts to scenic ORVs, However, the DEIS makes unsubstantiated claims to the impacts perceived from views at the river level. Bridges obviously create a substantially noticeable new impact, as does a powerline, for starters. These cannot be dismissed as minor. The DEIS also fails to account for other forms of visitation to the river corridor and impactson the scenic ORVs. For example, the Dolores River Trail (as detailed by the West End Trails Alliance <a href="https://www.westendtrails.org/dolores-river-trail/">https://www.westendtrails.org/dolores-river-trail/</a>) traverses the river corridor from Bedrock boat launch upstream to the confluence with La Sal Creek. The trail's "best feature" is described as "great views from inside the Dolores River Canyon."The new injection well facilities, access road, two bridges and powerline would be immediately adjacent to the</p>	<p>Section 3.12.2, "Impacts on Visual Resources," discusses the anticipated changes to the visual landscape among the proposed alternatives. Impacts are described in terms of the degree of contrast between existing condition and future conditions from identified key observations points. Section 3.12.2.2, "Alternative B - New Injection Well" of the DEIS acknowledges that under Alternative B-Area B1, "bridges and facilities would be visible from Reclamation land to rafters and hikers." Changes to the characteristic landscape would only be on Reclamation lands, and additional facilities would be similar to those currently existing. Section 3.13.1.1, "Wild and Scenic Rivers" of the DEIS disclosed that the segment of the Dolores River through Reclamation land had a preliminary classification of recreational. Section 3.13.2.2 disclosed the impacts to the values identified for this river segment. The DEIS identified several impacts to the Outstandingly Remarkable Values (ORVs) found in these segments; these impacts were not expected to alter the tentative classification or eligibility. The additional</p>

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						Dolores River Trail and will dramatically degrade the outstandingly remarkable scenic values of the river corridor for recreational trail users.	roads and bridges associated with Alternative B-Area B1 would occur on Reclamation lands assigned a tentative classification of recreational, which are allowable under BLM policy. Section 3.6.B.3 of BLM Manual 6400 states, "bridge crossings and river access are allowed" for river segments with a recreational tentative classification. Between the time of the release of the draft EIS and prior to finalization of the EIS, a ROD was signed for the BLM UFO RMP. Finalization of the UFO RMP resulted in changes to Wild and Scenic River segments in the project area. The final EIS has been updated to reflect the Final Suitability Report for WSR rather than the information from the WSR Eligibility Report described in the DEIS. The final WSR Suitability Report excluded the river segments classified as recreational through Reclamation land and the Paradox Valley from further consideration as a WSR; therefore, information pertaining to those river segments was edited or deleted in the final EIS in Section 3.13 and elsewhere, as appropriate (i.e. Sections ES.8, 1.6, 2.10, and 4.2). All the alternatives would occur outside suitable WSR segments; therefore, any

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							impacts, particularly regarding Alternative B, would be indirect.
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.06	Several of the DEIS alternatives could substantially impair the purpose for proposed areas of critical environmental concern (ACEC) recommended for designation in BLM's Uncompahgre Field Office Proposed Resource Management Plan. BLM's proposed Paradox Rock Art ACEC is adjacent to the large salt evaporation ponds proposed in Alternative C. These would greatly diminish the setting of the Paradox Rock Art ACEC. The nominated Paradox Rock Art ACEC is located in the eastern part of Paradox Valley. It contains important rock art and archaeological sites, including several outstanding examples of Ancestral Puebloan style petroglyphs, Formative period and earlier occupations, features and isolates, and settled village sites dating more than five hundred to a thousand years old. The site is rare for its northern extent of Anasazi rock	<p>Cultural resources are discussed in Section 3.19 of the DEIS. After issuance of a Record of Decision, cultural resources will be surveyed and consultation completed pursuant to the terms of the Programmatic Agreement, EIS Appendix M.</p> <p>The BLM Uncompahgre Field Office Approved Resource Management Plan boundary of the Paradox Rock Art ACEC is 1,080 acres and has no direct overlap with any of the Alternatives.</p>

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						<p>art and occupation. (Uncompahgre Proposed RMP FEIS at 4-170). In addition, BLM proposes that “the 1,080 acres in the Paradox Rock Art Complex would be managed as a National Register District.” For cultural resources, a significant adverse impact would be the loss of those elements that make them eligible for listing on the National Register of Historic Places due to the extent or degree to which resources are damaged, their physical integrity is lost, or the setting of the resource is damaged. Siting over a thousand-acre salt evaporation pond facility adjacent to a National Register District site would create significant adverse impacts by enormously modifying the setting of the Paradox Rock Art site. The DEIS contains no specific analysis of impacts of Alternative C on the proposed Paradox Rock Art ACEC. The DEIS acknowledges the existence of BLM’s proposed National Historic District (DEIS</p>	

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						<p>at 3-76). The DEIS also admits that “visual degradation of the setting associated with significant cultural resources, including rock art sites, could result from development. This could affect significant cultural resources for which visual integrity is a component of their significance, such as sacred sites and landscapes and historic trails and landscapes.” (DEIS at 3-77).</p>	
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.07	<p>BLM’s proposed Biological Soil Crust ACEC is adjacent to the location of the Zero Liquid Discharge facility proposed in Alternative D. This ACEC was identified via field surveys in 2009: The survey discovered that the soils in the inventory area are derived from the Paradox Formation, and are highly gypsiferous. These soils tend to support a higher than normal density and species diversity of biological soil crusts. The inventory also resulted in the documentation of the occurrence of two species of biological soil crusts that are</p>	<p>The BLM Uncompahgre Field Office Approved Resource Management Plan Final EIS boundary of the Biological Soil Crust ACEC is 390 acres and has no direct overlap with any of the Alternatives. Section 3.7.2.2, "Impacts Common to Alternatives B, C, and D," of the EIS, under Vegetation, has been edited to specifically include biological soil crusts when discussing direct impacts: “Direct effects on vegetation, including biological soil crusts, would occur during construction in the areas physically modified by ground-disturbing activities, such as site grading and clearing and facility construction.” Mention of biological soil crusts as not being analyzed has been removed from</p>

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						<p>somewhat rare and typically found only on gypsiferous soils. The two species are: Lecanora gypsicola and Gypsoplaca macrophylla. The identification of these species was verified by Dr. Larry St. Clair, Lichenologist at Brigham Young University. Dr. St. Clair conveyed via e-mail to Jessie Salix that he felt the lichens were in need of protection for two reasons: 1) they occur exclusively on gypsiferous soils, a limited habitat that is commonly mined, 2) Dr. St. Clair has only observed these two species on less than half of the gypsiferous sites he has inventoried. (Uncompahgre Proposed RMP FEIS at O-30). The ACEC is proposed specifically to protect these sensitive soils from surface disturbance. Unfortunately, the DEIS explicitly excluded from analysis impacts to biological soil crusts. (DEIS at 3-70) The DEIS contains no acknowledgement of the proximity of the ACEC to the Zero Liquid Discharge facility.</p>	<p>Table 3-22, "Resources not analyzed in this EIS and the exclusion justification," of the FEIS. Table 2-10 in the DEIS summarizes impacts to resources, including cultural resources and BLM RMP conformance. Section 3.19, "Cultural Resources" of the DEIS addresses cultural resources specifically and Section 3.11, "Land Acquisition and Land Use" addresses BLM RMP conformance.</p>

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						<p>Given the intentional omission of analysis of impacts to biological soil crusts, it is not possible to ascertain whether Alternative D would achieve the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public.</p>	
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.08	<p>The DEIS defers any analysis of compliance with the Endangered Species Act until a preferred alternative is identified in the Record of Decision. (DEIS at 5-3) Since the Bureau of Reclamation does not intend to coordinate and consult with USFWS to comply with Section 7 of the Endangered Species Act until a later date, at what point will the public have the opportunity to review and comment in a meaningful way on potential impacts to threatened and endangered species?</p>	<p>Potential impacts to threatened and endangered species are disclosed in the DEIS in Section 3.10.2, "Impacts on Federally Listed Species." Section 3.10.2 explains that preliminary assessments of the effects of each alternative on Federally listed species were made on the draft EIS with technical assistance from FWS staff, and a final effects determination will be made through consultation with the FWS, as appropriate, for the final EIS. Section 3.10.2 of the Final EIS has been edited to remove the following sentence, "Final effects determinations would be made through consultation with the FWS after a preferred alternative is identified and prior to issuance of the ROD, " and replaced with the following sentence, "As described below, Alternative B is the</p>

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							only alternative that would require consultation with FWS."
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.09	The DEIS offers an incomplete analysis of impacts to recreation. The DEIS does not assess the degradation in recreational experience that would be caused by the construction of Alternative B1. The Dolores River corridor is currently a primitive recreational opportunity setting, which means it offers opportunities for solitude, natural quiet, and unconfined recreation for non-motorized and non-mechanized travel year-round. (Tres Rios Field Office Approved RMP, II-83). The segment of the river canyon incorporated within Department of Interior lands administered by the Bureau of Reclamation is similar with the corridor from the BLM WSA boundary downstream to the existing brine injection facility also meeting the description of a primitive recreational opportunity setting though Bureau of Reclamation may not apply that terminology.	<p>Potential impacts to the Dolores River Canyon as they relate to recreation are disclosed in the DEIS in Section 3.11, "Land Acquisition and Land Use." The BLM to manages the Dolores River Canyon as a Special Recreation Management Area (SRMA), with a focus on the recreational activities of whitewater rafting, boating, fishing, and camping.</p> <p>Area B1 of Alternative B along the Dolores River would be on Reclamation land. Although this area is outside of BLM's SRMA, some indirect impacts to the recreational experience in the SRMA are expected. These impacts are described in Section 3.11.2.2, "Alternative B - New Injection Well" which has been edited to acknowledge the visual effects of additional facilities and infrastructure on recreational experiences based on solitude and natural setting.</p>

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243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.10	<p>The construction of a new road, bridges, and powerline will significantly modify the recreation setting of the river canyon, and will significantly degrade the recreational experience for hikers and boaters. Alternative B1 effectively converts the Dolores River corridor from the WSA boundary downstream into a Roaded Natural ROS setting rather than primitive. This is a dramatic and significant impact that should be revealed in the analysis. For boaters floating downstream the last couple of miles to the Bedrock boat ramp, and for hikers and equestrians on the Dolores River Trail, their experience will be negatively impacted to a significant degree. The DEIS is inaccurate to state that impacts to recreational use from Alternative B1 are minimal. (DEIS at 3-75) In fact, the impacts are substantial. One cannot flip from a Primitive ROS to a Roaded Natural ROS, and</p>	<p>Potential impacts to the Dolores River Canyon as they relate to recreation are disclosed in the DEIS in Section 3.11, "Land Acquisition and Land Use." The BLM manages the Dolores River Canyon as a Special Recreation Management Area (SRMA), with a focus on the recreational activities of whitewater rafting, boating, fishing, and camping.</p> <p>Area B1 of Alternative B along the Dolores River would be on Reclamation land. Although this area is outside of BLM's SRMA, some indirect impacts to the recreational experience in the SRMA are expected. These impacts are described in Section 3.11.2.2, "Alternative B - New Injection Well," which has been edited to acknowledge the visual effects of additional facilities and infrastructure on recreational experiences based on solitude and natural setting.</p>

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						describe that as a minimal impact.	
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.11	Further geophysical investigation is necessary to ascertain whether a potential second Paradox Valley Unit well (PVU #2) would be hydrologically isolated. This includes a comprehensive 3D seismic survey, drilling exploratory wells, modeling salt rheology and other technical analyses.	The results of geomechanical and flow modeling studies, as well as analyses of induced earthquakes, indicate that the Leadville formation has not been pressurized in the areas of the B1 and B2 alternatives. These studies and conclusions have been reviewed by an independent consultant review board. Alternatives B1 and B2 envision conducting 3D seismic surveys prior to final site selection. Based on the findings from the drilling feasibility study and the 30% design study, it is more cost effective to drill a well that functions initially as an exploratory well, and which is subsequently completed as an injection well if the exploratory results are positive. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.12	Alternative B1 appears intended to inject brine immediately southwest of the current fault that is presumed to provide a hydrologic isolation from the existing PVU #1 injection well. Is there any concern that filling the limestone formation along the same fault zone but on the	The major impermeable faults seen in the seismic reflection data, and which hydrologically isolate different parts of the Leadville formation, are not unfavorably oriented with respect to existing regional stress directions to produce earthquakes. Induced earthquakes are therefore not expected on these faults. References for this

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						southwest side as compared with the northeast side will not simply encourage further earthquakes? Is there geophysical modeling or other information available to confirm that Alternative B1 won't exacerbate existing earthquakes owing to its proximity to the current injection well?	information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.13	The DEIS includes analysis for several alternative injection well locations in Appendix F, Geomechanical and Flow Modeling Summary Report. These apparently include the locations for Alternatives B1 and B2 (Dolores River Valley and Monogram Mesa). A third well location at Pinion Ridge was evaluated in Appendix F, but apparently not carried forward as a full alternative in the DEIS. The DEIS should describe the Pinion Ridge location and other alternative injection well locations evaluated, and for what reasons they might have been discarded. Previous technical reviews commissioned by the Bureau of Reclamation	The Pinion Ridge site was one about 20 sites that were evaluated. It was rejected for technical reasons, primarily that the horizontal offset required to reach a suitable reservoir was too great, and exceeded the offset that would be required if drilling from the current injection well. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.

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						identified a number of potential alternative locations.	
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.14	The DEIS is almost exclusively focused on the subsurface attributes of injection well alternatives to the exclusion of surface considerations. The public's review and comment on the DEIS provides the additional information that the Alternative B1 locations do not adhere to FLPMA's mandates, as well as the substantial impacts to scenery, recreation, and other socio-economic concerns. It might have made for more efficient analysis to know these likely fatal surface resource conflicts before investing too much effort into consideration of B1. With the added information about surface resource concerns, the Bureau of Reclamation should undertake assessment of other injection well locations that incorporate not only subsurface geophysical factors but also surface resource considerations. It would be useful for the public and reviewers to better	Approximately 20 potential well sites were identified throughout the Paradox Valley region, including near Uravan, within existing Reclamation lands, in the southeastern end of the Paradox Valley, across Monogram Mesa, and in Big Gypsum Valley. After comparing the potential well sites with the site selection criteria previously discussed, sites identified in the EIS as Area B1 and Area B2 were determined to be the sites which would most likely result in a successful injection well for a 50 year project life. While other locations on Monogram Mesa also appeared to possess the required criteria, they were removed from further consideration due to their distance from existing infrastructure and proximity to Gunnison sage grouse critical habitat and breeding grounds. Sites north or Highway 90, and north of Paradox Valley were considered, but were rejected for technical reasons, including: (1) lack of adequate salt thickness in the Paradox formation to function as a confining layer; (2) increased depth of drilling required to reach the Leadville formation; (3) potential that this part of

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						understand the range of alternatives contemplated if the DEIS would describe additional alternative injection well sites that might include sites along Highway 90, sites north of the Paradox Valley rim, and sites near existing infrastructure in Paradox Valley.	the Leadville formation already has been pressurized by the existing injection well; (4) increased potential for seismicity near populated areas; and, (5) increased difficulty of drilling through salt (for sites within Paradox Valley). References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.15	This raises the obvious question whether there is a straight-forward non-structural alternative to reduce brine discharge into the Dolores River simply by increasing freshwater flows in the river. The DEIS should discuss the viability of such an approach. The DEIS should also discuss and evaluate the efficacy of agricultural land management alternatives as compared with the selected alternatives for analysis. This could include modifications to agricultural practices in West Paradox Valley. It could also include the benefit of applying more resources to the mitigation projects in the Lower Gunnison or Grand Valley areas where salt	Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need. We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These

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						loading has been significantly reduced with improved agricultural practices.	references say that the result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater

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							<p>lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved. As described in Section 4.2, "Cumulative Impacts Analysis," in the Water Quality row, the ongoing Salinity Control Program and EQIP would be expected to cumulatively result in the decrease in salinity in the lower Colorado River.</p>
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.16	Since the Paradox Valley Unit has ceased operation over the past year owing to earthquakes,	Data on salinity concentrations at Imperial Dam will not yet include the impacts resulting from Paradox's

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						there should be empirical evidence of the downstream consequences of the No Action Alternative. What is the observed impact to salinity concentrations at Imperial Dam over the past year without operation of the Paradox Valley Unit? Does it confirm modeling predictions?	temporary cessation of operations. It will take three to four years before the effects of reduced Paradox operations will be realized above Imperial Dam due to retention times in both Lakes Powell and Mead, which average 1.5 to 2 years each. Therefore, there is no applicable data available to show an observed reduction in salinity at Imperial Dam over the past year.
243	Pearson	Mark	Executive Director	San Juan Citizen's Alliance	243.17	What are the radioactive constituents in the Paradox Valley brine, if any? Has Bureau of Reclamation measured for radioactivity of the brine, and similarly radioactivity of remnant waste salt? We would appreciate inclusion of this information in the EIS. The EIS needs to evaluate the consequences of Technologically Enhanced Naturally Occurring Radioactive Material if present, and options for addressing the handling and disposal of these materials.	Radionuclides were tested for their presence in the solid salt produced from both the evaporation pond studies and ZLD technologies pilot test. These tests evaluated Thorium (228, 230, 232), Uranium (233/243, 235/236, 238) and Radium (226 and 228). Specific results of the testing can be found in Section 12.1.2 and Appendix G of the "Final Feasibility and Cost Analysis Findings and Recommendation Report" (Amec 2017d) and in Table 3 and Appendix E in the "SaltMaker Evaporator Crystallizer Pilot Report" (SaltWorks 2019). The results of the tests showed these constituents were at or below minimum detection limits. It was further verified with CDPHE Radioactive Materials Unit that the salt would be considered non-hazardous and could be disposed of in a permitted landfill. The SaltWorks

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							2019 report also contains the full Toxicity Characteristic Leaching Procedure (TCLP) test results of the salt and no concerning results were identified. These results were also summarized in Section 3.14.2.4, "Impacts Common to Alternatives C and D" of the DEIS. As only trace amounts of radionuclides are present in the salt, there is no need to evaluate and address handling of these materials. Therefore, the salt would be handled and disposed of in accordance with CDPHE Solid Waste regulations as identified in Section 3.14, "Solid Waste, Hazardous Substances, and Environmental Media" of the DEIS.
244	Kerl	Sandra	General Manager	San Diego County Water Authority		No substantive comments	N/A
245	Kugel	Frank	Executive Director	Southwestern Water Conservation District	245.01	There are serious concerns about the existing PVU injection well and the seismic activities caused by the well. These negative impacts to the local community have been voiced to SWCD on numerous occasions. SWCD would support the continued use of the existing well at decreased injection rates under the condition that it	The potential for induced earthquakes for alternatives B.1 and B.2 was analyzed and found to be lower than that at the current injection well. This is the result of a larger underground reservoir for these alternatives, fewer impermeable faults than are present at the current well, and a greater distance from potential induced seismicity to populated areas. The useful life of the existing well is nearing its end because

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						<p>would not cause any further seismic activities. SWCD understands the importance of operating the well and the positive impacts the well operations have had on salinity in the basin. Even decreased pumping rates will have a positive impact on the salt loading, while also addressing growing concerns the community at large has had about potential seismic impacts.</p>	<p>of the limited size of the underground reservoir currently available from that well. Continued use of the existing well, even at reduced rates, therefore is not a long-term solution to continued salinity control. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.</p> <p>Long-term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" of the EIS to clarify that the existing PVU may continue to operate under any of</p>

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							the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3, "Alternative A—No Action Alternative" of the EIS clarifying Alternative A-No Action Alternative.
245	Kugel	Frank	Executive Director	Southwestern Water Conservation District	245.02	The draft EIS describes four alternatives to the existing PVU inject well. While each alternative has an array of positive and negative impacts, SWCD's preferred alternative is the evaporation ponds. While SWCD may support this alternative, concerns still exist its potential negative impacts to wildlife, which are a substantial concern for the local community and SWCD. In the interim period prior to completion of the evaporation ponds, we would support use of the existing well to a lesser extent than historic operations to limit seismic activities.	Long-term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to

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							Section 2.3, "Alternative A—No Action Alternative" of the EIS clarifying Alternative A-No Action Alternative.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.01	The DEIS makes several references to the deep injection well nearing the end of its serviceable life. When it was constructed in the late 1980s and early 1990s, PVU was expected to have a life of 40 years. However, the increased local seismic activity has caused additional concern. Moreover, seismic events in the area may be indicative of the increasing storage reservoir pressures, which may potentially limit or reduce future injection volumes or rates. As such, it is not accurate to say that the deep injection well and related infrastructure is nearing the end of its serviceable life. It is important that the FEIS recognize that concerns regarding increased seismicity have impacted PVU's operations. Further, the FEIS should recognize that the deep injection well and related infrastructure has the potential	Methods and techniques for analyzing geologic, geophysical, and well-log data have substantially improved since the time the original studies were conducted for the existing injection well. Although those studies projected a longer lifetime, and higher injection rates, they were based on incomplete data and proved to be unrealistic once the well was drilled and operations commenced. Detailed analyses of pressure and flow data obtained from operating the existing well have shown that the unexpectedly high pressures, and the long-term pressure trend, are the result of the far-field pressurizing a limited underground reservoir. These effects cannot be mitigated by reworking the existing well, or changing operational parameters. Geologic factors are the primary constraint on the lifetime of the existing well. Although the well can be operated at reduced injection rates, the amount of salinity control is proportional to the injection rate. Reduced rates may not provide adequate salinity control. Even at reduced rates, pressurization of the

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						to operate at reduced volumes or injection rates, which would extend its serviceable life.	underground reservoir would continue to increase, potentially leading to unacceptable seismicity. This would lead to further injection rate reductions, and a further reduction in salinity control. In terms of a second-well alternative, drilling into a much larger underground reservoir, hydrologically isolated from the existing reservoir, provides the most feasible solution. Alternatives B.1 and B.2 were selected from approximately 20 sites to provide the best potential for salinity control, with the least risks, lowest costs, and lowest impacts. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS. Long-term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is

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							determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3 of the EIS clarifying Alternative A-No Action Alternative.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.02	The alternative development process usually begins with identification of the proposed action, purpose and need, and the goals and objectives of the EIS. Once these items are identified, the lead agency (in this case, Bureau of Reclamation) usually works with cooperating agencies and stakeholders on an alternative development process, describes the proposed alternative characteristics, and solicits feedback. The DEIS as currently written lacks any description of the alternative development process. There is no description of the stakeholder process and of any interaction with the	Beginning in 2012, Reclamation held about 24 cooperating agency meetings which provided information on the development of alternatives, including identification of the proposed action, purpose and need, and the goals and objectives of the EIS. As a cooperating agency, the Arizona Department of Water Resources (ADWR) was invited to participate in the cooperating agency meetings. Reclamation also held site visits in Paradox Valley with the cooperating agencies. In addition, ADWR reviewed and provided comments on the administrative DEIS, prior to release of the DEIS. A description of cooperating agency involvement is included in Section 5.3, "Cooperating Agency Involvement" of the DEIS. The alternatives were

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						Forum or the Work Group regarding this topic. A descriptive alternative development process helps stakeholders aid in the review and analysis of the selected alternatives. The FEIS should include a section on the alternative development process.	identified and developed based on the purpose and need described in Section 1.3, "Purpose of and Need for Action." The alternatives development process is adequately described in the EIS. More detailed information on this process will be made available through the project administrative record.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.03	NEPA requires that a No Action alternative is described and analyzed in an EIS. A No Action alternative provides a benchmark to allow decisionmakers and the public to compare the levels of environmental effects of the alternatives to the current baseline or status quo. Under a traditional approach the "No Action" alternative would assume continued operation of the PVU brine capture and injection wells as currently authorized, budgeted for and maintained. However, the No Action alternative, as described in the DEIS, contemplates the shutting down of the existing operations at the PVU. If this	Pursuant to 43 CFR 46.30, a no action alternative can have two interpretations: "First, 'no action' may mean 'no change' from a current management direction or level of management intensity. . . . Second, 'no action' may mean 'no project' in cases where a new project is proposed for implementation." This EIS was initiated because the existing PVU is reaching the end of its useful life. This allows Reclamation sufficient time to identify and analyze a reasonable range of alternatives and take any necessary steps to implement the preferred alternative prior to the injection well becoming inoperable. Alternative A (no action) represents no salinity control in Paradox Valley once the existing PVU is no longer feasible to operate. This has been clarified in Section 2.3, "Alternative A—No Action

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						<p>were to occur, approximately 100,000 tons of salt currently being disposed of per year would flow in the Colorado River System leading to an increase of downstream salinity levels of 9-10 mg/L and causing an estimated additional \$23 million dollars in annual damages. Arizona understands that the reasons for formulating the "No Action" alternative in such a manner in this DEIS may be threefold:</p> <p>1) as of the release of the DEIS, the PVU brine capture and disposal activities had been temporarily suspended,</p> <p>2) due to seismic concerns, the existing injection well may have less capacity or curtailed usefulness, and</p> <p>3) presenting the "No Action" alternative as no brine capture and disposal activities at PVU allows for the maximum examination and comparison of potential project impacts.</p> <p>In order to strengthen the FEIS, Arizona recommends that Reclamation fully explain the</p>	<p>Alternative" of the EIS.</p> <p>Long-term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the FEIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3, "Alternative A—No Action Alternative" and ES.7.1, "Alternative A—No Action" of the FEIS clarifying Alternative A-No Action Alternative.</p>

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						justification and reasons for the characterization of the "No Action" alternative in this EIS.	
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.04	The operation of the existing PVU injection well has demonstrated the complexity and uncertainty relating to long-term salt removal projects from the Paradox Valley. The cost estimate for a new injection well assumes a 50-year life cycle for a single well and related infrastructure. Due to the lack of local well and operational data, it remains uncertain if such a 50-year life cycle assumption is warranted for an injection well in complex hydrogeologic conditions. Further, the Zero Liquid Discharge and evaporation pond alternatives include uncertainties in life cycle and cost. Therefore, the FEIS should acknowledge the uncertainties inherent in developing, implementing and operating salt removal projects from the Paradox Valley and note that as the preferred alternative moves through the design and implementation	Reclamation will continue to coordinate with stakeholders after a Record of Decision is completed, but this information is not relevant to the analysis and does not need to be included in the EIS. Assumptions and risks are described in Section 2.1, "Assumptions and Data Limitations" and Section 2.7 "Costs of Alternatives, Risks, and Funding Mechanisms" of the DEIS. The introductory paragraphs of Chapter 3 of the DEIS disclose that the alternatives evaluated in the EIS have been developed to a conceptual level of design with an operational length of 50 years. This level of design and 50-year life enabled analysis and comparison of the impacts of the alternatives. These paragraphs also disclose that final design would be completed after an alternative is identified as the preferred alternative in a ROD and that additional NEPA analysis, tiered to this EIS, may be required to ensure any impacts not foreseen in the EIS are disclosed. The EIS adequately discloses the uncertainties of the alternatives such that no change to the EIS is needed.

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						phases, it will require close coordination with the funders and other stakeholders.	
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.05	ES-1, es.2, para.1 : "The PVU currently removes about 95,000 tons of salt per year that would otherwise enter the Colorado River." - Use specific language such as an exact year, instead of generic language.	The 95,000 ton per year of salinity control is the most recent reflection of operations over a three-year period. It is referred to as the current salinity control throughout the document because it represents the most recent average. Additional detail on timing of salinity control rates is available in Table 2-1, "Amount of salt intercepted by the PVU and estimated amount of salt continuing to enter the Dolores River from 1971 to 2018" of the EIS.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.06	ES-1, es.2, para.1 : "This tonnage represents current salinity control in the Colorado River at Imperial Dam, just upstream of the Northerly International Boundary" - Use specific language to portray distance.	Sections ES.2, "Project Description" and 1.1, "Background and Project History" of the FEIS have been updated to say "This tonnage represents salinity control as of 2018 in the Colorado River at Imperial Dam, 26.1 river miles upstream of the Northerly International Boundary (Reclamation 2001)."
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.07	ES-2, ES.3, last sentence: For more specific analysis of a given alternative, a provision for an amendment that could be tiered to this DEIS is mentioned. This may be true for the alternative proposed by the	The sentence makes no reference to any difference identified preferred alternative, whether newly proposed from the states or identified from the already listed alternatives. This change seems like an unnecessary clarification; accordingly, no change will be made.

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						States, in coordination with the Forum.	
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.08	ES-4, ES.5 "The need for the proposed action is to control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin." - Id.	The sentence has been reviewed for any needed changes. Given that this comment provides no specific direction regarding a change, no change has been made.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.09	ES-5, ES.7: "A common element of all alternatives is that the existing well would be plugged and abandoned." - This would preclude continued operation of the currently authorized project (existing well). Nothing in the FEIS should impact the current authorization and coverage to operate the existing facilities.	This EIS was initiated because the existing PVU is reaching the end of its useful life. This allows Reclamation sufficient time to identify and analyze a reasonable range of alternatives and take any necessary steps to implement the preferred alternative prior to the injection well becoming inoperable. Alternative A (no action) represents no salinity control in Paradox Valley once the existing PVU is no longer feasible to operate, and additional clarifying language has been added to Section 1.1 of the FEIS. The 1997 PVU Final Supplemental Definite Plan Report / EA and FONSI (1997 Final EA and FONSI) issued by Reclamation for long-term operation of the PVU analyzes long-term operation of the PVU until the end of its useful life. This EIS does not cancel, replace, or modify the 1997

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							analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. As described in Section 2.3.4.1, once the existing PVU reaches the end of its useful life and injection has ceased for two years, the UIC Permit requires that the well be plugged and abandoned. Section 2.3.4.1 includes a caveat that Reclamation may choose not to permanently abandon the well at that time if Reclamation can demonstrate that the well would be used in the future. Language has been added to Section 2.3, "Alternative A—No Action Alternative" and ES.7.1, "Alternative A—No Action" of the FEIS clarifying Alternative A-No Action.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.10	ES-5, ES.7.1: "Under Alternative A, the existing deep injection well would not be replaced. This would represent no salinity control in Paradox Valley." - In combining assumed closure of the existing well and foregoing its replacement ("No Action"),	Pursuant to 43 CFR 46.30, a no action alternative can have two interpretations: "First, 'no action' may mean 'no change' from a current management direction or level of management intensity. . . . Second, 'no action' may mean 'no project' in cases where a new project is proposed for implementation." This EIS was initiated because the existing PVU

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						<p>would it be fair to characterize the machinery created by this Alternative A as action - or inaction - out of line with both Reclamation's Proposed Action and Purpose and Need (supra)?</p>	<p>is reaching the end of its useful life. This allows Reclamation sufficient time to identify and analyze a reasonable range of alternatives and take any necessary steps to implement the preferred alternative prior to the injection well becoming inoperable. Alternative A (no action) represents no salinity control in Paradox Valley once the existing PVU is no longer feasible to operate. This has been clarified in Section 2.3, "Alternative A—No Action" of the EIS. As defined above, no action is typically not in line with the purpose of and need for a proposed action.</p> <p>Per other comments, this sentence in Section ES.7.1, "Alternative A—No Action" of the FEIS has been revised to state the following:</p> <p>Under Alternative A, the existing deep injection well would not be replaced and there would be no salinity control in the Paradox Valley once the existing PVU is no longer feasible to operate.</p>
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.11	<p>ES-6, PARA 1: Contrary to this discussion, Alternatives B1 and B2 are cited with considerable uncertainty, particularly with subsurface</p>	<p>Section ES.7.2 and Section 2.4.1, "Alternative B—New Deep Injection Well" of the FEIS have been updated with the sentence below to be consistent with ES.8.2, "Alternative B—</p>

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						processes regarding sufficient permeability and porosity to accept the continuous bring injection at 200 gpm.	New Deep Injection Well." "However, uncertainties remain regarding the suitability of the subsurface geology and assumptions have been made based on the best available data."
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.12	ES-6, ES.7.3: "This equates to up to 171,000 tons of salt that would be prevented from entering the Colorado River system annually ... " - While both Alternatives C and D at the aforementioned tonnage show promise, their implementation may be more practicable if such a proposal were better in line with the stated Goals and Objectives.	Removal of approximately 100,000 or more tons of salt per year from the Dolores River identified in the goals and objectives (Section 1.4, "Goals and Objectives") represents the salt control that would be necessary to replace the existing injection well and is a minimum desired capacity. Section 2.1.1, "Effect on Dolores River Salinity Levels" of the DEIS shows that more than 100,000 tons of salt per year enter the system in the Paradox Valley. Alternative B was evaluated at the 200 gpm capacity due to the Leadville Limestone Formation's inability to accept brine at a higher disposal rate, and constructing two injection wells to meet the 300 gpm capacity would be cost prohibitive. The production well field successfully operated at 300 gpm from 1997 to 2001; therefore, this capacity was evaluated as the upper bound of salinity control potential in the Paradox Valley. Alternatives C and D could be designed to accept a lower disposal rate, such as

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							the 100,000 tons per year, should one of them become the preferred alternative in the ROD. However, Alternatives C and D were analyzed at the 300 gpm capacity so that impacts resulting from that level of salt removal are disclosed. This is explained in Section 2.1.1, and this approach would provide the greatest flexibility for Reclamation to optimize future salinity control methods in the Paradox Valley.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.13	ES-8, TABLE ES-1: Under Column Alternative A, third row, the "\$0 dollars of net benefit" is redundant for an increase in \$23 million in damages.	The phrase "increase of \$23.26 million in economic damages" has been removed from Table ES-1, "Ability of each alternative to meet the goals and objectives of the proposed action" in the FEIS to remove redundancy and provide a consistent comparison across alternatives.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.14	ES-11, ES.8.2: First few sentences in Paragraph 2 regarding the location of the brine injection well and assumptions of subsurface geology (pending 3D seismic study) are contrary to the statements in the first paragraph ES-6.	Section ES.7.2 and Section 2.4.1, "Alternative B - New Injection Well" of the FEIS have been updated with the sentence below to be consistent with ES.8.2.  "However, uncertainties remain regarding the suitability of the subsurface geology and assumptions have been made based on the best available data."

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246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.15	ES-12 ES.8.3, ES. 8.4: First paragraphs are identical. It is intuitive to assume that the fresh water by product from ZLD would be more than the Evaporation ponds. How does that result in the same 2,978 acre-feet of additional freshwater that could be released from Lake Mead annually?	At 300 gpm, Alternative D could potentially release up to 387 acre-feet of freshwater per year to the Dolores River. Considering the distance the Paradox Valley is from Lake Mead and the losses of that water from the numerous points of use, evaporation, and infiltration, as well as the volume of water being transported in the Colorado River system, the freshwater from Alternative D could not be measured at Lake Mead. Therefore, the salinity in Lake Mead would be essentially the same if Alternative C or D were implemented. The freshwater released from Lake Mead is based upon the IBWC Minute No. 242 salinity differential as discussed in Section 3.6.1.2, "Salinity in the Colorado River" of the DEIS. In Section 3.6.2.2, "Impacts Associated with Salinity in the Colorado River (All Alternatives)" OF THE deis it is noted the models used for these releases and the operations are not accurate enough to identify a change of a few thousand acre-feet. Therefore, the water to be released from Lake Mead would be the same for Alternatives C and D.

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246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.16	1-1, para 1: "Historically (from 1940-2017), the Colorado River carried an average salt load ... II - This sentence needs further clarification. As written currently, its sounds like the Colorado River carried an average salt load of 9 million tons only during these years.	The first sentence in Section 1.1, "Background and Project History" of the DEIS includes the years 1940-2017 to provide the years in which the 9 million-ton average annual salt load was calculated. The EIS has been updated to state "Historically, the Colorado River carried an average salt load of approximately 9 million tons annually past Hoover Dam in Nevada (based on data collected from 1940-2017)."
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.17	1-1, 1.1, PARA 1: "High salt concentrations in the lower Colorado River adversely affect more than 40 million people and about 5.5 million acres of irrigated farmland" - The cited data are for the entire Colorado River Basin (including Mexico). It is erroneous to mention high salt concentration in the Lower Colorado River and refer back to the usage in the entire Colorado River Basin.	The sentence in Section 1.1, "Background and Project History" of the FEIS has been updated to read "The Colorado River is the water source for about 5.5 million acres and more than 40 million people. High salt concentrations of Colorado River water adversely affect agricultural practices and water users, especially in the lower Colorado River basin."
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.18	1-3: The current condition, since March 2019 (after PVU injection ceased its operation), there is zero current control and the goal of removing approximately	Ongoing operational adjustments or changes in level of activity, including the temporary cessation of operations and future operations, are analyzed in the 1997 Final EA and FONSI (Reclamation 1997a, 1997b). Operations at the existing PVU are currently suspended

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						100,000 or more tons of salt has not been met.	while operational parameters are being re-evaluated due to an earthquake which occurred on March 4, 2019. Long-term operations of the PVU (resulting in approximately 95,000 tons of salt removal per year) have not changed. The EIS analysis is based on normal operations of the PVU. The goals and objectives are forward-looking and do not necessarily relate to current conditions.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.19	2-1, para 3: It is stated that each alternative is designed to a 30% conceptual design. Please offer more clarity to what this means, how does this affect the stated 40% uncertainty in costs?	For purposes of the PVU EIS, the cost estimates were based on information and data obtained during investigations for each alternative. These investigations provided sufficient information to prepare preliminary layouts and designs from which approximate quantities for each kind, type, or class of material, equipment, and/or labor was obtained. These estimates are used to assist in the selection of a preferred alternative and to determine economic viability. This level of design is referred to as the 30% or conceptual design level. The 40% uncertainty in costs referenced in the [Amec 2017b] report refers to the allowance for Unlisted Items and Contingencies.

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246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.20	<p>2-2, 2.1.1, PARA 2: How was the ability of the Leadville limestone formation to accept the brine injection determined (e.g., 200 gpm vs 300 gpm)?</p>	<p>The ability of a formation to accept injected fluids is primarily the result of two parameters: permeability, and the effective well-bore radius. These two parameters, along with a maximum surface injection pressure, constrain the maximum flow rate that can be maintained for a specified lifetime of operation. Based on data from the existing well, and typical data for Leadville formation permeability throughout the Paradox Basin, geomechanical modeling of sites B.1 and B.2 indicated that a flow rate of 200 gpm was sustainable for 50 years, but 300 gpm was not. Permeability describes the ability of the rock formation to allow fluids to flow through. Effective well-bore radius describes the amount of surface area available near the well for the fluids to flow into the formation. Permeability is a geological property of the rock formation, and varies with geographic location. Permeability can be measured using injection or fall-off tests. The effective well-bore radius is controlled by the actual well-bore radius, the size of the perforated zone, and the amount of fractures near the well that are opened up during injection. It also</p>

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							depends on geologic conditions, and can be measured using injection or fall-off tests. Data obtained from the existing well were used to develop geomechanical models for sites B.1 and B.2. These models indicated that a 50-year lifetime at an injection rate of 200 gpm was feasible. References for this information are identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.21	2-2, para 2, last sentence: This statement is consistent and acceptable with the state's scaling proposal to design alternatives to accept a lower disposal rate.	Comment acknowledged. No change has been made to the EIS.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.22	2-3, table 2-1, FN 4: Why is the 70% brine/ 30% freshwater mix considered for injection?	Footnote 4 to Table 2-1, "Amount of salt intercepted by the PVU and estimated amount of salt continuing to enter the Dolores River from 1971 to 2018," includes the statement "during this time". Footnote 4 is referenced in row 5 of Table 2-1, which identifies 1997 to 2001 as the timeframe that the PVU injected a mixture of 70% brine and 30% freshwater. This mixture was performed due to concerns that the temperature of the injection formation and chemistry of the brine would result in undesirable compounds to precipitate in the near well area. During

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							maintenance of the injection well in 2001 it was discovered the temperature of the injection formation had cooled sufficiently that this was no longer a concern, so 100% brine was injected from that time on.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.23	2-4, 2.3.2: It is stated that Reclamation currently operates 9 brine production wells, how many additional wells are being considered in each of the alternatives? Will the current production wells continue to operate?	No additional production wells are considered under any alternative. Under all action alternatives, brine would be collected from the existing brine production well field, as described in Section 2.4, "Alternative B—New Deep Injection Well"; Section 2.5, "Alternative C—Evaporation Ponds"; and Section 2.6, "Alternative D—Zero-Liquid Discharge Technology" of the DEIS. No change needed.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.24	2-7, 24.2.1: "The [3D seismic] survey would be completed to obtain a high-resolution picture of the subsurface geology to verify the extent of the Leadville Formation and the locations of faults." - The way this sentence reads is that the extent of our knowledge of the Formation's potential is less than complete, insinuating uncertainty about the actual capacity of the Formation, which would have	The 3D seismic survey is needed for the final design of an injection well, which would include detailed designs for drilling and completing a well. There are always unknown issues and risks involved in subsurface exploration and drilling, and information is never complete. Based on experience with similar wells, however, it is likely that a well could be drilled and completed at either of the two alternative locations. Contingencies were accounted for and included in the 30% design costs. References for this information are

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						implications on the viability of a new injection well as a long-term control option. Would there be contingencies to re-evaluate our options, should such that scenario arise.	identified in Sections 2.4 and 3.3, "Alternative B" of the DEIS.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.25	2-11, 2.5.2.1: What seismic hazard would the evaporation pond embankments be designed for? Not sure what the term "snow loading" means?	The induced seismicity from the existing PVU operations may continue until several years after injection is halted, when the number of events per year is expected to gradually decline (Section 3.3.2.1, "Alternative A—No Action Alternative" of the DEIS; Reclamation 2017b). These seismic events will need to be considered in the design of the evaporation pond embankments. A general outline of earthquake investigation and design can be found in FEMA65, Federal Guidelines for Dam Safety: Earthquake Analysis and Design of Dams.  Snow loading is the downward force on a structure (in this case, the pond netting) by the weight of accumulated snow and ice.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.26	2-12, 2.5.2.3: 171,000 tons of salt would create ~3,000 acre feet of salt over the 50-year operation, yet the landfill design would	171,000 tons of salt per year would actually be approximately 98 acre-feet of salt, so over 50 years this would be 4,900 acre-feet. Standard landfill operations require a layer of cover

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						accommodate ~6,900 acre feet. Why does it seem the landfill is oversized, or at least it would not be as high as stated and therefore would make less of a visual impact to the surrounding environment?	material to contain each layer of waste deposited, so this adds to the volume of the landfill required and represents the identified difference in the volumes presented. This information can be found in the Final Pond Operation Strategy Report - Pond Optimization Study 2 (Amec 2017a), the Final Pond Design Strategy Report - Pond Optimization Study 2 (Amec 2017b), and the Final Feasibility and Cost Analysis Findings and Recommendation Report, Paradox Valley Unit Byproducts Disposal Study (Amec 2017d). The EIS does not include an exhaustive analysis of landfill sizing and operations. General information on the landfill can be found in Sections 2.5.2.3, "Landfill"; 2.5.3.2, "Landfill"; 2.6.2.3, "Landfill"; and 2.6.3.1, "Landfill"; of the DEIS, and in reports referenced in these sections.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.27	2-13, 2.5.3.1: How will the bittern be tested to ensure it has or has not reached marketable concentration?	Industry standard methods would be used in verifying the bittern has reached desired concentrations. These testing methods and procedures do not affect the impacts from Alternative C. Information regarding analysis of the bitterns testing methods and procedures can be found in the Final Pond Operation Strategy Report - Pond Optimization Study 2 (Amec 2017a) and

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							<p>the Final Feasibility and Cost Analysis Findings and Recommendation Report, Paradox Valley Unit Byproducts Disposal Study (Amec 2017d). These reports are referenced in Sections 2.5.2.1 and 2.5.3.1 of the DEIS. Information on testing the bitterns and marketing the salt products can be found in these reports, as referenced in Section 2.5.3.1 of the DEIS. Industry standard methods would be used to verify the bittern has reached desired concentrations. These testing methods and procedures do not affect the impacts from Alternative C.</p>
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.28	2-14, 2.5.4:For clarification, was the volume of salt as the protective layer in the crystallizers removal during closure taken into consideration for the final landfill height of 100 feet above grade? If not, wouldn't the volume of salt removal for closure add another ~10 feet to the landfill?	<p>The volume of salt as the protective layer in the crystallizers was taken into consideration regarding landfill sizing and this is identified in Section 2.5.3.1 and Section 2.5.4, "Closure/Decommissioning" of the DEIS. This information can also be found in the Final Pond Operation Strategy Report - Pond Optimization Study 2 (Amec 2017a), the Final Pond Design Strategy Report - Pond Optimization Study 2 (Amec 2017b), and the Final Feasibility and Cost Analysis Findings and Recommendation Report, Paradox Valley Unit Byproducts Disposal Study (Amec 2017d). In order to meet the requirements of SO 3355, the EIS does</p>

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							not include an exhaustive analysis of landfill sizing and operations. These reports are referenced in sections 2.5.2.1, 2.5.2.3, 2.5.2.4, 2.5.3.1, 2.5.3.2, 2.5.3.3, 2.6.2.3, 2.6.3.1, 2.11, 3.2.2.2, and 3.14.2.4 of the DEIS.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.29	2-15, 2.6.2: "Alternative D would prevent up to 171,000 tons of salt from entering the Dolores River annually, if brine is continuously diverted. The ZLD facilities would be constructed over approximately 2 to 3 years." - If Alternative D were selected, what would be the timeline regarding closure of the existing well as compared to the construction and eventual operation of the facilities? Concisely, could we use existing operations to phase in the control capacity of the new alternative?	There are many unknowns regarding the implementation timeline of an alternative. Reclamation would optimize the situation, but the precise path is too speculative to evaluate at this time.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.3	2-19, 2.7.2: "For Alternative D, the annual energy costs are based upon the average commercial price of natural gas over the last 10 years. Energy costs can fluctuate, and unknown future	As stated in Section 2.7.2, "Risks to Cost" of the DEIS, the annual energy costs for Alternative D are based upon the average commercial price of natural gas over the last 10 years. This represents the best available information to estimate energy costs,

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						<p>energy costs could have a significant direct impact on the cost effectiveness of this alternative. 11</p> <p>- Given the high point in price of natural gas over the last ten years (~\$7 /kft3, Dec. 2009), prices have since been fractions and on a generally decreasing trend. However, at some point a preliminary analysis of how various price fluctuation scenarios (low, medium, high increase) might impact annual O&amp;M prices would be helpful to inform decision-making.</p>	<p>and provides a relative cost difference between alternatives for comparison purposes. It would be speculative to guess how high or how low energy costs may be in the future, and therefore it is not appropriate to include a range of potential energy costs based on unknown future price fluctuations in the EIS. No change needed.</p>
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.31	<p>2-33, table 2-10: The achievement of the state numeric criterion is based on the Most probable hydrologic scenario. Could the standards be expressed as a range to address the associated projection uncertainties?</p>	<p>The achievement of the numeric criterion is not based on the most probable hydrologic scenario but is rather based on a range of plausible hydrologic scenarios that encompass a range of annual salinity concentrations. An average annual salinity concentration was computed from this range of annual salinity concentrations. The numeric criterion require that flow weighted average annual salinity at the numeric criteria points be maintained at or below state-approved water quality standards. These water quality standards further provide for temporary</p>

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							<p>increase above these numeric criteria levels if sufficient controls measures are included in the Salinity Control Forum's Plan of Implementation. The computed average annual concentration results described in Appendix H to the DEIS (Hydrologic Modeling Report and Memoranda) approximates this requirement. For all alternatives, the results found the flow weighted average annual salinity was not exceeded at the three numeric criteria stations: 1) below Hoover Dam, 2) below Parker Dam, and 3) at Imperial Dam. The analysis further showed the average annual concentration was well below (90 mg/L or more) the numeric criteria salinity concentration at each station (Appendix H, Table 3).</p> <p>The analysis included in the EIS provides downstream salinity concentrations based on the average annual concentration from a range of annual concentrations, again to simulate the requirements of the numeric criteria, and shows the relative difference between alternatives for purposes of comparison of effects on salinity and economic damages (Section 3.6.2). The EIS adequately describes downstream</p>

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							water quality impacts to their reasonably foreseeable extent.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.32	2-44, Table 2-7: The ultimate selection of the 4 alternatives considered in the DEIS is not discussed.	Section 2.11, "Alternatives Considered but Eliminated from Further Consideration" in the DEIS states "Project objectives and other considerations were used to further refine a reasonable range of alternatives to be analyzed in this document."
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.33	2-44, Table 2-7, Rows 2-3 (dual facility operations/ combination of alternatives): "[Concerns]: The existing well is nearing the end of its useful life and would not be operational in combination with other alternatives. At this time, it would be cost prohibitive to implement a combination of alternatives; however, implementation of a combination of alternatives would be considered in the future should a specific combination be determined to be cost effective. - If and once a determination is made on where the "end of useful life" is temporally, does the elimination of these alternatives preclude entirely the possibility of	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it

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						interim, short-term operations in conjunction with implementation of the preferred alternative? Such action could be useful as a mechanism in best addressing Purpose/Need and comports with other considerations there outlined.	reaches the end of its useful life. Language has also been added to Section 2.3 of the EIS clarifying Alternative A-No Action Alternative.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.34	3-20, 3.6.1.1: "Historical data ... indicate over 200,000 tons of salt entered the river annually at Paradox Valley. The change in average annual salt load ... between the pre-PVU (1980-1993) and post-PVU (1997 - 2015) periods was 94,600 tons/year, which represents a nearly 70% reduction in salt loading to the river and compares closely to the annual average mass of salt (95,000 tons) currently disposed of at the PVU injection well ... " - How else might we lay this out? Including "pre-PVU" average annual load may be helpful to avoid layperson confusion. How it reads currently is that we've historically controlled ~94.6k of 200k annual Paradox Valley	The 70% figure came from the referenced 2017 USGS report, and this report refers to a pre-PVU average annual salt load of 137,900 between the years of 1980 and 1993. As written, the pre-PVU average annual salt load included in the EIS came from a 1979 Reclamation report. Section 3.6.1.1, "Salinity in the Dolores River" of the FEIS has been modified to clarify that the historical data was pre-PVU, and to include the USGS 1980-1993 pre-PVU average annual salt load figure rather than the 1979 Reclamation salt load figure so all the data provided is coming from the same source.

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						loading, which would not be a 70% reduction.	
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.35	3-20, 3.6.1.2: *Pro forma* - regarding use of "Basin states" in document: the term is introduced as capitalized in 1.1 (Pg. 1-1), while not so in others. In general, "Basin States" has been used across various programs; may be prudent to consider uniformity in one direction or the other.	The term has been changed to "Basin States" in Section 1.1, "Background and Project History" of the FEIS and throughout the document.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.36	3-20, 3.6.2.2: "A key assumption, .... a steady state CRSS run. The Colorado River System Conditions that were kept constant at 2017 values included: all salinity control projects, Upper and Lower Colorado River Basin water demands, and time varying Colorado River operational elements." - Given temporal gaps in existing well operations, what are the implications of its operational condition on figures borne out by this assumption? Further, this modeling assumption seems to operate under a baseline	The EIS compares the action alternatives to both the No Action Alternative (no salinity control at PVU) and existing conditions (95,000 tons of salt removed per year at PVU) and discloses effects of each of the alternatives on water quality in the lower Colorado River basin (see Section 3.6.2.2, " <b>Impacts Associated with Salinity in the Colorado River (All Alternatives)</b> ") of the DEIS). As described in the Results section of the Hydrologic Modeling Report and Memoranda (Appendix H of the DEIS), model results were reported for the average annual concentration at the numeric criteria stations. Data on salinity concentrations at Imperial Dam will not yet include the impacts resulting from Paradox's temporary cessation of

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						condition, as would be a typical "status quo" control scenario.	operations. It will take three to four years before the effects of reduced Paradox operations will be realized above Imperial Dam due to retention times in both Lakes Powell and Mead, which average 1.5 to 2 years each. Therefore, there is no applicable data available to demonstrate how temporal gaps or variations in PVU operations change salinity concentrations at Imperial Dam. No change is needed to EIS.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.37	3-25, 3.6.2.4: "Water released or saved annually in Lake Mead to meet the salinity differential' shows estimates of the change in the amount of water that would be released or saved in Lake Mead annually as a result of implementing the alternatives ..." - Noting that in a strictly 'No Action Alternative', in contrast to no salinity control in Paradox Valley as is proposed, water volumes saved/released would not deviate from the status quo.	This comment actually refers to p. 3-25, Section 3.6.2.2, " <b>Impacts Associated with Salinity in the Colorado River (All Alternatives)</b> " of the DEIS. Pursuant to 43 CFR 46.30, a no action alternative can have two interpretations: "First, 'no action' may mean 'no change' from a current management direction or level of management intensity. . . . Second, 'no action' may mean 'no project' in cases where a new project is proposed for implementation." This EIS was initiated because the existing PVU is reaching the end of its useful life. This allows Reclamation sufficient time to identify and analyze a reasonable range of alternatives and take any necessary steps to implement the preferred alternative prior to the injection well

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							<p>becoming inoperable. Alternative A (no action) represents no salinity control in Paradox Valley once the existing PVU is no longer feasible to operate (see Section 1.1, "Background and Project History" of the DEIS). Under Alternative A, the existing deep injection well would not be replaced and there would be no salinity control in Paradox Valley. The EIS analyzes closure of the existing facilities as a component of the No Action Alternative, as proper closure of a non-functional facility is a foreseeable and predictable action which will occur.</p> <p>Table 3-9 in Section 3.6.2.2 shows both the water released from Lake Mead compared to existing conditions and water saved in Lake Mead compared to existing conditions under Alternative A. Table 2-6 in Section 2.10, "Summary of Potential Impacts Associated with the Alternatives" of the DEIS shows both the Total Water Released from Lake Mead as being None and the Change in Water Released from Lake Mead compared to existing conditions, which is 4,090 acre-feet/year saved. Therefore, the water released or saved annually in Lake Mead is adequately analyzed and disclosed</p>

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							such that no change is needed to the EIS.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.38	3-26, 3.6.2.4: "Salinity levels in the Dolores River would be reduced, compared with [Alt. A]. " - A "comparable" reduction when Alternative A would not actually reduce salinity levels seems a bit like apples to oranges. Might consider "as opposed to Alternative A", etc.	Reclamation believes that "compared with" is the most appropriate language to use in this context. No change made.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.39	3-27, 3.6.2.6: "Release of produced freshwater from the ZLD process would result in up to a 240 gpm produced freshwater stream." - While not a high yield overall, how might this freshwater stream affect the figures of Alternative D outlined in Table 3-9, compared to others?	At 300 gpm, Alternative D could potentially release up to 387 acre-feet of freshwater per year to the Dolores River. Considering the distance the Paradox Valley is from Lake Mead and the losses of that water from the numerous points of use, evaporation, and infiltration, as well as the volume of water being transported in the Colorado River system, the freshwater from Alternative D could not be measured at Lake Mead. The freshwater released from Lake Mead is based upon the IBWC Minute No. 242 salinity differential as identified in Section 3.6.1.2, "Salinity in the Colorado River" of the DEIS. In Section 3.6.2.2, "Impacts Associated with Salinity in the Colorado River (All Alternatives)" of the DEIS it is

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							noted that the models used for these releases and the operations are not accurate enough to identify a change of a few thousand acre-feet. Therefore, the water to be released from Lake Mead would be the same for Alternatives C or D.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.40	3-66, 3.15.2.5: "Replacement costs would occur roughly every 8 years over the life of the project." - Please explain the selection of the 8-year timespan.	The in-region replacement costs cited in Section 3.15.2.5 of the socioeconomic analysis are in reference to the construction of additional landfill cells. As cited in Section 2.6.2.3, the landfill would contain six 10-acre cells, which would be constructed over the course of the 50-year life of the project. 50 years divided by 6 cells equals approximately one cell constructed every 8.33 years. Clarified in Section 3.15.2.5, "Alternative D—Zero-Liquid Discharge Technology" of the FEIS to state: "The phased construction of additional landfill cells, referred to here as "replacement costs", would occur roughly every 8 years over the life of the project."
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.41	4-13, 4.4: "An irreversible and irretrievable resource commitment refers to impacts on or losses of resources that cannot be recovered or reversed.	Revised Section 4.4, "Irreversible and Irretrievable Commitment of Resources" of the FEIS to acknowledge the minimal commitment of resources associated with closing the well under the No Action Alternative.

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						Implementing an action alternative would involve a commitment of natural, physical, and socioeconomic resources". - Typically, a No Action Alternative would not involve the nominal commitment of additional resources.	
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.42	table 4-1, 4.1.1.2" i) 'ROW Applications' has 5 pending applications, will any of the proposed ROWs cross with the ROWs that would be required for any action alternative? ii) Uranium Leasing Program - would any of the proposed actions by the mining affect the proposals in Alternative B?	(i) The rights-of-way listed in the cumulative impacts table include two pending powerline renewals, as well as some existing ROWs issued to Reclamation for a brine well field. Updated Table 4-1, "Cumulative actions" of the FEIS to identify these two pending ROW applications. The Reclamation ROW is not currently pending. None of these rights-of-way would impact any of the proposed alternatives. (ii) The Uranium Leasing Program tracts do not fall within the Alternative B study areas. Cumulative impacts resulting from the alternatives in combination with impacts from the Uranium Leasing Program are disclosed in Chapter 4.
246		Thomas Buschatzke and		Arizona Department of Water Resources	246.43	Table 4-1 4.2: For air quality, was a failure at the H2S facility taken into consideration?	The EIS includes an environmental commitment in Table 2-5, "Environmental Commitments," that the final design of the H2S treatment facility

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		Theodore Cooke		and Central Arizona Project			would contain features to avoid or reduce identified risks, and that the H2S treatment system would include an automated alarm and monitoring system to shut down the brine transfer pump if vented H2S or chlorine levels exceed safety thresholds. It is not appropriate to include potential failure in the cumulative impacts analysis because only reasonably foreseeable actions require consideration, and failure of the H2S facility is speculative and not foreseeable. The environmental commitment in Table 2-5 adequately addresses incorporation of safety measures to avoid or reduce risks such that no change to the EIS is needed.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.44	Volume 4, Appendix 1, PAGE 10: For Alternative C, the construction cost is extremely close to what was determined in the AMEC study; however, AMEC had a \$300,000 annual operating budget while this table listed \$1,600,000 as the operating cost. Anything that would explain this discrepancy is not found.	The reference to the \$1,600,000 is from the Socioeconomic Analysis in the DEIS Appendix L. As identified in the Socioeconomic Analysis, these costs are in-region estimated costs or expenditures for annual O&M. The \$300,000 referenced is from the Final Pond Design Strategy Report (Amec 2017b). The Hydrogen Sulfide Management 50% Design Report (Amec 2017c), identifies an annual O&M cost of \$1,031,000 to remove the hydrogen sulfide. Most of the remaining difference in O&M costs is related to

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							the ancillary facilities, which were outside the scope of Amec's contracts. These Amec reports are referenced in sections 2.5.2.1, 2.5.2.2, 2.5.2.3, 2.5.2.4, 2.5.3.3, and 2.6.2.3 of the DEIS. Therefore, the \$1,600,000 referenced in the Socioeconomic Analysis is the accurate in-region estimated costs or expenditures for annual O&M for Alternative C.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.45	page 9, Final Pond Design Strategy Report Pond Optimization Study 2:"Costs for land acquisition, permitting, and utility distribution are not considered in this analysis."- How can an accurate project cost be determined if power transmission and land acquisition are not considered?	Amec was contracted to complete four tasks and associated reports (Amec 2017a, Amec 2017b, Amec 2017c, Amec 2017d). Reclamation separately evaluated the land acquisition and permitting costs relevant to the alternatives (see section 2.7.1 and Table 2-3, footnote 2). Reclamation also worked with the local utility companies to determine the necessary upgrades to their systems to support the alternatives (see section 3.2.2.2). All of these costs were included in the cost estimate.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.46	page 16: final pond design...: "A 20-year post-closure period has been assumed for the cost estimate." - EIS specifically states that one of the closure requirements last 30 years.	The reference of 20 years was from the Final Pond Design Strategy Report – Pond Optimization Study 2 (Amec 2017b). During the cooperating agencies' review of the Administrative DEIS, the Colorado Department of Public Health and the Environment (CDPHE) provided information that the

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							correct duration of this post-closure period would be 30 years. CDPHE is the regulatory agency which is responsible for these efforts, so the EIS and cost estimates were updated at that time to reflect the correct information.
246		Thomas Buschatzke and Theodore Cooke		Arizona Department of Water Resources and Central Arizona Project	246.47	<p>page 16: final pond design...: "Brine and freshwater pipelines to the sites are assumed to be abandoned in place and capped at each end."</p> <p>- In Section 2.5.4 it states that the closure of the evaporation ponds could require the removal of all piping and pumping systems, so this cost may need to be considered.</p>	<p>As noted on page 16 of the Final Pond Design Strategy Report – Pond Optimization Study 2, Section 5.1.4 (Amec 2017b), the pipelines to the sites are assumed to be abandoned in place and capped at each end. However, the beginning of this section also states closure of evaporation ponds will consist of removal of pumping and piping systems, etc. So, the cost estimate included removal of pumping and piping systems on the evaporation pond complex area, while the pipelines from the STF to the site were assumed to be abandoned in place. The requirements for closure and abandonment in 50 years are unknown. In order to provide necessary flexibility in the future, the EIS Section 2.5.4 uses less stringent terminology and states the requirements "could" require removal of piping systems and that these systems would be evaluated for removal or abandonment at the time of closure. No change needed to the EIS.</p>

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247	Hasencamp	Bill	Chair	Colorado River Basin Salinity Control Forum	247.01	The Goals and Objectives identified in the PVU DEIS include removing approximately 100,000 tons of salt that would otherwise enter the Dolores River and the downstream Colorado River and optimizing the annual cost per ton of salt removed. Reductions in salinity concentrations in both the Dolores River and the Colorado River downstream of the Dolores benefit downstream Colorado River Basin States, Mexico, and the Program as a whole. In that regard, the final EIS should describe more thoroughly the basin-wide context and benefits achieved from salinity control at the PVU.	The proposed action (Section 1.2) and the purpose and need for action (Section 1.3) describe the collection and disposal of saline groundwater of Paradox Valley, which is authorized by Title II of the Colorado River Basin Salinity Control Act, Section 202(a)(1). Therefore, the geographic scope of analysis is appropriately limited to those areas that could achieve collection and disposal of saline groundwater of the Paradox Valley. The EIS references the Salinity Control Forum's 2017 Review of Water Quality in Section ES-2 and Section 1.1, and this report contains more in-depth information regarding the PVU and the PVU's and other projects' contributions to the Salinity Control Program as a whole. In addition, The water quality section of Table 4-2 discloses that "When added to any of the PVU action alternatives, the ongoing Salinity Control Program and EQIP would be expected to cumulatively result in the decrease in salinity in the lower Colorado River. Under Alternative A, salinity would initially increase in the Lower Colorado River and would then be expected to incrementally decrease as the Salinity Control Program and

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							EQIP continue to help implement the salinity control projects.
247	Hasencamp	Bill	Chair	Colorado River Basin Salinity Control Forum	247.02	Continued Operation of the Existing PVU Injection Well: The status of the continued operation of the existing PVU injection well is unclear in the DEIS. The Forum understands the current and future operations of the existing injection well are governed by existing authorization. Nothing in the final EIS should preclude the continued operation of the existing PVU injection well, pending Reclamation's ongoing seismic investigation. The final EIS should assume for its analysis the continued operation of the existing well at least until the Preferred Alternative is operational. Continued operation of the existing PVU injection well is necessary to protect water quality and water supplies during design and construction of the Preferred Alternative, and possibly beyond, as appropriate. The Forum urges Reclamation to edit language in the DEIS	<p>Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life.</p> <p>The EIS assumes continued operation of the existing well until an alternative is implemented. The affected environment for each resource analyzed in Chapter 3 is based on the existing conditions, which includes operation of</p>

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						such that in the final EIS it is very clear that operation of the existing PVU injection well is authorized and governed under other environmental documents and that nothing associated with the present EIS effort changes this authorization or precludes continued operations of the existing PVU injection well.	the existing well, and impacts of each of the action alternatives are compared to existing conditions. The No Action Alternative looks at effects of not approving the action under consideration, i.e., No Action represents no salinity control in the Paradox Valley. Therefore, impacts of the No Action Alternative are not identical to existing conditions of the affected environment because closure of the existing PVU facilities is a foreseeable and predictable action which will eventually occur regardless of whether any of the action alternatives are chosen.
247	Hasencamp	Bill	Chair	Colorado River Basin Salinity Control Forum	247.03	The National Environmental Policy Act requires that a No Action alternative be described and analyzed in an EIS. A No Action alternative provides a benchmark to allow decisionmakers and the public to compare the environmental effects of the alternatives to the current baseline or status quo. If the PVU were operating without issues or concerns, then the No Action alternative would assume continued operation of the PVU brine capture wells and the injection well as currently	Pursuant to 43 CFR 46.30, a no action alternative can have two interpretations: "First, 'no action' may mean 'no change' from a current management direction or level of management intensity. . . . Second, 'no action' may mean 'no project' in cases where a new project is proposed for implementation." This EIS was initiated because the existing PVU is reaching the end of its useful life. This allows Reclamation sufficient time to identify and analyze a reasonable range of alternatives and take any necessary steps to implement the preferred alternative prior to the injection well becoming inoperable. Alternative A (no

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						<p>authorized, budgeted for and maintained. In other words, there would be no change in the current operations and maintenance of the existing PVU facilities. The No Action alternative, as described in the DEIS, contemplates shutting down the existing operations at the PVU. If this were to occur, approximately 100,000 tons of salt that have been disposed of annually would flow into the Colorado River System, leading to an increase in downstream salinity levels of 9-10 mg/L causing an additional \$23 million in annual damages. The Forum understands there are at least three reasons for formulating the No Action alternative in this way: 1) as of the release date of the DEIS PVU brine capture and disposal activities had been temporarily suspended; 2) due to seismic concerns, there is concern that the existing injection well is nearing the end of its useful life; and 3) it allows the salinity control impacts of each action</p>	<p>action) represents no salinity control in Paradox Valley once the existing PVU is no longer feasible to operate. This has been clarified in Section 2.3, "Alternative A—No Action Alternative" of the EIS.</p> <p>Long-term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the FEIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3 and ES.7.1, "Alternative A—</p>

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						<p>alternative to be stated as the total salt removal capacity of each alternative rather than as incremental changes relative to the capacity of the existing injection well. Accordingly, in order to strengthen the integrity of the final EIS, the Forum recommends that Reclamation fully explain the justification for the definition of the No Action alternative in this EIS.</p>	<p>No Action Alternative" of the FEIS clarifying Alternative A-No Action Alternative.</p>
248	Clinton	Michael	President	Michael Clinton Consulting LLC	248.01	<p>We propose a public/private partnership with Reclamation whereby Reclamation would continue to operate the collection well system and the current Injection Well. Using the Cryodesalination technology, our group would take the collected brine, separate culinary quality Sodium Chloride from the brine, return about 80% of the collected water (drinking water quality) to the Dolores River and return the residual salt and water (20 GPM) to Reclamation for injection in the existing Injection well for disposal. This use of the existing</p>	<p>As identified in Section 1.3 "Purpose of and Need for Action" and Table 2-7 "Summary of other alternatives considered and reason for elimination," of the DEIS, the current injection well is nearing the end of its useful life. The proposal of continuing to inject the same amount of salt through the injection well does not remedy this situation. An in-depth analysis and explanation would need to be provided to justify how the reduced volume, but the same amount of salt disposal would result in acceptable continued operation of the injection well for the life of the project (50 years). To date, this information has not been provided in response to Reclamation's past requests for proposals and information.</p>

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						<p>Injection Well with a smaller volume of fluid should reduce the seismic consequences of continued operation.</p> <p>Attached is the SALT LOAD REDUCTION WORKSHEET for such a project in the format required by the Basin wide Salinity Control Program.</p> <p>Because Reclamation has not been able to consider our prior suggestions for such a project alternative, our prior assembled team and private sector financing has been disbanded. However, should Reclamation be interested in our assembling a full proposal, we are prepared to do so.</p>	<p>Therefore, any consideration of this process without further information would be speculative.</p>
249	Harris	Christopher	Executive Director	Colorado River Board of California	249.01	<p>The Board believes the existing PVU brine injection well is a cost effective and valuable facility that should remain in place while a replacement alternative is developed and implemented. The current language in the DEIS is unclear about the future status of the existing PVU brine injection well. Nothing in the FEIS or Record of Decision should preclude continued</p>	<p>Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU</p>

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						operation of the existing PVU brine injection well, pending Reclamation's ongoing seismic investigations.	facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3 and ES.7.1, "Alternative A - No Action Alternative" of the EIS clarifying Alternative A-No Action Alternative.
250	Hunter	Robert	General Manager	Municipal Water District of Orange County		No substantive comments.	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative

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							<p>is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History," of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3, "Alternative A" of the EIS clarifying Alternative A-No Action Alternative.</p>
251	Ferrantelli	Chris		Wyoming State Engineer's Office - Interstate Streams Division	251.01	<p>The status of continued operations at the existing PVU injection well remain unclear in the DEIS. Because current and future operations of the existing injection well are governed by existing authorization, nothing in the FEIS should suggest preclusion of the continued operation of the existing PVU injection well, pending USBR's ongoing seismic investigation. Wyoming requests that Reclamation update the DE IS to explicitly state that operations of the existing PVU injection well are authorized and governed under other environmental documents, including the 1979 Paradox</p>	<p>Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" of the EIS to clarify that the existing PVU</p>

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						<p>Valley Unit Final Environmental Statement and the 1986 and 1997 Final Environmental Assessment and Finding of No Significant Impact reports. Moreover, Wyoming requests that Reclamation include language that nothing associated with the present EIS effort and authorizations presupposes, changes or precludes continued operations of the PVU injection well. Wyoming understands that the existing injection well is mechanically sound and has only been shut down due to the increased down-hole pressure and increasing seismic activity. Wyoming also understands that Reclamation is currently conducting additional analyses to determine the risks associated with restarting the injection well. If Reclamation determines that the existing PVU injection well can be operated at a lower injection rate that results in acceptable seismic risks, Wyoming recommends that the well</p>	<p>may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3, "Alternative A" of the EIS clarifying Alternative A-No Action Alternative.</p>

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						resume injection for the remainder of its operational life or until a new alternative can replace all salinity control at the PVU.	
251	Ferrantelli	Chris		Wyoming State Engineer's Office - Interstate Streams Division	251.02	Despite the advantages of evaporation ponds, Wyoming understands that there are factors and uncertainties that need to be studied going forward. Wyoming requests that Reclamation confirm that the evaporation ponds alternative sufficiently addresses environmental impacts (e.g., migratory bird take), scenic impacts (e.g., pond and landfill), and any other impacts that may have been identified by the Forum, the other six basin states, cooperating agencies, and the public. Wyoming also recommends that Reclamation include potential avoidance and mitigation strategies for the evaporation ponds alternative in the FEIS. Finally, Wyoming recommends that Reclamation conduct cost analyses for various scales of the evaporation pond alternative.	<p>Chapter 3 of the DEIS addresses environmental impacts for Alternative C – Evaporation Ponds with supporting information located in the DEIS Appendices. Chapter 2.5 describes the measures incorporated into the land and location, design and construction, and operation and maintenance for the Alternative C – Evaporation Ponds. Further, Section 2.9, "Environmental Commitments," in the DEIS describes the best management practices and avoidance and minimization measures applicable to each alternative. Comments from the Forum, basin states, cooperating agencies, and the public are addressed according to 40 CFR 1503.</p> <p>As discussed in the introductory paragraphs to Chapter 3 and in Section 2.2, "Summary of Action Alternative Project Components" the study areas are larger than the impacts anticipated for each action alternative. The alternatives were analyzed in this</p>

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						<p>These analyses would provide valuable information should the Program decide to implement the preferred alternative in phases.</p>	<p>manner to allow Reclamation the necessary flexibility to appropriately design and locate facilities and to avoid and minimize impacts of the identified preferred alternative. Therefore, the Record of Decision could identify a scaled down or phased version of an alternative. Additional NEPA analysis would be completed after the ROD if, during final design, it is determined that any impacts not foreseen or analyzed in this EIS are disclosed. Any additional NEPA analysis would be tiered to this EIS. Scaled down versions of the costs were estimated with the following disclaimers and assumptions: (1)The information is from a cursory exercise based upon conceptual design and best professional knowledge and judgement. The purpose of this information is to provide a general idea of costs with reduced treatment capacities. This information is for planning purposes only and is not to be used for budgeting or requesting funds from Congress. (2) The flow rates for Alternative D would be 205.34 gpm (2 installations at 102.67 gpm, 58,250 tons/year to show staging potential) and are based upon the capacity of the SaltWorks Technologies Inc. crystallizers</p>

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							<p>(6 units). (3) The first installation of Alternative D includes the natural gas pipeline, brine pipeline, service water supply pipeline, freshwater return pipeline, H2S treatment facility, and other ancillary facilities required for the 206 gpm system as it is not possible/practical to stage this infrastructure. (4) In keeping with the cost estimates developed for the EIS Alternatives, the costs shown are 2017 dollars at a 2.875% interest rate, as it is unknown what the cost or interest rates would be at the time of implementation. (5) The information is presented in the following order: Alternative; Salt Reduction (tons/year); Total capital construction cost (million dollars); Annualized Construction cost (million dollars); Annual OM&amp;R cost (million dollars); Total annual cost (million dollars); and Annual cost per ton of salt removed.</p> <p>Alternative C: 114,000 tons/year; \$94 million; \$3.6 million; \$4.4 million; \$8 million; \$70/ton                      Alternative D (first installation); 58,250 tons/year; \$56 million; \$2.1 million; \$4.2 million; \$6.3 million; \$108/ton.                      Alternative D (second installation);</p>

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							58,250 tons/year; \$32 million; \$1.2 million; \$4 million ; \$5.2 million; \$89/ton.
252	Schmidt-Petersen	Rolf	Director	New Mexico Interstate Stream Commission	252.01	The final EIS should make it clear that the existing injection well will continue to be operated within previously authorized parameters for an undetermined length of time.	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1 of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Sections 2.3 and ES.7.1, "Alternative A" of the FEIS clarifying Alternative A-No Action Alternative.

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252	Schmidt-Petersen	Rolf	Director	New Mexico Interstate Stream Commission	252.02	<p>The brine pumping rates analyzed for the action alternatives are 200 or 300 gallons per minute (gpm), depending on the alternative. This theoretically results in either 114,000 tons per year (200 gpm) or 171,000 tons per year (300 gpm) of salt removed from the system. However, according to Table 2-1 of the Draft EIS, the estimated amount of salt potentially available for control in the Paradox Valley has been less than 171,000 tons per year since 1988. Therefore, it does not make sense to analyze pumping rates higher than 200 gpm as these may not result in the anticipated removal of 171,000 tons of salt per year and the increased pumping capacity increases project costs and, potentially, environmental impacts. An analysis of all action alternatives at a 200 gpm pumping rate would better account for the amount of salt potentially available for control in the Paradox Valley and allow</p>	<p>Removal of approximately 100,000 or more tons of salt per year from the Dolores River identified in the goals and objectives represents the effort required to replace the existing injection well and is a minimum desired capacity. Section 2.1.1 shows there is well over 100,000 tons of salt per year entering the system in the Paradox Valley. Alternative B is evaluated at the 200 gpm capacity because of the Leadville Limestone Formation's inability to accept brine at a higher disposal rate, and constructing two injection wells to meet the 300 gpm capacity would be cost prohibitive. The production well field successfully operated at 300 gpm from 1997 to 2001; therefore this capacity was evaluated as the upper bound of salinity control potential in the Paradox Valley. As discussed in the introductory paragraphs to Chapter 3 and in Section 2.2, "Summary of Action Alternative Project Components," the study areas are larger than the impacts anticipated for each action alternative. The alternatives were analyzed in this manner to allow Reclamation the necessary flexibility to appropriately design and locate facilities and to avoid and minimize impacts of the identified</p>

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						for easier comparison of alternatives.	preferred alternative. Therefore, the Record of Decision could identify a scaled down or phased version of an alternative. Additional NEPA analysis would be completed after the ROD if, during final design, it is determined that any impacts not foreseen or analyzed in this EIS are disclosed. Any additional NEPA analysis would be tiered to this EIS. Scaled down versions of the costs were estimated with the following disclaimers and assumptions: (1)The information is from a cursory exercise based upon conceptual design, best professional knowledge and judgement, and multiple other assumptions. The purpose of this information is to provide a general idea of costs with reduced treatment capacities. This information is for planning purposes only and is not to be used for budgeting or requesting funds from Congress. (2) The flow rates for Alternative D would be 205.34 gpm (2 installations at 102.67 gpm, 58,250 tons/year to show staging potential) and are based upon the capacity of the SaltWorks Technologies Inc. crystallizers (6 units). (3) The first installation of Alternative D includes the natural gas pipeline, brine pipeline, service water

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							<p>supply pipeline, freshwater return pipeline, H2S treatment facility, and other ancillary facilities required for the 206 gpm system as it is not possible/practical to stage this infrastructure. (4) The costs shown are 2017 dollars at a 2.875% interest rate, as it is unknown what the cost or interest rates would be at the time of implementation. (5) The information is presented in the following order: Alternative; Salt Reduction (tons/year); Total capital construction cost (million dollars); Annualized Construction cost (million dollars); Annual OM&amp;R cost (million dollars); Total annual cost (million dollars); and Annual cost per ton of salt removed.</p> <p>Alternative C: 114,000 tons/year; \$94 million; \$3.6 million; \$4.4 million; \$8 million; \$70/ton</p> <p>Alternative D (first installation); 58,250 tons/year; \$56 million; \$2.1 million; \$4.2 million; \$6.3 million; \$108/ton.</p> <p>Alternative D (second installation); 58,250 tons/year; \$32 million; \$1.2 million; \$4 million ; \$5.2 million; \$89/ton.</p>

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252	Schmidt-Petersen	Rolf	Director	New Mexico Interstate Stream Commission	252.03	The injection well action alternative (Alternative B) has the benefit of permanently removing salt from the system with less risk of accidental reintroduction of salt into surface or groundwater than other alternatives. However, the ISC finds it difficult to assess the potential seismic and financial risks of Alternative B versus the reward of permanent salt removal without additional information indicating whether injection wells in areas B I and B2 could be completed successfully and used to dispose of brine for several decades. The ISC is not advocating for completion of a 3D seismic survey at this time due to the cost associated with such surveys. In order to better assess the seismic risk and the potential lifespan of the proposed new injection well, Reclamation should consider whether conventional 2D seismic surveys along intersecting lines could be used to visualize the known fault and	Reclamation performed extensive data collection and analysis to: (1) determine the best locations for potential alternative well sites while minimizing the potential for adverse environmental impacts, including induced seismicity, (2) evaluate the feasibility and risks of successfully drilling and completing wells at these sites, (3) evaluate engineering designs for drilling and completing wells, surface facilities, and pipelines, and (4) evaluate the performance of the wells over a projected 50-year lifetime assuming a disposal rate of 200 gpm. An independent consultant review board reviewed these evaluations and found that a second well to be a viable alternative. Reclamation licensed and analyzed, under contract to specialists in the petroleum industry, approximately 570 miles of existing 2D seismic reflection data, which included lines near the locations of alternatives B1 and B2. The lines were first reprocessed using a common set of processing parameters to achieve a common baseline of data quality. All available well-log data in the region were used to constrain the 2D seismic interpretation. The existing 2D data is adequate for

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						analyze what other fault(s), if any, are present in the area of the proposed new injection wells.	feasibility studies. However, only 3D seismic reflection data can provide the resolution necessary to design an injection well at sites B.1 or B.2, were that alternative to be identified as the preferred alternative. A 2D seismic survey even using modern methods still suffers from critical 3D effects such as bedding planes dipping away from the reflection line, and therefore does not provide the data needed to design and drill a new well. References for this information are identified in Sections 2.4 and 3.3, "Alterative B," of the DEIS.
252	Schmidt-Petersen	Rolf	Director	New Mexico Interstate Stream Commission	252.04	It has come to the ISC's attention that commercial entities have expressed interest in purchasing salt if Reclamation selected the evaporation pond action alternative (Alternative C). It is also our understanding that commercial entities have expressed interest in being involved in the construction of the evaporation ponds and the salt operations if that alternative was implemented. The ISC requests that Reclamation further examine the marketability of the salt that would be produced by	Section 2.5, "Alternative C—Evaporation Ponds" indicates that additional NEPA would be completed if it is determined in the future that marketing the brine is a viable option. The "Final Feasibility and Cost Analysis Findings and Recommendation Report" (Amec 2017d) is referenced in Section 2.5.3.1, "Evaporation Pond Operation and Salt Harvest" of the EIS and contains an analysis of the potential marketability of the byproducts. Reclamation has no influence over the private market or associated demand and must allow for continued operations regardless of these influences. Also, Reclamation must analyze the overall market and

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						Alternative C (evaporation ponds) or by Alternative D (Zero-Liquid Discharge). Being able to sell the salt would reduce, if not eliminate, the costs associated with salt storage and disposal.	cannot base the analysis on one vendor leading to a single-source scenario. Therefore, it was determined landfilling the byproduct was the best option for Reclamation to evaluate.
252	Schmidt-Petersen	Rolf	Director	New Mexico Interstate Stream Commission	252.05	The ISC recommends that a thorough failure analysis be completed to identify any items or events that could cause shutdown of the ponds, or otherwise increase the cost of implementation of this alternative, and ways to avoid or minimize the associated negative impacts. Many of the items that could cause operational issues with the ponds are identified in the DEIS or supporting technical documents (e.g. the Predictive Ecological Risk Assessment, Pond Design Strategy Final Report, etc.) along with mitigation measures. However, the ISC believes that it would be most helpful to identify all the items or events and necessary mitigation or operational adjustments in one contingency	The EIS analyzes the alternatives at a conceptual (30%) level of design. At this time, design and operation specifics are not developed to a level of detail which could inform a contingency planning operational document. If Alternative C is identified as the preferred alternative, more detailed documentation would be developed after the ROD during final design of the evaporation pond complex, and additional NEPA would be conducted as needed.

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						planning operational document for the evaporation ponds. Such a document would facilitate prompt identification and mitigation of risks during operation of the evaporation ponds.	
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.01	The need for the action is described in the DEIS as control of the salinity in the Colorado River contributed by sources in the Paradox Valley, and the purpose is to comply with Title II, Section 202(a)(1) of the Colorado River Basin Salinity Control Act (Salinity Control Act) and approved state water quality standards. Title II, Section 202(a)(1) of the Salinity Control Act simply authorizes, but does not obligate, Reclamation to construct Paradox Valley unit facilities. Additionally, none of the action alternatives are necessary to comply with approved state water quality standards today.	Compliance with Title II, Section 202(a)(1), of the Colorado River Basin Salinity Control Act is discussed in Sections 1.2 of the DEIS, "Summary of the Federal Action" and "Purpose and Need for Action." It is correct that Title II, Section 202(a) authorizes and does not obligate the Bureau of Reclamation to construct PVU facilities. Critically, this section authorizes Reclamation to construct, operate, and maintain a number of salinity control units, including the PVU. The purpose and need highlights that the injection well may be nearing the end of its useful life, and that because the underground reservoir pressure and induced seismicity have increased and brine disposal rates have had to be substantially reduced, a new brine control and disposal facility is needed. Accordingly, the purpose and need for action--maintenance of the PVU--is authorized under the Colorado River

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							Basin Salinity Control Act. While allegedly none of the action alternatives are necessary to comply with state water quality standards today, the EIS contemplates the need to maintain the PVU in order to continue to comply with state water quality standards. Reclamation has clearly outlined its rationale and authority for the proposed project, despite a lack of any "obligation" under the Colorado River Basin Salinity Control Act.
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.02	The DEIS also identifies goals and objectives, which will be considered by the Secretary of the Interior as part of his decision. However, the DEIS does not provide any discussion on how these goals and objectives were developed, and how they relate to the identified purpose and need.	The goals and objectives were developed by Reclamation, in coordination with the Cooperating Agencies, to provide considerations for the authorized official in making their decision on a preferred alternative. Added this explanation to Sections ES.6 and 1.4, "Goals and Objectives" of the FEIS.
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.03	Tables ES-1 and 2-7 should add a column identifying how the alternatives meet the purpose and need, as well as the goals and objectives. The last goal and objective are described as being in the best interest of the public, including the	Each action alternative carried forward for analysis in the EIS meet both the purpose and need for the project. Action Alternatives which did not meet both the purpose and need were eliminated from further consideration. Adding a column to Table ES-1 identifying how each alternative meets the purpose and need is unnecessary, as

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						<p>local community's desired future conditions. This statement should be modified, or a new statement added addressing the provision of effective and fiscally responsible salinity control particularly as it relates to the Lower Basin Development Fund (LBDF).</p>	<p>the alternatives would have been eliminated had they not met the purpose and need. Table 2-7 identifies alternatives which were considered but eliminated from further consideration. The concerns and reasons for elimination of alternatives have been identified, including if the alternative meets the purpose and need for the project.</p> <p>The goals and objectives were developed by Reclamation, in coordination with the Cooperating Agencies, to provide considerations for the authorized official in making their decision on a preferred alternative. Added this explanation to Sections ES.6 and 1.4, "Goals and Objectives," of the FEIS. The goal and objective of being in the best interest of the public considers the entirety of the public, which does not preclude fiscal responsibility. No change is needed to the goals and objectives.</p>
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.04	The DEIS should clearly describe the areas and alternatives where tiered analysis may be necessary, and what decisions regarding the alternatives can be made based upon the	In the event that new information not previously analyzed is discovered pertaining to the identified preferred alternative after the record of decision during further investigation and design, Reclamation may perform additional

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						current DEIS. Only one area of potential additional tiered site-specific NEPA analysis was identified in the DEIS - for the completion of 3 D seismic survey prior to final selection of new well site under Alternative B (p. 2-7, section 2.4.2.1, 1 at paragraph).	NEPA analysis as described in the introductory paragraphs of Chapter 2 of the DEIS. Reclamation may also issue a new record of decision selecting another alternative analyzed in the EIS.  The introduction of Chapter 3 also lists other scenarios in which additional NEPA analysis could occur, from closure activities, to unforeseen impacts related to the implementation of a preferred alternative after the ROD is signed. This introduction also discusses additional NEPA related to 3-D seismic surveys under Alternative B. Therefore, the EIS sufficiently considers and discloses the potential need for additional NEPA under this project.
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.05	A common element of all alternatives, including the No Action, is the assumption of closing and abandoning the existing PVU injection well facility (p. ES-5, section ES.7; p. 2-5, section 2.3.4; Table 2-4, footnote 1; p. 3-8, section 3.1.2.2). The language should be clarified that the current injection well is separately	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for

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						<p>authorized and decommissioning the current well is not required under any of the proposed alternatives, including the No Action. SNWA and CRC supports the Forum's request that Reclamation consider resuming operation of the existing injection well as conditions allow. This could be at reduced injection rates and pressures, with greater rest periods, or both, while another salinity disposal alternative is constructed or phased in over time. The language in the DEIS should be revised to reflect this flexibility with operations of the current injection well. No Action Alternative The cost of the No Action Alternative is represented in Table 2-3 and the description of cost is described in Section 2.3. As noted above, the existing injection well is authorized under a separate project and may be desired to continue operating as conditions allow. Thus, the cost for</p>	<p>long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it is determined to no longer be feasible to operate.</p> <p>The EIS analyzes closure of the existing facilities as a component of the No Action Alternative, as proper closure of a non-functional facility is a foreseeable and predictable action which will occur. The construction costs identified for Alternative A include all costs of actions identified in Section 2.3, "Alternative A" and are part of the existing PVU project. Of these costs, the cost to close the existing well and BIF is \$3M. Consequently, the costs under the action alternatives do not include but are in addition to the \$3M that will be incurred by closing the well. The costs of the alternatives are included in the EIS for comparative purposes, and</p>

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						closing/decommissioning the existing injection well would occur regardless of the selected alternative, and the No Action Alternative cost shown in Table 2-3 should be removed.	providing the total cost of closing the existing PVU facilities under Alternative A provides additional context for how the alternatives meet the project goals and objectives. Accordingly, the cost of the No Action Alternative will remain in Table 2-3, "Costs of Alternatives." Footnote 1 in Table 2-3 has been modified to better describe the costs included in the table.
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.06	The identified 50-year lifespan of Alternative B 1 and B2 may be unreasonable, based upon experience with the existing PVU facility. Reclamation assumes a new well would be sited at a location with a more suitable underground reservoir and bases that assumption on the results from 2D seismic reflection data, analysis of well log and core data, aeromagnetic survey data and interpretation, gravity data interpretation, geologic structure interpretation, induced seismicity analysis, and drilling feasibility studies. Same or similar techniques were used to support citing the existing injection well location. However,	The ability of a formation to accept injected fluids is primarily the result of two parameters: permeability, and the effective well-bore radius. These two parameters, along with a maximum surface injection pressure, constrain the maximum flow rate that can be maintained for a specified lifetime of operation. Based on data from the existing well, and typical data for Leadville formation permeability throughout the Paradox Basin, geomechanical modeling of sites B.1 and B.2 indicated that a flow rate of 200 gpm was sustainable for 50 years. Leadville permeability data from wells drilled in the vicinity of Paradox Valley, Lisbon Valley, and other nearby areas indicate that most wells have a higher permeability than the value assumed for the modeling. Thus the model is

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						<p>within only a few years of operation, the existing injection well had already reached maximum operating pressures forcing a reduction in injection rate. Thus, the DEIS should acknowledge that a new well may have a shorter lifespan. A 25- to 50-year lifespan range may be more reasonable. This would affect the relative cost of this alternative. Thus, a range of cost reflective of a range in lifespan, should be identified in Table 2-3. In addition, Section 2.7.2, Risks to Cost, should reflect the risks to the annualized construction and total annual cost associated with a shorter lifespan.</p>	<p>conservative. Methods and techniques for analyzing geologic, geophysical, and well-log data have substantially improved since the time that the original studies were conducted for the existing injection well. Although those studies projected a longer lifetime, and higher injection rates, they were based on incomplete data and proved to be unrealistic once the well was drilled and operations commenced. Unless and until a well is actually drilled, there will continue to be risks and uncertainty in the actual geologic parameters at either site. These risks, and many others, were considered. Permeabilities at sites B.1 and B.2 could be higher or lower than assumed for the geomechanical modeling, resulting in either longer or shorter lifetimes (or higher or lower injection rates). Because the values assumed are already conservative, and based on the best information available, there is little justification to assume a greater degree of conservatism for this alternative when evaluating costs. References for this information are identified in Sections 2.4 and 3.3, "Alternative B," of the DEIS. Long-term operation of the existing PVU injection well is covered in the 1997 PVU Final</p>

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							<p>Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Sections 2.3 and ES.7.1, "Alternative A" of the EIS clarifying Alternative A-No Action Alternative.</p>
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.07	The DEIS should summarize the costs/benefits for all alternatives using a common amount of salt reduction (in units of tons per year). Alternative C and D are designed to capture 171,000	Removal of approximately 100,000 or more tons of salt per year from the Dolores River identified in the goals and objectives represents the effort required to replace the existing injection well and is a minimum desired capacity. Section

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						<p>tons of salt per year while Alternative B controls 114,000 tons per year (Table 2-3). A summary comparing the alternatives using the 114,000 tons per year would allow cost-effectiveness of the alternatives to be more readily compared. This number is closer to the historical average amount of brine removed by the existing PVU.</p>	<p>2.1.1, "Effect on Dolores River Salinity Levels" shows there is well over 100,000 tons of salt per year entering the system in the Paradox Valley. Alternative B is evaluated at the 200 gpm capacity because of the Leadville Limestone Formation's inability to accept brine at a higher disposal rate, and constructing two injection wells to meet the 300 gpm capacity would be cost prohibitive. The production well field successfully operated at 300 gpm from 1997 to 2001; therefore this capacity was evaluated as the upper bound of salinity control potential in the Paradox Valley. As discussed in the introductory paragraphs to Chapter 3 and in Section 2.2, "Summary of Action Alternative Project Components," the study areas are larger than the impacts anticipated for each action alternative. The alternatives were analyzed in this manner to allow Reclamation the necessary flexibility to appropriately design and locate facilities and to avoid and minimize impacts of the identified preferred alternative. Therefore, the Record of Decision could identify a scaled down or phased version of an alternative. Additional NEPA analysis would be completed after the ROD if,</p>

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							<p>during final design, it is determined that any impacts not foreseen or analyzed in this EIS are disclosed. Any additional NEPA analysis would be tiered to this EIS. Scaled down versions of the costs were estimated with the following disclaimers and assumptions: (1)The information is from a cursory exercise based upon conceptual design, best professional knowledge and judgement, and multiple other assumptions. The purpose of this information is to provide a general idea of costs with reduced treatment capacities. This information is for planning purposes only and is not to be used for budgeting or requesting funds from Congress. (2) The flow rates for Alternative D would be 205.34 gpm (2 installations at 102.67 gpm, 58,250 tons/year to show staging potential) and are based upon the capacity of the SaltWorks Technologies Inc. crystallizers (6 units). (3) The first installation of Alternative D includes the natural gas pipeline, brine pipeline, service water supply pipeline, freshwater return pipeline, H2S treatment facility, and other ancillary facilities required for the 206 gpm system as it is not possible/practical to stage this</p>

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							<p>infrastructure. (4) The costs shown are 2017 dollars at a 2.875% interest rate, as it is unknown what the cost or interest rates would be at the time of implementation. (5) The information is presented in the following order: Alternative; Salt Reduction (tons/year); Total capital construction cost (million dollars); Annualized Construction cost (million dollars); Annual OM&amp;R cost (million dollars); Total annual cost (million dollars); and Annual cost per ton of salt removed.</p> <p>Alternative C: 114,000 tons/year; \$94 million; \$3.6 million; \$4.4 million; \$8 million; \$70/ton                      Alternative D (first installation); 58,250 tons/year; \$56 million; \$2.1 million; \$4.2 million; \$6.3 million; \$108/ton.                      Alternative D (second installation); 58,250 tons/year; \$32 million; \$1.2 million; \$4 million ; \$5.2 million; \$89/ton.</p>
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.08	The DEIS identifies the funding mechanism for the proposed action, including the anticipated use of the Colorado River Basin Development Funds (p. 2-19, Section 2.7.3). As noted in that discussion, the LBDF currently	Because the need and purpose of this EIS is to control salinity in the Colorado River contributed by sources in the Paradox Valley, the EIS appropriately does not analyze funding solutions for the Basin Fund. Reclamation manages the Basin Funds to meet repayment

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						<p>has a \$13 million deficit, which has been increasing by approximately \$1 million per year. The Colorado River Basin Development Funds are used to fund a variety of other salinity control projects on the Colorado River. SNWA and CRC request that before Reclamation seeks appropriations for the PVU project and obligates additional funding out of the LBDF, a funding solution be identified to address the historical and future deficit. To clarify the effects on the Upper and Lower Basin Development Funds, a table should be added in Section 2.7 showing how the funds would be affected by each of the alternatives.</p>	<p>obligations to the United States Treasury when they are due. A discussion of the funding mechanism for the alternatives and a description of the Lower and Upper Basin Fund cost share percentages are included in Section 2.7.3. Table 2-3 provides information to show the relative difference in cost amongst alternatives for comparison purposes. Reclamation wishes to clarify that the annualized construction costs included in the table provided in the comment letter are incorrect, and therefore the other numbers included in the table are also incorrect. Accurate annualized construction costs are included in Table 2-3 in the EIS. Reclamation would work with the Salinity Control Forum to develop a solution to eliminate the accrual in the Lower Basin Fund prior to O&amp;M being initiated on an action alternative. No change is needed to the EIS.</p>
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.09	<p>Drought on the Colorado River persists. It is important for Reclamation to acknowledge in the DEIS that the Alternatives could impact the volume of water released from Lake Mead. Reclamation should work with</p>	<p>Section 3.6.2.2, "Impacts Associated with Salinity in the Colorado River (All Alternatives)" of the DEIS discloses that the alternatives could impact water released from Lake Mead; however, it is uncertain if the potential changes in releases from Lake Mead may be</p>

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						the Basin States and affected stakeholders to implement appropriate mitigation measures if, after the ROD is issued, the selected Alternative would require additional water to be released from Lake Mead. The statement found at p. 3-26, section 3.6.2.2, 2nd paragraph should mirror the commitment found in Table 2-5.	realized through actual operations. Therefore, the Environmental Commitment in Table 2-5, "Environmental Commitments," has been edited so that it's consistent with the language in Section 3.6.2.2: "Should it be determined, after issuance of the ROD, that implementing the identified preferred alternative would require additional water to be released from Lake Mead to comply with IBWC Minute No. 242, Reclamation would consider implementing mitigation measures to address the potential loss of water storage in Lake Mead."
253				Southern Nevada Water Authority, Colorado River Commission of Nevada	253.10	Table 2-3, footnote 4. Add to the description that the costs of replacing Lake Mead water are not included in the identified annual OM&R costs. Table 2-4, footnote 1. This footnote should be modified to read "When deemed necessary, the injection well will be plugged and abandoned in accordance with its existing UIC Permit." Table 2-6, p. 2-34. Under Potential to affect private drinking water wells, Alternative A should be revised to "No	1) The requested edit is not made because the determination of appropriate mitigation is unknown at this time, and therefore it is speculative to assume that additional costs would need to be added to the annual OM&R costs of the alternatives. No change to the EIS is needed. 2) Language has been added to the EIS clarifying that long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the

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						<p>effect." This would be consistent with the DEIS analysis, which on p. 3-26 states "there would be no effect once operations cease."</p> <p>p. ES-4, section ES.5, 2nd paragraph. Replace "Section 202(a)(l)" with "Section 201(a)". Section 202(a)(1) of the Salinity Control Act, as amended, speaks to the authority to construct the original PVU, whereas Section 201(a) covers the implementation of the Title II salinity control policy and water quality standards.</p> <p>p. 2-18, 3-69, 3-70. The symbol "~" should be removed from the document, since the DEIS states all numbers are estimates.</p> <p>p. 2-19, section 2.7.3, 1St paragraph. Remove "The Lower Basin states are Nevada, Arizona and California, and the Upper Basin states are Wyoming, Colorado, Utah and New Mexico." Because this sentence follows the repayment dispersion sentence, it implies that all Lower Basin states are contributing to the LBDF for</p>	<p>1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. The No Action Alternative begins once the existing PVU is no longer operable, which is why the No Action Alternative only describes decommissioning the well. Therefore, the footnote is correct as-is. No change to the EIS is needed.</p> <p>3) Table 2-6, Potential to affect private drinking water wells, Alternative A, has been revised to say "No effect."</p> <p>4) 'Section 202(a)(1) is the specific statutory authorization of the Paradox Valley Unit of the Salinity Control Act. Compliance with Section 202(a)(1) (Paradox Valley Unit), is the purpose of this EIS. No change to the EIS is needed.</p> <p>5) The ~ symbol has been removed from the document.</p> <p>6) The sentence defining the lower basin and upper basin states have been removed from the first paragraph of Section 2.7.3, "Funding Mechanism" in the FEIS.</p> <p>7) Revised Section 2.7.3 text discussing mill levies to state: "The Lower Basin Fund receives its funding through a mill levy of 21/2 mills for each kw hour of power produced from hydroelectric</p>

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						<p>salinity control purposes and only the Upper Basin states are contributing to the Upper Basin Development Fund (UBDF). This is not true; Arizona is not required to contribute to the LBDF for salinity control until the Central Arizona Project is paid off and Arizona and Nevada power users contribute to the UBDF.</p> <p>p. 20-20, section 2.7.3, 4th paragraph. Change first sentence to, "The Lower Basin Fund receives its funding through a mil levy of 2 1/2 mils for each kw hour of power produced from hydroelectric powerplants along the Colorado River in the Lower Basin." The second sentence is repetitive, so it should be removed.</p>	powerplants along the Colorado River in the Lower Basin."
254	Cooper	Hilary	Chair	San Miguel County Board of County Commissioners		No substantive comments	n/a
255	Heller	James				No substantive comments	n/a
256	Johnson	Hattie	Southern Rockies Stewardship Director	American Whitewater	256.01	The Colorado Basin Salinity Control Act authorizes the Paradox Valley unit as "this initial stage of the Colorado	A baseline assessment of the benefit of the past 24 years of operation is not relevant to comparison of the effects of the alternatives on downstream salinity,

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						<p>River Basin salinity control program".1 From our understanding, the efficiency of the PVU has decreased significantly over the past year due to increased seismicity in the region of the injection well. It would be most advantageous to reviewers for the DEIS to provide a baseline assessment of the benefit of the past 24 years of operation of the Paradox Valley Unit of the Colorado River Basin Salinity Control program. How have salinity levels at Imperial Dam corresponded to these changes in operations of the past few years of the PVU? Each alternative shows the salt reduction expected at Imperial, but is not qualified by the current levels at which the PVU is reducing salinity. It is our recommendation that the BOR not decide on one of the action alternatives unless the need for the project can be clearly identified.</p>	<p>and therefore is not included in the EIS. Data on salinity concentrations at Imperial Dam will not yet include the impacts resulting from Paradox's temporary cessation of operations. It will take three to four years before the effects of reduced Paradox operations will be realized above Imperial Dam due to retention times in both Lakes Powell and Mead, which average 1.5 to 2 years each. Therefore, there is no applicable data available to show an observed reduction in salinity at Imperial Dam. The analysis included in the EIS is based on best available scientific information and provides downstream salinity concentrations based on the CRSS model of the Colorado River basin. The analysis sufficiently shows the relative difference between alternatives for purposes of comparing effects on downstream salinity. Current levels of salinity control are disclosed in Table 3-8, "Projected Colorado River Salinity (mg/L) under each alternative" of the DEIS. No change is needed to the EIS.</p>
256	Johnson	Hattie	Southern Rockies	American Whitewater	256.02	Additional alternatives could include non-structural options	Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and

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			Stewardship Director			like modification of Dolores River flows, or alternative structural options with less impactful locations or approaches. Reduced stream flows lead to higher concentrations of salinity. This has especially compounded the salinity issue for the Dolores River. Since the construction of the Dolores Project, the magnitude, frequency, and duration of flushing flows have decreased by annual flows from 30% before McPhee to 69% after McPhee. <sup>2</sup> We understand that increased flows in an overallocated system are difficult. However, the efficiency of use of water within the Dolores Project could be analyzed in a subsequent suite of alternatives. This alternative would additionally help the BOR meeting whitewater boating mitigation measures described in the 1977 Dolores Project environmental Impact Statement. <sup>3</sup>	Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need. We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These references say that the result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for

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							<p>the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to</p>

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							<p>upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved. As stated in the Purpose and Need Statement (Section 1.3, "Purpose of and Need for the Action" of the DEIS), the scope of the EIS is salinity control in the Paradox Valley. The EIS is not intended to analyze potential salinity control projects beyond the Paradox Valley. As described in Table 2-7, modifications to agricultural practices at Paradox was identified as a potential alternative but eliminated from further consideration as it would not control at least 100,000 tons of salt annually. As described in Section 4.2, "Cumulative Impacts Analysis," in the Water Quality row, the ongoing Salinity Control Program and EQIP would be expected to cumulatively result in the decrease in salinity in the lower Colorado River.</p>

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257	Hasencamp	Bill	Chair	Colorado River Basin Salinity Control Advisory Council	257.01	The Council is in accord with the recommendations made by the Colorado River Basin Salinity Control Forum (Forum) and sent separately to Reclamation. The Council would like to echo the Forum's concern that the DEIS, as written, potentially confuses the authority for the continued operation of the existing PVU injection well and requests that the final EIS clarify the matter.	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Sections 2.3 and ES.7.1, "Alternative A - No Action Alternative" of the EIS clarifying Alternative A-No Action Alternative.
258	Wilder	Kathryn				No substantive comments	
259	Dent	Patrick	Director	Lower Colorado River Water		No substantive comments	As stated in the 1997 EA, "Should the injection formation begin to refuse

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				Quality Partnership			acceptance of the brine, the pressure necessary to inject would increase. This would make the present equipment incapable of performing, or the facility would have to be operated at reduced injection rate that would no longer be cost effective. Should this situation occur, the Unit's future participation in the salinity control program would be examined and the Unit's facilities either abandoned or replaced with equipment needed for continued operation." Reclamation continues to examine the operability and cost effectiveness of the existing injection well and will continue to operate the well until it is incapable of performing, or is no longer cost effective to continue operation.
260	Blair	Katrina				No substantive comments	N/A
261	Buchsbaum	Norbert		CryoDesalination, LLC	261.01	A CryoDesalination plant could extract 200,000 tons/year of salt from naturally occurring brine groundwater in the Paradox Valley, thereby preventing the brine from entering the Dolores River. The salt could be produced either in crystalline form or as a slurry of crystals in brine. Such a plant would generate 550 tons/day of salt and 360,000 gallons/day of	Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. Insufficient information has been provided to fully evaluate this technology. Pilot testing would be required to verify the viability and applicability of the technology and to provide data on anticipated costs and benefits. Pilot testing would occur after the Record of Decision if

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						<p>fresh water. The Plant would cost \$2.5 million (+) or (-) 30%. I am prepared to furnish to USBR – free of charge – a complete Engineering Design Package for a simple Skid to demonstrate the process.</p> <p>The Design Package would include Process Flow Diagrams, P&amp;I Diagrams, Equipment Schedules, and Lists for Piping, Valves, and Instruments. Upon receipt of Package, USBR would immediately be ready to start preparing purchase orders for materials and equipment. The Demo Skid could be ready to operate within 6 weeks. It could serve not only to demonstrate the process, but also to perform additional piloting. The cost of this Demonstration Skid is approximately \$40,000. If USBR is not prepared to do themselves the purchase, some additional engineering, and the skid construction, there are contractors in Houston willing to assemble such a skid for the stated amount.</p>	<p>Alternative D is identified as the preferred alternative. Selection of technologies to be pilot tested would be subject to a competitive contracting process at that time. The constraints for inclusion would include that the technology is commercially available and not in research or development stages. Reclamation would continue to evaluate methods to further minimize impacts during the design process. As stated in the 3rd paragraph of Chapter 3, after an alternative is identified as the preferred alternative in a ROD and the design is further developed, additional NEPA analysis may be required to ensure any impacts not foreseen in this EIS are disclosed.</p> <p>In Section 2.6.2.1 of the Final EIS, "Zero-Liquid Discharge Facility," a sentence has been added to the end of the last paragraph that says, "Reclamation would continue to evaluate methods to further minimize impacts during the design process. In addition, alternative energy technologies would be included during final design if appropriate, subject to any necessary supplemental NEPA."</p>

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262	Lynch	Robert		Irrigation & Electrical Districts' Association of Arizona (	262.01	We have reviewed CREDA's comments and support them. Additionally, we note that the DEIS acknowledges that a decision here will have cumulative water quality impacts as far down river as Imperial Dam but doesn't acknowledge that there are potentially cumulative impacts to other resources, including hydropower generation, depending on what strategy Reclamation develops for salinity control and how that affects Colorado River operations and hydropower rates. These effects and the effects of the DCP and its necessary successor agreement unfortunately complicate every decision affecting the Colorado River. Segmenting doesn't work under these circumstances. However difficult, today's decision-making must be more interactive and sophisticated. Salinity control for the Colorado River is a central aspect of the river's health and our obligations to Mexico. Decisions	A cumulative impacts analysis on all resources analyzed in the EIS is included in Chapter 4. The Surface Water and Water Rights cumulative impacts analysis in Section 4.2, Table 4-2, "Potential for cumulative impacts on resources analyzed in this EIS," discloses that implementation of any of the PVU alternatives would not contribute to a cumulative adverse impact on surface water and water rights. Therefore, none of the PVU alternatives would have an impact which would contribute to the cumulative impacts on hydropower generation, Colorado River operations, and hydropower rates resulting from other actions taking place in the Colorado River basin. This explanation has been added to Table 4-2 of the FEIS.

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						about the Paradox Valley need to be preceded by a wider dialogue.	
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.01	However, we urge Reclamation to make clear in the EIS that limited, continued operation of the existing well facility is not intended to be foreclosed upon and to consider the appropriate sizing and scaling of any preferred alternative.	<p>Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History" to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life.</p> <p>The life of the project is 50 years. The existing injection well is reaching the end of its useful life and is not anticipated to be functional for another</p>

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							50 years. Therefore, the action alternatives cannot be sized or scaled based on the assumption that the existing PVU could provide long-term salinity control at Paradox Valley. Section 2.1.1, "Effect on Dolores River Salinity Levels" of the DEIS indicates that further research would guide design features or operational changes needed to optimize future pumping rates at the PVU, which provides for appropriate sizing and scaling considerations of an action alternative in the future.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.02	Specifically, as proposed, the evaporation ponds in Alternative C would curtail public access to federal lands and present substantial risks to wildlife. Among these is the potential for direct or indirect impacts to aquatic, avian, and terrestrial species, including impairments to sensitive habitat for iconic big game species, such as elk, bighorn and mule deer, as well as Gunnison sage grouse, a federally listed threatened species. While these risks were acknowledged in the	The following sections in the DEIS not only acknowledge but also describe and/or address impacts from the evaporation ponds to aquatic, avian, and terrestrial species: Sections 3.9.2, "Impacts on Terrestrial and Aquatic Wildlife"; 3.10.2, "Impacts on Federally Listed Species"; 2.9, "Environmental Commitments"; Appendix I, Biological Evaluation Report; and Appendix J, Predictive Ecological Risk Assessment. These sections emphasize loss of habitat as well as mortality that could result from the alternative. Section 3.10.2, "Impacts on Federally Listed Species," of the DEIS specifically notes the following regarding impacts from

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						DEIS, they remain inadequately analyzed and/or mitigated.	Alternative C: "Gunnison sage-grouse do not occur and there is no critical habitat or suitable habitat in or near existing facilities." Therefore, the impacts to wildlife under Alternative C are characterized as significant in the EIS and thus are adequately analyzed such that no other changes are needed.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.03	As the implementation of evaporation ponds - at any scale - could impede the state's ability to carry out this and other wildlife management priorities, we respectfully request a more thorough examination of wildlife impacts relevant to the final proposed project design, accompanied by a more thorough evaluation of the efficacy and cost of recommended avoidance and mitigation options, including compensatory measures.	The information provided in the EIS is sufficient to evaluate impacts, based on current information. However, as stated in the opening paragraph for Chapter 2, additional site-specific NEPA analysis may be required in order to finalize the alternative design and ensure any impacts not foreseen in the EIS are disclosed. Each alternative has been developed to a conceptual 30% level of design due to the extensive costs required for completing additional investigations and higher-level design for each alternative. Further Section 2.2, "Summary of Action Alternative Project Components," of the DEIS discloses that the study areas evaluated for each of the alternatives are larger than the area that would be impacted to allow for siting flexibility once additional surveys/studies are completed and final designs are developed for the identified preferred alternative. Further, an

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							<p>adaptive management plan is described in the Predictive Ecological Risk Assessment (PERA), Appendix J, which was developed due to the uncertainty regarding effects on wildlife, including migratory birds. The PERA recommends and Alternative C incorporates several measures including effectiveness monitoring of mitigation measures and allowing for adaptive management. Section 2.5.3.4, "Monitoring," of the DEIS includes a description of the monitoring efforts and includes adaptative management in the event the mitigation methods employed are not sufficiently effective. Section 2.7, "Costs of Alternatives, Risks, and Funding Mechanisms," of the DEIS addresses the costs associated with the alternatives, as well as identifying potential risks to costs. Upon development of higher-level design, Reclamation would review this EIS and new information to determine applicability and scope of any additional NEPA analysis. During the design finalization process, Reclamation will keep the lines of communication open with CPW to ensure any unsatisfactory impacts are appropriately addressed.</p>

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263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.04	Our divisions also highlight the need for the EIS to clarify plans in the preferred alternative for complying with state water law; securing any additional augmentation water required for the project though Colorado water courts; and avoiding temperature increases; and deterring condition impairments for aquatic species in the Dolores River caused by depletions stemming from the project. Additionally, we highlight a concern that the DEIS may have overlooked water quality permitting compliance expenditures.	As cited in Sections 3.4.2.3, "Alternative C—Evaporation Ponds" and 3.4.2.4, "Alternative D - Zero Liquid Discharge Technology," of the DEIS, any change to the points of use or the augmentation plan for additional consumptive use would require DWR and Colorado Water Court approval.  As cited in Section 3.6.2.6, "Alternative D—Zero-Liquid Discharge Technology," Reclamation would work with CDPHE to ensure the produced freshwater in Alternative D would be treated to meet composition and temperature requirements of the CWA prior to discharge to the Dolores River. A condensed water cooler is included in the design of Alternative D to meet this requirement and this design feature has been added to the alternative description in Section 2.6.2, "Design and Construction," and additional treatment requirements are also included in the cost estimate.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.05	The Hazardous Materials and Waste Management Division (HMWMD) covers its costs for reviewing permit applications through assessment of document review fees. HMWMD	Reclamation would be subject to paying State fees only if authorized by Congress. Added this to Table 2-4, "Permits, reviews, and approvals required to implement the alternatives" in Section 2.8, "Permits and Approvals

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						has concerns that the fees for this certification will not be covered. The full cost of permitting needs to be recognized, including paying any county certificate of designation application fee and state review fees necessary to get the landfill permitted. The review of a certificate of designation application can consume significant resources that could total in the tens of thousands of dollars. This issue should be worked out between the two agencies in advance, perhaps in the form of an interagency agreement. (Section 2.8, Table 2-7, Line 7)	Needed" of the FEIS. CDPHE did not provide any authority for Reclamation to pay State fees.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.06	The State of Colorado does not have salinity or total dissolved solids (TDS) standards for surface water. However, Regulation No. 39 does implicate Colorado in a basin-wide approach for controlling salinity in the Colorado River Basin such that numeric salinity targets are met at specific locations in the Colorado River. Regulation No. 39 thus	The numeric salinity targets identified in Regulation No. 39 are the criterion targets included in Table 3-8, "Projected Colorado River Salinity (mg/L) under each alternative" of the EIS. The EIS discloses the modeled salinity concentration at each of the three monitoring stations under each alternative in Section 3.6.2.2, "Impacts Associated with Salinity in the Colorado River (All Alternatives)." Impacts on designated uses of surface water under

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						demonstrates the State of Colorado's interest in ensuring that activities in the Colorado River Basin protect those designated uses of surface water in this basin that can be impacted by increased levels of salinity. Caution should be taken when considering any activities that could increase salinity in the river because of its potential impacts on water quality. Of primary concern is the potential impacts on aquatic life and agriculture in this area.	the No Action Alternative (the alternative which represents an increase in salinity concentrations) are disclosed in Section 3.6.2.3, "Alternative A—No Action Alternative" of the DEIS. No change needed.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.07	The Dolores River is listed on the 303(d) list of impaired waters for temperature. Many alternatives that are being considered could release heat into the river or reduce flows. These activities could have an impact on the temperature of the river thus affecting the aquatic communities. The mitigation of these effects should be considered before a preferred alternative is selected.	An augmentation plan would be obtained for any alternative which would require additional water from the Dolores River, as described in Section 3.4.2, "Impacts on Surface Water and Water Rights," of the DEIS. Because the water would be augmentation water released from McPhee Reservoir for PVU project purposes, flows past this gage would remain representative of the flows cited in the affected environment. Therefore, the additional depletions from the Dolores River would not increase the river's temperature. Alternative D would result in a produced freshwater stream which

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							<p>is proposed to be discharged into the Dolores River. Section 3.4.2.4, "Alternative D—Zero-Liquid Discharge Technology," states that the produced freshwater stream may require additional treatment to meet CDPHE water quality standards prior to being discharged into the river. As described in Section 3.6.2.6, "Alternative D—Zero-Liquid Discharge Technology," Reclamation would work with CDPHE to ensure the produced freshwater in Alternative D would be treated to meet composition and temperature requirements of the CWA prior to discharge to the Dolores River. A condensed water cooler is included in the conceptual design of Alternative D to meet this requirement, and this design feature has been added to the alternative description in Section 2.6.2, "Design and Construction" of the DEIS. It is not expected that any alternative would increase the temperature of the Dolores River; therefore, mitigation to aquatic communities due to an increase in river temperature is not necessary. Clarification was also added to Section 3.9.2.5, "Alternative D—Zero-Liquid Discharge Technology" of the FEIS</p>

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							stating that return flows would be treated.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.08	Specifically, Reclamation must go to water court to obtain additional augmentation water as needed. Additionally, if sufficient augmentation water is not available for PVU uses, curtailment of PVU wells may occur in order to satisfy senior water rights. specifically relating to Alternatives C and D, Sections 3.4.2.3 and 3.4.2.4 should note that Reclamation will consider curtailing operations at times when augmentation would otherwise be required in lieu of providing augmentation supplies for the pumping.	Sections 3.4.2.3, "Alternative C," and 3.4.2.4, "Alternative D" identify DWR and Colorado Water Court approval is needed for the amended augmentation plan. The following statement has been added to these sections for further clarification: "PVU operations could be curtailed if the augmentation plan is not sufficient to cover the consumptive use."
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.09	The DEIS is unclear relating to continued operation of the existing PVU injection well. Nothing in the Final Environmental Impact Statement (FEIS) should suggest preclusion of continued operation of the PVU injection well, pending Reclamation's ongoing seismic investigation. The FEIS should assume, and	Long term operation of the existing PVU injection well is covered in the 1997 PVU Final Supplemental Definite Plan Report / Environmental Assessment and Finding of No Significant Impact (1997 EA/FONSI). Reclamation reviewed the 1997 EA/FONSI and found the impact analysis to be sufficient for continued operation of the existing injection well. This EIS does not cancel, replace, or modify the 1997 analysis or findings for

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						clearly indicate authority for operation of the existing PVU injection well at a level that does not induce seismic activity, at least until a preferred alternative is constructed, and potentially beyond, as appropriate. CWCB urges Reclamation to edit the language in the DEIS so that the FEIS clearly authorizes continued operations of the existing injection well, assuming it can be operated without inducing seismic activity.	long-term operation of the existing PVU facilities. Therefore, long-term operation of the PVU may continue until it is determined to no longer be feasible to operate, regardless of which alternative is identified as the preferred alternative. Language has been added to Section 1.1, "Background and Project History," of the EIS to clarify that the existing PVU may continue to operate under any of the alternatives in the EIS until it reaches the end of its useful life. Language has also been added to Section 2.3 of the EIS clarifying Alternative A-No Action Alternative.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.10	As detailed in the DEIS and Appendix J, the salinity ponds in Alternative C would be toxic, and represent a significant entrapment hazard and mortality risk to wildlife including: waterfowl, migratory birds, birds of conservation concern, bats, reptiles, small mammals, and big game. Based on CPW's review, the proposed best management practices (BMPs) are comprised of an 8-foot high perimeter fence, a freshwater wildlife pond, bittern pond netting, and routine	Section 3.9.2.4, "Impacts on Terrestrial and Aquatic Wildlife," of the DEIS discloses the potential for major wildlife mortality despite the implementation of BMPs, avoidance, and minimization measures described in Chapter 2. Section 2.5.3.3, "Alternative Habitat— Freshwater Wildlife Pond" of the DEIS discusses the use of aeration systems to maintain open water during freezing temperatures. The Predictive Ecological Risk Assessment (PERA), Appendix J, of the DEIS was prepared to qualitatively and quantitatively evaluate the potential adverse effects and the severity of effects to terrestrial mammals and

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						<p>patrols. These BMPs alone are inadequate to reliably prevent access to the ponds by most wildlife species.</p> <p>Freshwater Pond Efficacy: The efficacy of the proposed freshwater pond needs to be further evaluated in the Final EIS due its proximity to the evaporation ponds (as depicted in Figure 2-4). CPW is concerned that the freshwater pond could serve as an attractive nuisance to the facility for birds, bats, and other animals. Further, the final plan should consider that winter conditions will likely cause the freshwater pond(s) to freeze while the saline ponds likely will not. Additionally, the final plan should examine and address the impacts on native fisheries from annual depletions in the Dolores River that will be needed for the freshwater pond. The FEIS should provide further explanation as to how an onsite freshwater pond would serve to prevent attraction to and mortality from, the saline</p>	<p>aquatic birds and identify and estimate the effectiveness of mitigation measures and deterrence techniques. The PERA discusses the use, placement, and sizing of the freshwater pond. The recommended proximity of the freshwater pond was based on a report completed by the Technical Committee on Evaporation Ponds, which is referenced as Evaporation Ponds Technical Committee, 1999 in Appendix J. As described in the PERA, the size of the freshwater pond was based on a percentage of the total evaporation pond (1 to 2%) determined by the USFWS (1995) for evaporation basins in Central Valley of California. The PERA recommended and Alternative C incorporated several measures including effectiveness monitoring of mitigation measures and includes adaptive management in the event the mitigation methods employed are not sufficiently effective.</p> <p>Section 3.4.2.3, Impacts on Surface Water and Water Rights, discusses that the additional 20 acre-feet of water per year required by the freshwater pond would be covered by Reclamation's water rights or a State-approved</p>

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						evaporation ponds, and should clarify potential impacts to aquatic resources in the Dolores River.	augmentation plan. Therefore, there would be no new impact on native fisheries from any depletions in the Dolores River. Flows at the Dolores River Near Bedrock gage would remain representative of the flows cited in Affected Environment.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.11	The Final EIS should include a wildlife protection plan tied to the final project design with the following components: 1) Specific objectives and thresholds for allowable wildlife (aquatic, terrestrial, bird, and bat) exposure, injury, and mortality; 2) Monitoring criteria, methods, and procedures for detecting and reporting wildlife mortality, injury and exposure; 3) A comprehensive evaluation of passive and active deterrence techniques (such as hazing and other methods described in Appendix J, Table 5-1) in light of the final plan design; 4) An adaptive management and mitigation strategy detailing how deterrence methods or features aimed at reducing mortality, injury, and exposure will be incorporated into the	A Predictive Ecological Risk Assessment (PERA), Appendix J, was prepared to qualitatively and quantitatively evaluate the potential adverse effects and the severity of effects to terrestrial mammals and aquatic birds. The PERA identifies and estimates the effectiveness of mitigation measures and deterrence techniques. The PERA recommended, and Alternative C incorporated, several measures including effectiveness monitoring of mitigation measures and includes an adaptive management approach in the event the mitigation methods employed are not sufficiently effective.  Section 2.5.3.4, "Monitoring," of the DEIS describes the ongoing monitoring and assessment of wildlife interface with the evaporation ponds, and provides for completion of monitoring reports to note bird species, numbers, and frequency of use, and wildlife

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						structural design of and management of the facility; 5) Clear triggers for when adaptive management strategies (deterrence techniques) will be implemented to prevent additional wildlife mortality.	observations made during routine patrols, including mammals, reptiles, and amphibians seen in proximity to or found dead in or near the ponds. Section 2.9, Table 2-5, "Environmental Commitments," contains several commitments regarding design and mitigation measures to reduce wildlife mortality, injury, and exposure. One of the environmental commitments states that Reclamation would coordinate with FWS on an adaptive management approach, as outlined in the Predictive Ecological Risk Assessment, to determine alternative methods to minimize impacts to wildlife. Based on the PERA, Reclamation believes ongoing monitoring and coordination with FWS is the most effective means of determining the need for any additional mitigation. No change to the EIS is needed.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.12	The PVU DEIS contains conflicting water quality information on the potential for pollutants to be discharged in the liquid waste-stream for Alternative D (ZLD), and is missing information on additional potential pollutants that may require additional	Alternative D would result in a produced freshwater stream which is proposed to be discharged into the Dolores River. Section 3.4.2.4, "Alternative D—Zero-Liquid Discharge Technology" indicates the produced freshwater stream may require additional treatment to meet CDPHE water quality standards prior to being discharged into the river. An

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						<p>treatment to prevent harm to Aquatic Life before being discharged to the Dolores River: Section 2.6.3 describes the operation and maintenance of the Alternative D (Zero-Liquid Discharge). Despite the name, this alternative would produce a liquid waste stream.... This waste stream is likely to require some level of additional treatment prior to discharge to the Dolores River. In particular, a significant reduction in temperature will be required in the summer months. In December 2019, the Colorado Water Quality Control Division (WQCD) added the Dolores River to the 303(d) list of impaired waters for temperature. Continuous temperature data at the two USGS gages (Dolores River at Bedrock 09169500, and Dolores River near Bedrock 091711(0) show repeated exceedances of the acute summer temperature standard (Figures 1 and 2). In the summer, the temperature of the waste stream will need to be</p>	<p>environmental commitment is included in Section 2.9, Table 2-5, "Environmental Commitments," which states "Reclamation would work with CDPHE to ensure that the composition and temperature of the produced freshwater stream meets CWA standards prior to its discharge to the Dolores River." A condensed water cooler has been included in the design of Alternative D to meet this requirement, and this clarification has been added to Section 2.6.2, "Design and Construction."</p> <p>The description of the produced freshwater in Section 3.6.2.6, "Alternative D—Zero-Liquid Discharge Technology," has been updated to indicate that the produced freshwater would be similar to distilled water, except that it would have a higher TDS.</p>

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						<p>reduced by more than 20C to meet instream standards, and avoid causing or contributing to an impairment of the Aquatic Life use, which is protected by the temperature standards. The discharge may also need to be adjusted for pH prior to release if the projected pH (4.5 to 7.5) is on the low-end of that estimate. The instream pH standard to protect the Aquatic Life use is 6.5 to 9.0. Section 3.6.2.6 contains a description of the liquid waste stream from the ZLD that conflicts with descriptions elsewhere in the EIS. "Initial tests have indicated that the produced freshwater stream would be similar to distilled water, which is harmful to aquatic organisms." The more-specific description of the waste stream in section 2.6.3 says the TDS of the waste stream will be 500 mg/L. This is much higher than distilled water, which has negligible dissolved solids. The final EIS should resolve this discrepancy. Furthermore, Reclamation</p>	

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						<p>should complete laboratory testing of the source groundwater to determine if other pollutants are present that would require additional treatment after the ZLD process to meet water-quality standards. The full suite of standards that apply to the Dolores River can be found in the statewide water-quality standards in Regulation 31.11, and in Regulation 35. The Final plan should provide additional information on the water-quality of liquid waste-stream the from the ZLD, testing results for all potential pollutants in the source water, and explain how water-quality standards including temperature, pH and other potential pollutants will be met.</p>	
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.13	<p>The Dolores River from McPhee Dam to the confluence of the San Miguel River is approximately 122 miles in length. There are significant challenges in maintaining a tail water fishery and native fishery in the Dolores River. CPW</p>	<p>The tail water fishery is identified as McPhee Dam to the Bradfield Bridge, approximately 12 miles. The PVU is approximately 95 miles downstream of McPhee Dam. The consumptive point of use of the PVU is the Paradox Valley, therefore there would be no potential depletions upstream of this location.</p>

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						<p>requests that the Final PVU EIS include a discussion and consider the cumulative environmental impacts relating to potential depletions to the Dolores River. Each alternative should include a quantification of the potential depletion of the Dolores River, the cumulative impact it may have on the aquatic environment below McPhee Dam, and its cumulative impact on aquatic habitat, including analysis of the reduction in salt loading associated with the alternatives identified.</p> <p>Additionally, please evaluate potentially impacted ephemeral streams, with consideration to their potential role in the early life histories of native fish of the Dolores River.</p>	<p>Section 3.4 of the DEIS includes information regarding flows and consumptive use. When the Dolores River is above 78 cfs, Reclamation's water rights are sufficient to operate any of the proposed alternatives. When the Dolores River is below 78 cfs, a State-approved augmentation plan would be implemented to replace any depletions. Flows at the Dolores River Near Bedrock gage would remain representative of the flows cited in Affected Environment.</p> <p>The potentially impacted ephemeral streams, specifically East Paradox Creek, lack adequate connectivity to the Dolores River or any perennial or intermittent water sources. Therefore, the importance of ephemeral streams in the early life histories of native fish was not identified as a resource concern and was not analyzed in the DEIS. A Preliminary Identification of Aquatic Resources Report, Appendix G in the DEIS, summarizes the preliminary field efforts completed to identify aquatic resources and categorize the types of aquatic resources present within each alternative study area. Additionally, as described in Appendix I, Biological</p>

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							Evaluation Report, the section of the Dolores River in the Paradox Valley is affected by high salinity concentrations which are identified as a constituent of concern affecting the vitality of native fish in this segment, irrespective of current salinity control efforts. The impacts are adequately described in the DEIS such that no change to the EIS needs to be made.
263	Mazal	Vanessa	Policy Advisor - Federal Affairs	Colorado Dept of Natural Resources	263.14	The project alternatives, as proposed, would result in a direct loss of public land access, significant habitat loss, and potential direct mortality for wildlife in Colorado. To that end, CPW requests that Reclamation provide compensatory mitigation to replace and offset the project impacts to wildlife, terrestrial and aquatic wildlife habitat, and public land access commensurate with the alternative selected in the Final EIS and Record of Decision.	The EIS discloses the acreage of big game critical winter range and other sensitive habitats (e.g. production areas) potentially impacted by the alternatives (see Sections 2.10, "Summary of Potential Impacts"; 3.9.2, "Impacts to Terrestrial and Aquatic Wildlife"; 4.2, "Cumulative Impacts Analysis"; and, Appendix I, Biological Evaluation Report). Table 2-5 "Environmental Commitments," contains several commitments regarding design and mitigation measures to minimize impacts to wildlife. The EIS also discloses the amount of BLM-administered land potentially impacted and impacts to recreation opportunities in Section 3.11, "Land Acquisition and Use." Further, Section 2.1.2, "Estimates of Affected Acres," discloses that the permanent impacts are calculated based

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							<p>on a 30% design; the actual location and acreages of impacts within the study area analyzed may differ once an alternative is identified as the preferred alternative and designs finalized. Based on the impact analysis in the EIS and 30% design of the alternatives, the mitigation identified in the EIS adequately mitigates for unavoidable impacts. As discussed in the opening paragraphs of Chapter 2, additional site-specific NEPA analysis may be required to finalize the alternative design and ensure any impacts not foreseen in this EIS are disclosed. During the design finalization process, Reclamation will keep the lines of communication open with CPW to ensure any unsatisfactory impacts are appropriately addressed.</p>
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.01	<p>A baseline assessment of the benefit of the past 30 years of operation of the Paradox Valley Unit of the Colorado River Basin Salinity Control program is necessary and overdue. Anecdotally, the program has removed several million tons of salt, but the DEIS fails to provide data that quantifies a corresponding observed</p>	<p>A baseline assessment of the benefit of the past 30 years of operation is not relevant to comparison of the effects of the alternatives on downstream salinity, and therefore is not included in the EIS. Data on salinity concentrations at Imperial Dam will not yet include the impacts resulting from Paradox's temporary cessation of operations. It will take three to four years before the effects of reduced Paradox operations</p>

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						reduction in salinity a thousand miles downstream at Imperial Dam	will be realized above Imperial Dam due to retention times in both Lakes Powell and Mead, which average 1.5 to 2 years each. Therefore, there is no applicable data available to show an observed reduction in salinity at Imperial Dam. The analysis included in the EIS is based on best available scientific information and provides downstream salinity concentrations based on the CRSS model of the Colorado River basin. The analysis sufficiently shows the relative difference between alternatives for purposes of comparing effects on downstream salinity. No change is needed to EIS.
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.02	SMA would like to see a cost-benefit analysis of devoting BOR resources to other known major salinity contributors, such as the effective agricultural solutions which BOR officials have acknowledged as having significant positive impacts in the last decade. We would also like to see a feasibility analysis of solutions, such as increased river flows, which might serve multiple goals and ecosystem functions, rather than sinking	The purpose of and need for this EIS is limited to salinity control at the Paradox Valley, Montrose County. None of the alternatives preclude Reclamation funding of other agriculturally-based salinity control projects through the Salinity Control Program. However, a cost-benefit analysis of devoting PVU funding to other salinity control projects would be speculative because it is unknown if or how much future funding of salinity projects would be available, which potential salinity projects which would be funded, when the projects would be completed, and how much

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						further resources into a partial short-term solution.	salt would be controlled to develop a cost per ton. Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need. We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These say that the result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley

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							<p>could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam</p>

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							could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.03	None of the analyzed alternatives come even close to satisfying all of these goals. While salt removal might be achieved by some of these alternatives, Alternatives B-D would have significant adverse impacts, conflict with existing BLM management plans and policies, violate federal laws, and do not serve the public.	The intent of the goals and objectives are to provide additional items for the Secretary to consider in their decision. The ability for each alternative to meet the goals and objectives are disclosed in Table ES-1, "Ability of each alternative to meet the goals and objectives of the proposed action," of the DEIS. Impacts resulting from the implementation of the alternatives are disclosed in Chapter 3.
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.04	Between the analyzed alternatives, and other possible and hitherto unexamined solutions, there are clearly other alternatives to building a pipeline under the WSA here, and alternative B1 does not	BLM policy states, "if an impairing proposed project, even one that meets an exception, can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that

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						<p>meet the criteria of a qualifying exception to the non-impairment standard. It should be eliminated.</p>	<p>the project is implemented outside the WSA." Before selecting any alternative, Reclamation and BLM must take a hard look at the resource impacts of each and determine which action provides the greatest balance of minimizing resource impacts, while fulfilling the purpose and need.</p> <p>Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness. After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA.</p>

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							<p>Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.</p> <p>Because of geology and topography, the only feasible means of reaching the unpressurized part of the Leadville formation from Reclamation's property is to use the subsurface of the WSA. The unpressurized part of the Leadville formation is delineated by a major northwest-trending fault that vertically offsets the Leadville by more than 1000 feet, creating an impermeable flow boundary. The fault is located in the subsurface, south of Reclamation's property line, and below the WSA. For a drill-hole to reach the unpressurized part of the Leadville formation, two feasible options have been identified: (1) directional drilling of an injection well in a southwards and downwards direction from the ground surface, within Reclamation's property line; and (2) shallow drilling of a pipeline southwards (in a downwards and later upwards arc), from Reclamation's property to a point on top of Skein Mesa south of the WSA, where a vertical injection well would then be drilled to reach the Leadville formation. There are no other feasible alternatives. It is</p>

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							<p>infeasible to run a brine pipeline to the top of Skein Mesa, other than the underground pipeline identified in the alternative. It is infeasible to reach the unpressurized part of the Leadville using a vertical or directional well by moving upstream on the Dolores River because Reclamation does not own that property. It is infeasible to inject into the already pressurized part of the Leadville because that would be essentially the same as injecting into the current reservoir. References for this information are in Sections 2.4 and 3.3 of the EIS.</p>
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.05	<p>In addition, the Paradox Rock Art ACEC is to be managed to protect quiet recreation use (Uncompahgre Proposed RMP FEIS at 4-301). Constructing an industrial facility adjacent to the ACEC conflicts with the proposed RMP's direction for quiet recreation use.</p> <p>The proposed RMP requires the development of a Cultural Resource Project Plan that develops site-specific management objectives and actions for all Scientific, Conservation Use, Traditional</p>	<p>Cultural resources are discussed in Section 3.19, "Cultural Resources," of the DEIS. After issuance of a Record of Decision, cultural resources will be surveyed and consultation completed pursuant to the terms of the Programmatic Agreement, EIS Appendix M.</p> <p>The BLM Uncompahgre Field Office Approved Resource Management Plan boundary of the Paradox Rock Art ACEC is 1,080 acres and has no direct overlap with any of the Alternatives.</p>

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						<p>Use, and Public Use (Uncompahgre Proposed RMP FEIS at 2-43). Until this cultural resource project plan is completed, BLM cannot ascertain whether an industrial evaporation pond facility is compatible with the management objectives of the Paradox Rock Art ACEC. The DEIS contains no specific analysis of impacts of Alternative C on the proposed Paradox Rock Art ACEC. The DEIS acknowledges the existence of BLM's proposed National Historic District (DEIS at 3-76). The DEIS also admits that "visual degradation of the setting associated with significant cultural resources, including rock art sites, could result from development. This could affect significant cultural resources for which visual integrity is a component of their significance, such as sacred sites and landscapes and historic trails and landscapes." (DEIS at 3-77).</p>	

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264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.06	<p>The zero liquid discharge facility would return water at a higher temperature back into the river, with potential impacts on native fish species. The salt landfill and industrial facilities would impact critical elk habitat, and local residents have expressed concern over smells and toxicity from the hydrogen sulfide removal facilities proposed in both alternatives C &amp; D. These legitimate concerns about safety and pollution have not been adequately addressed in the DEIS and warrant further consideration.</p>	<p>Alternative D produces a freshwater stream that is proposed to be discharged into the Dolores River. Section 3.4.2.4, "Alternative D—Zero-Liquid Discharge Technology," of the DEIS indicates the produced freshwater stream may require additional treatment to meet CDPHE water quality standards prior to being discharged into the river. Additional treatments could include cooling the produced freshwater to maintain the current temperature of the Dolores River. A condensed water cooler is included in the design of Alternative D to meet this requirement, and a description of this design feature has been added to Section 2.6.2, "Design and Construction," of the FEIS. Therefore, the zero liquid discharge facility would not return water at a higher temperature back into the river. Impacts to critical elk habitat are disclosed in Section 3.9.2, "Impacts on Terrestrial and Aquatic Wildlife," of the EIS. Impacts to odors as well as impacts to air quality including any impacts resulting from the presence of H<sub>2</sub>S are disclosed in Section 3.1.2, "Impacts to Air Quality." The comment does not indicate how the current analysis in the</p>

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							EIS is not adequate nor does it provide additional information which was not taken into consideration in the current analysis.
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.07	The ACEC is proposed specifically to protect these sensitive soils from surface disturbance. Unfortunately, the DEIS explicitly excluded from analysis impacts to biological soil crusts. (DEIS at 3-70) The DEIS contains no acknowledgement of the proximity of the ACEC to the Zero Liquid Discharge facility. Given the omission of analysis of impacts to biological soil crusts, it is not possible to ascertain whether Alternative D would achieve the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public.	The BLM Uncompahgre Field Office Approved Resource Management Plan Final EIS boundary of the Biological Soil Crust ACEC is 390 acres and has no direct overlap with any of the Alternatives. Section 3.7.2.2, "Impacts Common to Alternatives B, C, and D," of the EIS, under Vegetation, has been edited to specifically include biological soil crusts when discussing direct impacts: "Direct effects on vegetation, including biological soil crusts, would occur during construction in the areas physically modified by ground-disturbing activities, such as site grading and clearing and facility construction." Mention of biological soil crusts as not being analyzed has been removed from Table 3-22, "Resources not analyzed in this EIS" and the exclusion justification, of the FEIS. Table 2-6, "Summary of Impacts," in the DEIS summarizes impacts to resources, including cultural resources and BLM RMP conformance. Section 3.19, "Cultural Resources," of the DEIS addresses cultural resources specifically and Section 3.11, "Land

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							Acquisition and Use," addresses BLM RMP conformance.
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.08	BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS: Impacts to river recreation, such as new bridges and other infrastructure over the Dolores River within a popular boating section, creating new public hazards.	<p>Language in Table 2-5, "Environmental Commitments," of the FEIS has been edited to specifically state "and allow for continued boating opportunities." Table 2-5 now reads "Bridges would span the active river channel of the Dolores River and would be designed to maintain the free-flowing conditions and allow for continued boating opportunities; in other words, bridge piers would not constructed in the active river channel." Further, Table 2-5 in the DEIS states "Timing of bridge construction would occur during low flow conditions" and Section 3.11.2.2, "Land Use and Management," states boating opportunities would not be affected.</p> <p>The bridge would span the active river channel and allow for continued boating opportunities; therefore, there would be no additional public hazards created beyond inherent hazards that presently exist for boating along the Dolores River.</p>
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.09	BOR must revise or supplement the DEIS to take a hard look at the following resources, which	Section 3.11.2, "Impacts on Land Acquisition and Land Use," and Section 3.13.2, "Impacts on Areas of Special

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						<p>are either omitted or inadequately analyzed in the DEIS: Impacts to scenic and aesthetic qualities of community and area. Paradox Valley is a rural, residential, and agricultural community. Building significant industrial infrastructure could harm these qualities, and depress already low property values. Impacts to economy and efforts at just transition. The West End of Montrose County is working to recover from the boom and bust cycles of the uranium mining era and still reeling from the job losses resulting from the closure of the Tri-State power plant and mine at Nucla. There have been significant efforts to reinvent the local economy around outdoor recreation. New trails have been built, and efforts are being made to promote existing resources like boating on the Dolores River or hiking in the WSA. The DEIS fails to analyze the effects that any of the alternatives would have</p>	<p>Designation," in the DEIS analyze effects of the alternatives on recreation uses and recreational experience in the project area. Section 3.16.2 in the DEIS, Impacts on Noise, analyzes long-term and short-term noise effects from the alternatives, and Section 3.12.2 in the DEIS, "Impacts on Visual Resources," analyzes impacts on scenery. Appendix K, Visual Resources Analysis Report, provides a detailed analysis of impacts on scenic qualities in the project area under each alternative.</p> <p>Information has been added to Section 3.15.1 of the FEIS, "Socioeconomics, Affected Environment," to describe the recreation economy in the project area. Analysis in Section 3.15.2 of the FEIS, "Impacts on Socioeconomics," has been updated to explain that the recreation economy may be adversely affected by impacts on the recreation experience, as described in Sections 3.11.2, "Impacts on Land Acquisition and Use," and 3.13.2, "Impacts on Areas of Special Designation," of the DEIS.</p>

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						on the economic revitalization efforts of the area.	
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.1	BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS: Impacts to wildlife. The DEIS acknowledges the impacts that Alternative B would have on potential Gunnison sage grouse habitat, however the DEIS incorrectly states that there is low public interest or no economic or recreational concerns in bighorn sheep species in the project area. On the contrary, the public and Colorado Parks and Wildlife have had significant interest in the health and recovery of the herd in the Dolores River canyons.	Table 3-11, "Terrestrial and aquatic wildlife focal species," in the EIS has been edited to include recreation and economic value and high public interest as additional rationale for including bighorn sheep as a focal species. Section 3.9.1.1, "Terrestrial Wildlife," Section 3.9.2.3, "Alternative B – Injection Well Impacts to Wildlife," Table 4-2, "Cumulative Impacts," and Appendix I, Biological Evaluation Report, in the DEIS specifically address desert bighorn sheep. With the incorporation of the revision to Table 3-11 noted above, the impacts are adequately analyzed and described in the EIS.
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.11	BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS: Impacts to existent or proposed management designations such as ACECs and	None of the alternatives in the EIS overlap designated Areas of Critical Environmental Concern (ACEC) identified in the BLM Uncompahgre Field Office Final EIS for the Resource Management Plan; therefore, ACECs were not included in the EIS analysis. Section 3.13, "Areas of Special

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						WSAs must be more thoroughly analyzed and considered.	Designation," of the DEIS includes analysis of WSAs.
264	Tuddenham	Karen	Executive Director	Sheep Mountain Alliance	264.12	<p>This raises the obvious question whether there is a straight-forward non-structural alternative to reduce brine discharge into the Dolores River simply by increasing freshwater flows in the river. The DEIS should discuss the viability of such an approach. The DEIS should also discuss and evaluate the efficacy of agricultural land management alternatives throughout the Colorado River Basin as compared with the selected alternatives for analysis. Mitigation projects in the Lower Gunnison or Grand Valley areas have significantly reduced salt loading, and application of these improved agricultural practices throughout the basin could be a far more efficient use of BOR resources.</p>	<p>Section 1.2, "Proposed Action," and Section 1.3, "Purpose of and Need for the Action," of the DEIS describe the collection and disposal of saline groundwater of Paradox Valley, which is authorized by Title II of the Colorado River Basin Salinity Control Act, Section 202(a)(1). Therefore, the geographic scope of analysis is appropriately limited to those areas that could achieve collection and disposal of saline groundwater of the Paradox Valley. Salinity control in the Paradox Valley would not preclude funding or implementation of other salinity control projects through the Basin wide and Basin States salinity control programs. Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table</p>

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							<p>states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose, need, or objectives. The result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated</p>

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							<p>brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.</p>
265	Perry	Cody	Director	Rig to Flip	265.01	Reducing the volume of an inter-basin diversion from the	Section 1.2, "Proposed Action," and Section 1.3, "Purpose of and Need for

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						<p>Dolores River to the San Juan Basin, and increasing the quantity of water released downstream, would supplement Reclamation’s action towards reducing salt loads in Paradox Valley. Reduced flows lead to higher concentrations of salinity in river systems, which has specifically compounded the salinity issue in the Dolores River. Since the construction of the Dolores Project, the magnitude, frequency, and duration of flushing flows have decreased by annual flows from 30% before McPhee to 69% after McPhee. 18 In many ways the Dolores River can be seen as a microcosm of the Colorado River, in the high-volume of trans- and intra-basin diversions, over-allocated water rights, intense natural variability, presence of Native Americans, and high-quality recreational opportunities.</p> <p>We understand releasing more water downstream to mitigate salinity is challenging in the over-allocated system, as</p>	<p>the Action," of the DEIS describe the collection and disposal of saline groundwater of Paradox Valley, which is authorized by Title II of the Colorado River Basin Salinity Control Act, Section 202(a)(1). Therefore, the geographic scope of analysis is appropriately limited to those areas that could achieve collection and disposal of saline groundwater of the Paradox Valley. Salinity control in the Paradox Valley would not preclude funding or implementation of other salinity control projects through the Basin wide and Basin States salinity control programs.</p> <p>Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other</p>

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						<p>currently, only 700 acre-feet a year is allocated specifically for the Paradox Valley Unit (PVU). However, Reclamation, as the primary owner and operator of the Dolores Project alongside the Dolores Water Conservancy District (DWCD), has a responsibility to manage the river downstream of McPhee Dam, as well as to the larger Colorado River. We suggest that the efficiency of water used by Dolores Project Full-Service Farmers and Montezuma Valley Irrigation Company (MVIC) be studied by the BOR in order to understand how private and federal water systems are functioning. Outcomes from such an exercise may lead to installation of more water-efficient delivery systems (particularly on outdated MVIC infrastructure) with “saved” water allocated downstream in a manner consistent with a more natural flow regime.</p>	<p>water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need.</p> <p>We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These references say that the result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would</p>

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							<p>simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.</p>

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265	Perry	Cody	Director	Rig to Flip	265.02	We do reiterate the importance of conducting a more in-depth EIS if Alternative D is chosen. Some aspects may need to be improved, however. Constructing solar panels at suitable locations in order to meet high energy requirements is suggested to mitigate any need to develop additional power lines. New natural gas pipelines should not cross the floodplain of the Dolores River in case a flood, leak or spill were ever to occur, in particular with the frequency of seismic activity in the region. Further, it is important that water being discharged into the Dolores River be filtered to an appropriate extent by current WOTUS (Waters of the United States) standards.	The action alternatives evaluated in this EIS have been developed to a conceptual (30%) level of design. Final design would be completed after a preferred alternative is identified as the preferred alternative in a ROD. Final design of Alternative D would take energy requirements, floodplains, and water quality standards into account. Additional site-specific documentation of NEPA compliance would be completed, and would be tiered to this EIS. No change needed.
266	Padgett	Lynn			266.01	The lack of defensible data demonstrating the effectiveness of the PVU makes it impossible for the public to determine whether the proposed project meets the purpose and need and justifies the tradeoffs of both the cost and permanent	Table 2-1, "Amount of salt intercepted by the PVU and estimated amount of salt continuing to enter the Dolores River from 1971 to 2018," of the DEIS shows the history of salt entering the Dolores River and the amounts of salt removed from the system by the PVU. The table shows significant reductions

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						degradation or destruction of the landscape, important wildlife habitat, visual resources, recreational opportunities, as well as whether the investment in these costly action alternatives, both to taxpayers as well as to the surrounding environment.	in salt entering the Dolores River when the PVU is in operation. The assumptions utilized in the analysis are outlined in Section 2.1.1, "Effect on Dolores River Salinity Levels," of the EIS. The best available information was used to develop information in the EIS regarding the effectiveness of salinity control in the Paradox Valley. The effectiveness, costs and impacts of the alternatives are adequately analyzed and discussed throughout the EIS such that no changes to the EIS are needed.
266	Padgett	Lynn			266.02	The DEIS fails to present a reasonable range of alternatives. Alternatives B1, B2, C, and D have environmental and other impacts that do not outweigh the limited benefits of the salinity control program at PVU to the Lower Colorado River Basin. The DEIS should have also included an alternative that analyzes the impacts of managing river flows below McPhee Dam in the Dolores River to reduce salinity and benefit native fish. It is possible that such an alternative could have similar estimated benefits to the four Lower	The DEIS provides a reasonable range of alternatives in conformance with Section 1502.14 of the CEQ regulations. The alternatives listed in the DEIS, including those alternatives considered but eliminated from further analysis as well as the analyzed action alternatives, consist of the practical and feasible options that would achieve the Purpose and Need of the project.  Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one

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						Colorado River Basin dam sites and less cost.	<p>relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose and need.</p> <p>We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. These state that the result of allowing more water to flow downstream is akin to a previous proposal of constructing a low-head dam in the river (also included in Table 2-7). Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various</p>

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							<p>aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition. Similarly, increased flows could temporarily</p>

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							suppress brine discharge; however, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river, and downstream salinity reduction would not be achieved.
266	Padgett	Lynn			266.03	The Dolores River Canyons WSA is a 30,119 acre area of slickrock canyons surrounding the Dolores River, recommended by the BLM to be designated wilderness by Congress. <sup>14</sup> The WSA and the “Slickrock Section” of the Dolores River through the WSA is a popular and sought after recreational resource when flows are sufficient to float the stretch. The WSA “includes all surface and subsurface features under the jurisdiction of the BLM [ <i>italics added for emphasis</i> ].” <sup>15</sup> The non-impairment standard requires a two part test for proposed actions. One is if the action is temporary and the second is does the action creates a surface disturbance. <sup>16</sup> Alternative B1 would be a permanent action within the WSA, even though it is	<p>The BLM's management policy for designated Wilderness Study Areas is to continue resource uses in a manner that maintains the area's suitability for preservation as wilderness. Policy states that wilderness characteristics in WSAs will be maintained, and all new, discretionary uses must meet the non-impairment standard. Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness.</p> <p>After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would</p>

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						subsurface, so it fails the non-impairment standard test.	decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.
266	Padgett	Lynn			266.04	However, although Manual 3360 does allow that "other obligations may be created by Congress," it is not plausible to read that Title II, Section 202(a)(1), of the Colorado River Basin Salinity Control Act would be a qualifying act of Congress because the Colorado River Basin Salinity Control Act never mentions, much less authorizes, activities specifically in a location that is now within the Dolores River Canyon WSA (the WSA did not exist in 1974). Because Congress was not specific in location or name, it does not create a congressionally-mandated exception, or valid existing right, that would satisfy the exception requirements to the non-impairment standard. And since	BLM policy states, "if an impairing proposed project, even one that meets an exception, can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that the project is implemented outside the WSA." Before selecting any alternative, Reclamation and BLM must take a hard look at the resource impacts of each and determine which action provides the greatest balance of minimizing resource impacts, while fulfilling the purpose and need.  Development under Alternative B-Area B1 may or may not compromise the area's suitability for future designation as wilderness. After further discussions with BLM, Section 3.13.2.2 under Wilderness and Wilderness Study Areas has been edited to state the directional

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						there is no current, existing use within the WSA and existing facilities only were established in 1996, it eliminates any exception for grandfathered uses prior to the 1976 effective designation date of the WSA.	injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This may not meet the BLM non-impairment standard that the use must be both temporary and not create surface disturbance. The BLM would decide whether to approve a ROW grant and, if so, under what terms and conditions. Congressional action may be necessary to clarify BLM's authority to grant a subsurface ROW through the WSA. Section ES 8.2 and Table 2-7 of the Final EIS have also been edited accordingly.
267	Shields	Tina	Manager, Water Division	Imperial Irrigation District		No substantive comments	N/A
268	McClure	James			268.01	The existing PVU facilities, consisting primarily of a group of brine-collection wells spread along the river corridor in the valley and a deep-earth injection well in the upstream canyon, were conceived and implemented on the basis of early geomorphic and hydrological studies such as those of Cater and Konikow, et	Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2017; USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the Paradox Valley Unit (PVU). USGS (2017) developed regression models relating specific conductance to total dissolved solids (TDS) concentrations, and the results were used to estimate salt loads

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						<p>al, ( Refs 1 and 2). Despite major advances in understanding the relevant hydrology, which is far more complex than initially envisioned, the action-alternatives in the DEIS fail to consider other brine-suppression approaches, focusing only on various means to process and/or dispose of large volumes of extracted brine.</p>	<p>for two sites on the Dolores River in the Paradox Valley. Net salt gain through the Paradox Valley was estimated as TDS load at the downstream site minus the TDS load at the upstream site (USGS 2017). The mean annual salt gain was about 137,900 ton per year prior to the operation of the PVU (1980-1993) and about 43,300 tons per year after the PVU began operation (1997-2015), which represents an average load reduction of 94,600 tons per year, a nearly 70 percent reduction in salt load to the river (USGS 2017). USGS (2019) conducted surface geophysical surveys and monitored water levels in selected ponds and wells in the vicinity of the PVU in 2017-2018 to better characterize near-surface processes controlling spatial and temporal variations in brine discharge to the Dolores River. A conceptual model of brine discharge to the river is presented at three scales. At a regional scale, groundwater derived from recharge at higher altitudes in the valley, including the La Sal Mountains, drives dissolution of salt in the Paradox Formation and flow of brine into the alluvial aquifer (USGS 2019). At an intermediate scale, surface-water-groundwater interactions at the scale of</p>

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							<p>the alluvial aquifer control seasonal and interannual brine discharge to the river (USGS 2019). At the finest scale, diurnal fluctuations in river stage appear to drive exchange of fresh river water with saltier groundwater in the hyporheic zone increasing brine discharge to the river during the winter (USGS 2019). Geophysical results from this study indicate a zone of brine-rich groundwater close to the riverbed along an approximately 4-kilometer reach of the river under low-flow (winter) conditions (USGS 2019). Under high-flow (spring-snowmelt runoff) conditions, the brine was suppressed as much as two meters below the riverbed and brine discharge to the river was temporarily reduced to a minimum along the entire river reach (USGS 2019). A June 2019 presentation to the Salinity Control Forum provides an overview of U.S. Geological Survey (USGS) activities at the PVU including groundwater-age dating conducted in 2011 and development of a density-dependent groundwater-flow and solute-transport model for the Paradox Valley (Reclamation 2019). These studies support conclusions that brine discharge to the Dolores River is</p>

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							<p>naturally occurring and is sourced from an essentially infinite supply of salt in the subsurface. The current PVU system of pumping and disposing of brine is effectively reducing salt concentrations in the Dolores River, and while actions and studies have been considered that could potentially optimize PVU pumping for more efficient brine capture, the objective of the DEIS is to evaluate alternatives for disposal of the extracted brine. Section 2.1.1, "Effect on Dolores River Salinity Levels," of the DEIS states further research from USGS would guide design features or operational changes needed to optimize future pumping rates at the PVU.</p>
268	McClure	James			268.02	<p>The proposed brine-extraction rates for the various action options in the DEIS vary from 200-300 gallons/minute (0.45-0.67 cfs). Although these are seemingly modest instantaneous flow rates, the corresponding annual volume of brine is 14,191, 200 to 21,129,120 cu-ft/yr (326-485 acre-ft/yr). These large volumes of brine to be processed, or otherwise disposed of, underlie</p>	<p>Chapter 3 of the DEIS discusses the environmental impacts of the alternatives, and Section 2.7, "Costs of Alternatives, Risks, and Funding Mechanisms," discusses costs. The impacts are adequately described in the DEIS such that no change to the EIS needs to be made.</p>

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						the major costs, risks, and/or environmental hazards associated with the DEIS-proposed options.	
268	McClure	James			268.03	<p>...[K]nowledge of key factors governing the subsurface-brine configurations and flows is still missing. ... Suggested research methods to address these and related issues are as follows: (i.) Continue data collection at the Bedrock/near Bedrock stations to determine whether the overall declines in annual streamflow and salt load, noted above for the 1997-2018 period, have continued to persist after termination of brine collection/removal through 2019 to the present. Such decreases have the potential to greatly reduce the scale of any required extraction facilities. (ii.) Extend subsurface conductivity mapping as described in Ref 6 to establish variation of conductivities at depth in transects both transverse to and along the river corridor for both low- and high-flow conditions. Such measurements are</p>	<p>The suggested studies may help to better define subsurface brine configurations and flow in the Paradox Valley. However, it is uncertain as to whether the suggested studies would result in an improved understanding of subsurface brine configurations and flows in the Paradox Valley that could inform a more-optimized brine collection system and action alternative. Because of this uncertainty, it is not feasible to put the EIS on hold while additional data are gathered.</p> <p>The best available scientific information is utilized in the EIS in determining feasible alternatives and analyzing resources. The lack of a precise understanding of subsurface brine configurations and flows in the Paradox Valley affects each action alternative equally, as each action alternative would utilize the same infrastructure to collect the brine. Therefore, a precise understanding of subsurface brine configurations and flows in the Paradox Valley is not essential to a reasoned</p>

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						<p>essential to establish the degree of change since 2017 and to better define brine configurations and concentrations along the river corridor. (iii.) Extend aerial resistivity mapping, described in Ref 7, in both upland and lowland transects to define locations, configurations, and relative concentrations of salty aquifers or pooled brine as they may contribute to salt uptake in the river. (iv.) Install pressure probes to depths of 20-50 meters located on transects transverse and along the river corridor to measure hydrostatic-pressure fields that could serve to define fresh-water and brine flow fields , and/or to ground-truth flow modeling, beneath the river and in the river corridor. Locations of such measurements should be coordinated with mapping results above to better establish spatial conditions where major brine flows might be expected. The measurements should also be coordinated with streamflow</p>	<p>choice among alternatives.</p> <p>Under any action alternative, ongoing and future USGS studies could provide information to optimize the timing and location of brine collection so as to minimize the pumped volume of water while effectively reducing brine discharge to the river. Section 2.1.1, "Effect on Dolores River Salinity Levels," of the DEIS states further research from USGS would guide design features or operational changes needed to optimize future pumping rates at the PVU.</p>

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						<p>variations. ... Although mapping sub-surface hydrostatic pressures described above would be informative for determining expected brine-flow characteristics, extremely low flow velocities may be better defined using dye markers, see alternative vii. below. (v.) Conduct subsurface-pressure measurements (see vii below) along selected uplands transects in conjunction with mapping results above to quantify possible salty aquifer flows, whether shallow and directed downslope toward the river or in more vertical configurations resulting in deep brine infiltration. (vi.) Conduct subsurface-pressure measurements (see vii below) located around existing brine collection wells, both under active pumping and quiescent conditions to define whether existing wells are optimally located relative to brine flow fields or expected brine-transport paths. (vii.) Consider subsurface dye-tracer injection</p>	

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						and monitoring as alternative or adjunct to suggested pressure measurements in iv-vi above for brine flow-field definition.	
268	McClure	James			268.04	<p>Sufficient increase in fresh-water depths and hydrostatic pressure at the river bed maintained throughout the Paradox Valley, as induced by increased streamflow and/or gauge height, if sustained without large fluctuations over time has the clear potential to reduce or exclude associated salt gain. Several possibilities to achieve these conditions include:</p> <ul style="list-style-type: none"> <li>i. Management of flow releases at the McFee dam to maintain higher streamflow with reduced temporal fluctuations, this subject to the magnitude of upstream flows in the undammed river.</li> <li>ii. Provide financial incentives to area water users to support reduction of the extensive water diversions from the McFee Reservoir or the lower river.</li> <li>iii. Provide a dam, or a series of smaller check dams (weirs), in</li> </ul>	<p>Recharge to the Paradox Valley from the surrounding uplands is diffuse meaning that precipitation falling on the land surface infiltrates to the subsurface in diffuse patterns rather than at discrete locations (such as a sinkhole for example). Previous groundwater-age and isotopic-tracer data were collected from wells along the approximate axis of the Paradox Valley from northwest to southeast (Bureau of Reclamation, 2019). Results from this effort indicate that recharge from upland areas takes about 60 years to travel to wells in the northwestern end of the Paradox Valley (Bureau of Reclamation, 2019). Some samples were identified as mixtures of modern and old waters. Modern (present day) groundwater is found near West Paradox Creek and the Dolores River, where the aquifer is influenced by surface water. On the basis of carbon-14 groundwater dating, the oldest brine groundwater age is estimated in the range of 7,600 to 8,100 years (Bureau of Reclamation, 2019). These</p>

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						<p>the Paradox Valley reach of the river to maintain increased and less-variable hydrostatic-pressures levels, thus reducing effects of variations in streamflow. Although this approach would be limited to development in Paradox Valley and avoids destructive development in critical natural areas in the Dolores River Canyon and/or the mesas above, adverse impacts on river values might well be of concern. Mitigation via weir design could accommodate fish bypass and passage of recreational boaters.</p>	<p>groundwater-age dating results indicate that even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine discharge to dissipate. Therefore, the hydraulic gradient would continue to drive brine creation and the brine would accumulate at the relief point in the valley, which is the Dolores River. (i. &amp; ii.) Table 2-7 in the DEIS, "Summary of Other Alternatives Considered and Reason for Elimination," lists those alternatives that were considered but eliminated from further consideration. Some of these alternatives mention increasing flows in the Dolores: one relates to changing farming and irrigation practices to allow more water to flow in the Dolores, and the other considers increasing releases from the McPhee Reservoir. The table states that these alternatives were eliminated because diluting the brine by increasing Dolores River flows or changing other water management approaches would not result in a salinity reduction; therefore, this alternative does not meet the purpose, need, or objectives. Also, a more consistent, higher gage height streamflow would be similar to the low</p>

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							<p>head dam proposal (iii) below with similar expected results. (iii.) We have added two references (USGS 2019; Reclamation 2019) and additional explanation to Table 2-7. Previous reviews of PVU investigations and operations have suggested that a low-head dam at the downstream end of the Paradox Valley could perhaps suppress brine inflow to the Dolores River as was observed for the temporary high-flow conditions by USGS (2019). A density-dependent groundwater-flow and solute-transport model has been developed for the Paradox Valley to evaluate various aspects of the PVU and the hydrogeology of the Paradox Valley, and a hypothetical low-head dam scenario was considered using the groundwater model (Reclamation 2019). On the basis of modeling results, the presence of a low-head dam would simply redistribute brine discharge to the Dolores River. While simulated brine discharge was suppressed upstream of the hypothetical low-head dam, simulated brine discharge increased downstream of the hypothetical low-head dam. In addition, because of the increased river stage, the freshwater lens adjacent to the river also would</p>

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							<p>thicken, which in turn would cause increased evapotranspiration from the water table and increased salt deposition in the vadose zone. The simulated accumulations of salt could then be leached back to the river during precipitation events. These results indicate that while a low-head dam could suppress brine discharge to upstream parts of the river, brine discharge would eventually be redistributed to the alluvial aquifer and downstream parts of the river in a new steady-state condition.</p>
268	McClure	James			268.05	<p>i. Guided by subsurface concentration mapping (II-1 iii above), provide facilities for management of precipitation-induced surface water, including water-transport features to reduce groundwater infiltration and/or production of saline brine in upper valley locations. Collected fresh water might be provided to local users, released directly into the river, or into fresh-water streams.</p> <p>ii. As in II-2 ii. above, provide financial incentives to local water users to reduce uses that</p>	<p>(i) Recharge to the Paradox Valley from the surrounding uplands is diffuse, meaning that precipitation falling on the land surface infiltrates to the subsurface in diffuse patterns rather than at discrete locations (such as a sinkhole for example). There are no known areas of discrete upland recharge and to capture diffuse recharge before it enters the regional groundwater system is essentially impossible from engineering, land ownership, and water-rights perspectives. Previous groundwater-age and isotopic-tracer data were collected from wells along the approximate axis of the Paradox Valley from northwest to</p>

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						underlie infiltration into salty aquifers.	<p>southeast (Reclamation 2019). Results from this effort indicate that recharge from upland areas takes about 60 years to travel to wells in the northwestern end of the Paradox Valley (Reclamation 2019). Some samples were identified as mixtures of modern and old waters. Modern (present day) groundwater is found near West Paradox Creek and the Dolores River, where the aquifer is influenced by surface water. On the basis of carbon-14 groundwater dating, the oldest brine groundwater age is estimated in the range of 7,600 to 8,100 years (Reclamation 2019). These groundwater-age dating results indicate that even if recharge could be intercepted and prevented from entering the system, it could take hundreds of years for the current brine discharge to dissipate. This proposal has been added to Table 2-7, "Summary of other alternatives considered and reason for elimination," of the FEIS along with rationale for why it is not considered in detail.</p> <p>(ii) While there are other programs that provide financial incentives to water users, those are not relevant to the purpose of and need for this EIS.</p>

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268	McClure	James			268.06	<p>Although flow-management options above have the potential to greatly reduce the large volumes of extracted brine proposed in the DEIS, continued use of collection/extraction wells and pumps may be required to reduce salt loads to acceptable values. Existing subsurface mapping reported in Refs 6 and 7, along with extended mapping and hydrostatic measurements described in II-1 above, can provide data for optimized location and design of collection-well arrays to most effectively extract salty brine, minimizing any unnecessary extracted brine-volume due to fresh-water dilution, or to larger-than-necessary suppression of brine levels below the river bed.</p>	<p>The suggested studies may help to better define subsurface brine configurations and flow in the Paradox Valley. However, it is uncertain as to whether the suggested studies would result in an improved understanding of subsurface brine configurations and flows in the Paradox Valley that could inform a more-optimized brine collection system and action alternative. Because of this uncertainty, it is not feasible to put the EIS on hold while additional data are gathered. The best available scientific information is utilized in the EIS in determining feasible alternatives and analyzing resources. The lack of a precise understanding of subsurface brine configurations and flows in the Paradox Valley affects each action alternative equally, as each action alternative would utilize the same infrastructure to collect the brine. Therefore, a precise understanding of subsurface brine configurations and flows in the Paradox Valley is not essential to a reasoned choice among alternatives. Under any action alternative, ongoing and future USGS studies could provide information to optimize the timing and location of brine collection so as to minimize the</p>

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							pumped volume of water while effectively reducing brine discharge to the river. Section 2.1.1, "Effect on Dolores River Salinity Levels," of the DEIS states further research from USGS would guide design features or operational changes needed to optimize future pumping rates at the PVU.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.01	The risk of an unsuccessful well is very high for this alternative. Even though best practices would be used for drilling and completing a deep injection well, it is not uncommon for a borehole to intersect a lower permeability zone than originally thought, which may require that the borehole be sidetracked, converted to a directional borehole, or plugged and abandoned, and a new borehole drilled. Any issue with drilling and completion could easily increase the budget by millions of dollars. There are many risks to drilling deep wells, such as caving formations, poor cement jobs requiring the casing to be perforated and cement squeezed into the	Risks to costs for the alternatives are identified in Section 2.7.2, "Risks to Cost." The "Paradox Valley Unit 2nd Well Design" report (Petrotek 2018) is referenced in the EIS and contains much greater detail on the risks and assumptions associated with Alternative B, as well as how the cost estimates were developed to account for those risks. The Petrotek study is referenced in section 3.2.2.2.

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						<p>borehole-casing annulus, failed well MIT, twisted-off and lost direction drill strings, etc. IPM feels the EIS does not adequately address these risks. The costs shown in the EIS Appendix L - Socioeconomic Analysis indicates the entire construction costs as \$16,051,539 for Option B1 or \$25,715,476 for Option B2. If the first borehole failed and a new location was chosen, an additional \$12,000,000 to \$15,000,000 would be required. In summary, the costs for Alternative B are difficult to estimate because of the high amount of risk due to processing and interpreting 3D seismic data, problems associated with drilling and completing deep wells, and not knowing what the permeability and porosity of the injection zone will really be.</p>	
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.02	<p>Alternative C is the best alternative for controlling salinity and protecting water resources in an economically sound manner. However, there</p>	<p>First bullet - The "Final Feasibility and Cost Analysis Findings and Recommendation Report" (Amec 2017d) is referenced in Section 2.5.3.1 of the EIS and contains an analysis of</p>

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						<p>were several shortcomings in the analysis of this alternative.... Those shortcomings include: • The EIS discussion does not adequately highlight the potential economics of the commodity. The EIS is focused primarily on landfilling rather than removal of salt for sale. IPM's experience is that most or all the salt and bitterns can be sold or constructively used without having to landfill the salt. ... • Table 2-7 provides a flawed conclusion that artificially impacts the selection of Alternative C. Private companies such as Intrepid would be interested in collaborating with BoR ... The concern was artificially narrowly focused on the impacts to the Colorado River. ... Regardless of where the salt is sold, states and municipalities will continue to use salt mined from other sources to supply their needs if the salt from the PVU is landfilled instead of marketed; • IPM was not contacted for information, discussion, or</p>	<p>the potential marketability of the byproducts. Reclamation has no influence over the private market or associated demand and must allow for continued operations regardless of these influences. Also, Reclamation must analyze the overall market and cannot base the analysis on one vendor leading to a single-source scenario. Therefore, it was determined landfilling the byproduct was the best option for Reclamation to evaluate. However, Section 2.5.3.1 states that additional NEPA analysis would be completed if, in the future, marketing the bittern or other salt produced at the evaporation ponds was determined to be beneficial to consumers. The additional NEPA analysis would need to cover the additional impacts such as traffic, emissions, road damage, costs, etc. relating to the transport of the product. If marketing of the byproducts is pursued, it would be through the federal contracting process in accordance with the Federal Acquisition Regulations. Second bullet - The alternative cited in Table 2-7, "Summary of other alternatives considered and reason for elimination," concerned a company proposing to haul the brine</p>

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						<p>assistance during the preparation of the EIS and supporting documents, while numerous companies that are more distant from the site, are less experienced, and lack the expertise to operate solar ponds were used to support this alternative. Since Intrepid is one of the nation's largest operator of solar ponds, with locations in multiple areas including one 86.5 miles from the project, our critical expertise should have been sought...; • Alternative C fails to consider constructing the evaporation ponds in a phased approach. Evaporation ponds are often constructed in phases, which reduces initial construction costs and reduces or mitigates other potential impacts such as dust and traffic. ... IPM learned from this effort that a protective layer of salt can be created with brine alone and that laying down a layer of solid salt was not necessary. This would have further reduced the actual cost of pond construction ...; • The 30-percent</p>	<p>from the Surface Treatment Facility (STF) to alternate locations for use as a dust suppressant. However, the company was unable to provide sufficient information to verify the viability of the proposal. See Section 2.5.3.1, "Evaporation Pond Operation and Salt Harvest," for future marketing considerations. Third bullet - Reclamation is not required to contact any particular vendor regarding projects, and assistance was obtained through a competitive public process which Intrepid had the opportunity to bid on. In addition, Reclamation did contact Intrepid in December 2014 when a Request for Information was released by Reclamation, at which time the email response to Reclamation was: "Thanks for contacting us regarding the brine injection unit being operated near Bedrock, CO earlier this month. Just wanted to follow up and let you know we looked at the available documentation on the project and determined it does not fit within our core business operations. As a result, we will not be submitting a statement of interest. Good luck with the project and thanks again for thinking about Intrepid." (K. Ryan, Director of Technical</p>

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						<p>design preparation for the EIS fails because the conceptual design is fundamentally flawed. The EIS assumes 100% of the salt precipitated is landfilled, which minimizes harvesting the commodity, and arbitrarily restricts commodity sales to a single product (road salt) in a limited regional market... IPM sells multiple salt products to many industries (road and deicing salts, animal feed, oil and gas, metals smelting and recycling, water softeners, etc.) across the nation. Currently, IPM's annual sales of salt exceed 100,000-tons nationwide and IPM does not maximize production to meet requests for additional product. Historically, IPM has sold as much as 400,000-tons of salt annually. The positive benefits of the solar pond alternative in the EIS are therefore substantially reduced...; • IPM believes that salt produced from the PVU project will meet IPM current sales specifications.</p>	<p>Services, Intrepid Potash, Inc.). Fourth bullet - Construction in phases would not reduce costs, the costs would just be spread out over time. Phased construction generally increases costs due to extra efforts required to complete the same level of construction, including repeated contracting efforts, mobilization/demobilization costs, installation and removal of erosion control, opening/closing of staging areas, etc. Similarly, the impacts caused by phasing construction of the project would also be the same or possibly greater over time. However, phasing of the alternatives could be evaluated further after a ROD is issued. The costs identified in this EIS were developed based upon site-specific construction estimates. Utilizing the brine to develop the protective layer over a period of time was identified in the "Final Pond Operation Strategy Report" (Amec 2017a), which is referenced in Sections 2.5.2.1, "Evaporation Pond System," and 2.5.3.2, "Landfill" of the EIS. Fifth bullet - See the response to the first bullet regarding marketability of the salt and the analysis of placing the salt in a landfill. Sixth bullet - This was also the</p>

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							conclusion identified in the "Final Feasibility and Cost Analysis Findings and Recommendation Report" (Amec 2017d).
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.03	<p>Based on IPM's actual experience of building, operating, and maintaining solar ponds, the overall cost of Option C - Solar Ponds is significantly overestimated and the proposed operation is inefficient and contains unnecessary steps. Some of IPM's preliminary findings include:</p> <ul style="list-style-type: none"> <li>• The proposed 364-acres of ponds (concentration, crystallizer, and bittern) is greatly overestimated and can be reduced by approximately 40 to 50-percent to approximately 230-acres of ponds. A 40-percent reduction in pond size would produce a commensurate reduction in pond construction and operation costs, further supporting Alternative C as the most desirable option .</li> <li>• The pond operational strategy is incorrect. A preconcentration pond is unnecessary and adds</li> </ul>	<p>It is acknowledged there are various design strategies for the evaporation pond complex. The proposed design evaluated in this EIS was developed by a private industry contractor (Amec Foster Wheeler Environment &amp; Infrastructure, Inc.) with experience in salt modeling and evaporation pond design. The assumptions and findings of the design, developed in coordination with Reclamation to meet the project needs, are outlined in the 4 reports produced (Amec 2017a, Amec 2017b, Amec 2017c, and Amec 2017d) and referenced in the EIS in Section 2.5, "Alternative C—Evaporation Ponds."</p> <p>230 acres divided by 364 acres equals 63%, or a 37% reduction in pond size, and is less than the 40% to 50% cited in the comment. Further, see the response to comment 269.12 regarding the need for a surge pond. A reduction in pond sizing would have an effect on the construction costs, although not a direct relation to the percentage of costs because the construction costs also</p>

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						<p>to the processing cost. Brine should be added directly to the solar ponds as Intrepid does at its Moab and Carlsbad operations. The EIS analysis does not account for solubility curve dependence on temperature, which can cause salts to precipitate and fill the concentrator pond with solids.</p> <ul style="list-style-type: none"> <li>• The EIS suggests adding water to move brine out of the concentration ponds. This counteracts the goal of maximizing evaporation and decreasing operating costs. Adding water requires additional labor and energy costs, wastes scarce high-quality groundwater resources, introduces a source of error and inefficiency into the process, and increases the volume of brine that must be evaporated.</li> </ul>	<p>include ancillary facilities. This reduction in evaporation complex size would result in minimal reductions in O&amp;M costs. 55% of the O&amp;M costs are for the hydrogen sulfide treatment system and 22% are for harvesting the salt and placing it in the landfill. The site is proposed to have minimal operators and for safety reasons they could not be reduced further. Most of the utilities are consumed in transferring the brine from the STF to the proposed site, so it is anticipated the minimal savings in on-site utilities would be difficult to recognize.</p> <p>Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. If Alternative C is identified as the preferred alternative in the ROD, Reclamation would undertake the final design and operational strategy of the evaporation pond complex; other design features could be considered at that time.</p> <p>Section 4.6 of the Final Pond Operation Strategy Report (Amec 2017a) discusses the need for freshwater in the brine</p>

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							transfer process. That report states a small amount of freshwater injected into the brine stream prevents pumps, pipes, and ditches from becoming plugged by precipitated salt. This recommendation is 5 - 10 gpm of freshwater in a 5,000 gpm brine transfer, or approximately 0.1% to 0.2% of the flow rate, which should be quickly evaporated upon completion of the brine transfer. If this freshwater is determined to not be needed for actual transfer operations then it could be discontinued.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.04	One flaw in the study is the exclusion of the option of selling bagged material. However, IPM owns and operates all the equipment necessary to manufacture, dry, bag, warehouse, distribute, and sell the salt for various product lines. When these options are included, the net cost of Alternative C is significantly reduced.	The "Final Feasibility and Cost Analysis Findings and Recommendation Report" (Amec 2017d) is referenced in Section 2.5.3.1, "Evaporation Pond Operation and Salt Harvest," of the EIS and contains an analysis of the potential marketability of the byproducts. Reclamation has no influence over the private market or associated demand and must allow for continued operations regardless of these influences. Also, Reclamation must analyze the overall market and cannot base the analysis on one vendor leading to a single-source scenario. Therefore, it was determined landfilling the byproduct was the best option for Reclamation to evaluate. However,

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							Section 2.5.3.1 states that additional NEPA analysis would be completed if, in the future, marketing the bittern or other salt produced at the evaporation ponds was determined to be beneficial to consumers. The additional NEPA analysis would need to cover the additional impacts such as traffic, emissions, road damage, costs, etc. relating to the transport of the product. If marketing of the byproducts is pursued, it would be through the federal contracting process in accordance with the Federal Acquisition Regulations.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.05	A pilot pond series recommended in the EIS is not necessary. IPM's solar ponds, less than 50 miles away, serve as a pilot project. The removal of this step will further reduce construction timeline and overall projected costs of Alternative C. The brines from the PVU project site are relatively simple compared the wide range of brine chemistry Intrepid manages at its other locations in Carlsbad and Wendover. IPM's extensive knowledge of brine chemistry	The pilot ponds would be required to provide site specific evaporation pond data as well as an opportunity to test other processes. More specifically, the Hydrogen Sulfide Treatment System is based upon bench tests and should be pilot tested before full design and construction (Amec 2017c). Also, other enhanced evaporation methods have been proposed during this EIS comment period which may need to be vetted. Therefore, pilot ponds would still be needed.

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						allows us to predict how the system will operate with a high degree of confidence. The Moab plant has extensive laboratory equipment and can manage brine and solids analysis daily with existing equipment and employees.	
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.06	<p>The primary issues with the recommendations include the following, which when addressed will greatly reduce the cost of operation and salt utilization discussed for Alternative C:</p> <ul style="list-style-type: none"> <li>• Pilot ponds are not required.</li> <li>• Concentration ponds are not required.</li> <li>• There are more viable salt products than just road salt. As stated previously in these comments IPM sells salt for animal feed, smelting, and the oil and gas drilling operations.</li> <li>• IPM sells and ships salt products nationwide from its Moab facility.</li> <li>• IPM was not contacted during the development of the EIS.</li> <li>• Periodic removal of the salt for disposal is not realistic. The total</li> </ul>	<p>First bullet - The pilot ponds would be required to provide site specific evaporation pond data as well as an opportunity to test other processes. More specifically, the Hydrogen Sulfide Treatment System is based upon bench tests and should be pilot tested before full design and construction (Amec 2017c). Also, other enhanced evaporation methods have been proposed during this EIS comment period which may need to be vetted. Therefore, pilot ponds would still be needed.</p> <p>Second bullet - 230 acres divided by 364 acres equals 63%, or a 37% reduction in pond size, and is less than the 40% to 50% cited in the comment. Further, see the response to comment 269.12 regarding the need for a surge pond. A reduction in pond sizing would have an effect on the construction costs, although not a direct relation to the</p>

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						<p>volume of salt produced could be sold. All costs associated with landfilling including design, permitting, transportation, and disposal should be eliminated from the economic analysis.</p>	<p>percentage of costs because the construction costs also include ancillary facilities. This reduction in evaporation complex size would result in minimal reductions in O&amp;M costs. 55% of the O&amp;M costs are for the hydrogen sulfide treatment system and 22% are for harvesting the salt and placing it in the landfill. The site is proposed to have minimal operators and for safety reasons they could not be reduced further. Most of the utilities are consumed in transferring the brine from the STF to the proposed site, so it is anticipated the minimal savings in on-site utilities would be difficult to recognize.</p> <p>Third, fourth, and sixth bullets - The "Final Feasibility and Cost Analysis Findings and Recommendation Report" (Amec 2017d) is referenced in Section 2.5.3.1, "Evaporation Pond Operation and Salt Harvest" of the EIS and contains an analysis of the potential marketability of the byproducts. Reclamation has no influence over the private market or associated demand and must allow for continued operations regardless of these influences. Also, Reclamation must analyze the overall market and cannot</p>

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							<p>base the analysis on one vendor leading to a single-source scenario. Therefore, it was determined landfilling the byproduct was the best option for Reclamation to evaluate. However, Section 2.5.3.1 states that additional NEPA analysis would be completed if, in the future, marketing the bittern or other salt produced at the evaporation ponds was determined to be beneficial to consumers. The additional NEPA analysis would need to cover the additional impacts such as traffic, emissions, road damage, costs, etc. relating to the transport of the product. If marketing of the byproducts is pursued, it would be through the federal contracting process in accordance with the Federal Acquisition Regulations.</p> <p>Fifth bullet - Reclamation is not required to contact any particular vendor regarding projects, and assistance was obtained through a competitive public process which Intrepid had the opportunity to bid on. In addition, Reclamation did contact Intrepid in December 2014 when a Request for Information was released by Reclamation, at which time the email response to Reclamation was: "Thanks</p>

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							for contacting us regarding the brine injection unit being operated near Bedrock, CO earlier this month. Just wanted to follow up and let you know we looked at the available documentation on the project and determined it does not fit within our core business operations. As a result, we will not be submitting a statement of interest. Good luck with the project and thanks again for thinking about Intrepid." (K. Ryan, Director of Technical Services, Intrepid Potash, Inc.)
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.07	Some parameters used in the model provided in Appendix D, are inaccurate and lead to higher pond construction and operation costs. • The bulk density for salt is listed in Appendix C is listed as 75-pounds per cubic foot. However, in the Excel™ model, a value of 70 was used. The model should be consistent with the 75-pounds per cubic foot. • The pond efficiency estimates are grossly inaccurate. We believe higher rates of evaporation will be achieved than those estimated in the EIS model.	The information cited in the comment are related to the Final Feasibility and Cost Analysis Findings and Recommendations Report (Amec 2017d). The 75 pounds per cubic foot cited in Appendix C of this Report is identified as the typical density required for bulk deicing salt. The table with this information also states the typical range is from 71-79 pounds per cubic foot. As stated in Section 10.1 of the Report, salt in its undisturbed state has a bulk density of about 90 pounds per cubic foot, but once disturbed the bulk density can be as low as 70 pounds per cubic foot. To be conservative, the lower bulk density value was used, which is 70 pounds per cubic foot. It is

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							<p>acknowledged there are various design strategies for the evaporation pond complex. The proposed design evaluated in this EIS was developed by a private industry contractor (Amec Foster Wheeler Environment &amp; Infrastructure, Inc.) with experience in salt modeling and evaporation pond design. The assumptions and findings of the design, developed in coordination with Reclamation to meet the project needs, are outlined in the 4 reports produced (Amec 2017a, Amec 2017b, Amec 2017c, and Amec 2017d) and referenced in the EIS in Section 2.5, "Alternative C—Evaporation Ponds." Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. If Alternative C is identified as the preferred alternative in the ROD, Reclamation would undertake the final design and operational strategy of the evaporation pond complex; other design features could be considered at that time.</p>
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.08	The EIS report initially states the precipitation amount as 16-inches a year, which is assuming a high precipitation year. IPM	It is acknowledged there are various design strategies for the evaporation pond complex. The proposed design evaluated in this EIS was developed by a

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						<p>has reviewed the US Climate Data for both Bedrock, Colorado and Moab, Utah. According to the data provided in the analysis, the average annual precipitation in Bedrock is 13.33-inches per year. According to the same source Moab has an average annual precipitation of 9.49-inches per year. IPM has an onsite weather station that records precipitation. IPM experiences even less precipitation than what is recorded in Moab.</p> <p>...</p> <ul style="list-style-type: none"> <li>• According to the data collected by AFW, the rescaling of the long-term median at Yellow Jacket station to an empirical correction, yields a model with Bedrock median cumulative precipitation of 13.2-inches with an inter-annual standard deviation of 2.8-inches for 2014 to 2016.</li> <li>• A maximum precipitation of 16-inches was used for modeling (Figure D4 in Appendix D)s. IPM assumed a</li> </ul>	<p>private industry contractor (Amec Foster Wheeler Environment &amp; Infrastructure, Inc.) with experience in salt modeling and evaporation pond design. The assumptions and findings of the design, developed in coordination with Reclamation to meet the project needs, are outlined in the 4 reports produced (Amec 2017a, Amec 2017b, Amec 2017c, and Amec 2017d) and referenced in the EIS in Section 2.5, "Alternative C—Evaporation Ponds."</p> <p>Due to the complexity, significant differences, and costs associated with design of the alternatives, they have only been designed to a 30%, or conceptual, level. If Alternative C is identified as the preferred alternative in the ROD, Reclamation would undertake the final design and operational strategy of the evaporation pond complex; other design features could be considered at that time.</p>

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						<p>maximum precipitation of 17.85-inches and an average precipitation of 13.3-inches to account for the worst-case scenario of higher than anticipated precipitation for its analysis.</p> <ul style="list-style-type: none"> <li>• IPM's design and operation experience has demonstrated that high precipitation years can be accommodated with deeper ponds, while the AFW evaluation assumes excess precipitation must be accommodated with more surface area.</li> </ul>	
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.09	<p>There were discrepancies regarding chemical concentrations in the AFW report. In the report, Appendix A5 listed concentrations in ppm and Appendix D5 listed concentrations in g/L. Comparing brine densities to historical brine data from our location, it was determined that the reported units in both Appendix A 5 and D 5 are incorrect and should be mg/L. IPM used PHREEQC Version 3, a U.S. Geological Survey</p>	<p>There was a typo in the units shown in Appendix D of the Amec 2017d report. The correct units for the salt model spreadsheet should have been kg/L, instead of g/L. However, this is a simple typo, and the numbers are correct but the units were displayed incorrectly and have been noted in the file. No change to the numbers are needed.</p> <p>The units ppm and mg/L are synonymous; therefore, the units used in both Appendices A5 and D5 are correct.</p>

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						computer program for speciation, reaction-path, advective transport, and inverse geochemical calculations to evaluate PVU brine chemistry and compare it to IPM brine chemistry. PHREEQC analysis supports this conclusion. Due to the conflicting data in the AFW report, we suggest the chemistry of the initial brine be determined again.	The brine chemistry reported in the Amec reports for Alternative C were found to be essentially the same as the brine chemistry reported in the SaltWorks reports for Alternative D; therefore, the accuracy of the brine chemistry has already been verified and there is no need for another brine chemistry analysis.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.10	Assuming the Bedrock crystallizer ponds need to evaporate 93.7% of the brine, the Bedrock location will need an annual evaporation of 147.8 million gallons. The Bedrock evaporation volume is roughly 35.4% of that of IPM. The annual Net evaporation at the IPM facility is about 43-inches. per year. The annual net evaporation for Bedrock, CO was 17.1-inches. (30.4-inches of evaporation minus 13.3-inches of precipitation). Based on these data, in order to have an average annual depth of 22 to 30-inches in the crystallizer	The assumption of 13.3 inches of precipitation was placed in the model created by Amec and new pond sizes were calculated. This was done to provide a comparison of models for the strategy of allowing additional precipitation to be contained in the crystallizers on wet years. Comparing these results with the original sizes which were based on 16 inches of precipitation accounts for a 50 acre, or 17% reduction in crystallizer pond size. This is about half of the reduction or savings in pond sizing stated in this comment. Reclamation provided input on the assumptions utilized in the Amec reports, therefore this is not recognized as a savings in pond sizing.

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<b>Letter #</b>	<b>Last Name</b>	<b>First Name</b>	<b>Title</b>	<b>Office/ Organization Name</b>	<b>Comment #</b>	<b>Comment</b>	<b>RESPONSE</b>
						ponds, this method predicts 188 to 210-acres are needed.	The remaining 30 to 50 acres in crystallizer pond reduction appear to be based upon operational strategies or other differences in assumptions. The evaporation ponds have only been designed to a 30%, or conceptual, level. If Alternative C is identified as the preferred alternative in the Record of Decision, then these assumptions can be reevaluated.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.11	IPM also ran an analysis on the required bittern pond area. We took the evaporation factor used above (0.4818) and multiplied it by the bittern evaporation of 0.55 to get a combined evaporation factor of 0.26499 which lead to an annual evaporation of 16.7-inches. We calculated that we need to concentrate up the bitters by about 8x the original volume (368 acre-inch/yr). The target evaporation was around 322 acre-inch/yr. According to the calculations, we determined about 20-acres are needed which is slightly less than the acreage estimation in the original study (30 to 40-acre).	From the Final Pond Design Strategy Report – Pond Optimization Study 2 (Amec 2017b), the bittern pond was proposed to have a surface area of 24 acres. The proposed 20 acre size is a minor reduction, 20%, which is in line with what was identified in the response to comment 269.10.

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269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.12	<p>It was determined that 188 to 210-acres with a depth of 33-inches would be sufficient for brine volumes during the storage season (September 15 to February 1), even during a high precipitation year. Consequently, a surge pond and concentrator pond will be unnecessary. Based on the acreage analysis, we recommend the crystallizer pond acreages of approximately 190 to 210. Fluctuations in precipitation and evaporation can be accommodated by increasing pond depth. We also ran an analysis on the required bitterns and determined that about 20-acres will be sufficient. Since a concentration pond is determined to not be necessary, the final acreage estimation becomes 210 to 230-acres for evaporation. This is roughly 40-percent smaller than the initial AFW estimation of 364-acres for the concentrator, crystallizers, and bittern pond. Increasing depth slightly and reducing area, will have significant</p>	<p>One purpose of the surge pond is to provide a location for the elemental sulfur, which is a byproduct of the hydrogen sulfide oxidation process, to precipitate out before the salt is deposited in the crystallizer ponds. Therefore, the surge pond is deemed to be necessary.</p> <p>Even if the concentration pond were removed, the cited reductions in pond sizing, when considering the differences caused by a different precipitation value used and adding the surge pond back in, would result in a potential cost reduction of approximately \$15 million in construction costs, or a \$5/ton cost reduction to the project. However, although \$15 million is a substantial amount of money, it is not considered a significant potential cost reduction when looking at the entire project, and it is within the anticipated range of costs expected from the cost analysis. There is uncertainty in the earthwork quantities, which are the most significant costs involved with construction of the ponds. As noted, sizing of the ponds can vary based upon various assumptions utilized in the design process. It is also worth noting</p>

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Letter #	Last Name	First Name	Title	Office/ Organization Name	Comment #	Comment	RESPONSE
						lowering impact on the costing for this project.	that the impacts to resources under a scaled-down Alternative C would still rise to the level of significant (i.e. still a significant impact to wildlife and visual resources, and still out of conformance with the BLM RMP, etc.). The evaporation ponds have only been designed to a 30%, or conceptual, level. If Alternative C is identified as the preferred alternative in the Record of Decision, then these assumptions can be reevaluated.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.13	IPM strongly disagrees with the need for a concentrator pond. IPM's real world experience has shown that a shallow concentrator pond is not necessary. A shallow concentrator will cause premature salt laydown because during cold temperatures brine will reach saturation and salt will precipitate out (cold cracking). A concentrating pond will greatly increase operational and maintenance costs. In addition, the concentrator pond may fill with gypsum (CaSO4). The AFW pond design will not have the desired flow rates through the ponds and	It is acknowledged there are various design strategies for the evaporation pond complex. The proposed design evaluated in this EIS was developed by a private industry contractor (Amec Foster Wheeler Environment & Infrastructure, Inc.) with experience in salt modeling and evaporation pond design. The assumptions and findings of the design, developed in coordination with Reclamation to meet the project needs, are outlined in the 4 reports produced (Amec 2017a, Amec 2017b, Amec 2017c, and Amec 2017d) and referenced in the EIS in Section 2.5, "Alternative C—Evaporation Ponds." Due to the complexity, significant differences, and costs associated with design of the alternatives, they have

N. Comment Summary and Response Report—Attachment 1. Comment Matrix

Letter #	Last Name	First Name	Title	Office/ Organization Name	Comment #	Comment	RESPONSE
						<p>therefore it cannot be operated efficiently. The theory of transferring the brine to the crystallizer ponds just before salt precipitation is extremely difficult to perform in actual operations. Transferring is likely to require the addition of water to dilute the brine to allow the brine to be pumped, siphoned, or gravity drained to the primary evaporation ponds. The addition of freshwater will require: 1) additional water rights and water consumption and 2) decreases the overall salt production .</p> <p>The relatively shallow depth of 18 to 24-inchs is not supported by data. Actual data and a thorough discussion of these depths was not provided to support their design of the facility. A sloped bottom is not required. Simple berms within the ponds are adequate for directing and managing flow path length.</p> <p>IPM is more concerned with temperature fluctuations to manage discharge rather than</p>	<p>only been designed to a 30%, or conceptual, level, as noted in the introductory section of Chapter 3 (second paragraph). If Alternative C is identified as the preferred alternative in the ROD, Reclamation would undertake the final design and operational strategy of the evaporation pond complex; other design features could be considered at that time.</p> <p>Even if the concentration pond were removed, the cited reductions in pond sizing, when considering the differences caused by a different precipitation value used and adding the surge pond back in, would result in a potential cost reduction of approximately \$15 million in construction costs, or a \$5/ton cost reduction to the project. However, although \$15 million is a substantial amount of money, it is not considered a significant potential cost reduction when looking at the entire project, and it is within the anticipated range of costs expected from the cost analysis. There is uncertainty in the earthwork quantities, which are the most significant costs involved with construction of the ponds. As noted, sizing of the ponds can vary based upon various assumptions utilized in the</p>

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Letter #	Last Name	First Name	Title	Office/ Organization Name	Comment #	Comment	RESPONSE
						<p>the precipitation of salt at the discharge point. IPM would not characterize this as a standard practice. Controlling discharge is greatly influenced by ambient temperatures and using salt precipitation and specific gravity measurements as the primary indicator for managing discharge is fundamentally flawed. Fluid flow is typically stratified because of fluid density; therefore, a dilute brine will not efficiently dissolve a salt layer.</p>	<p>design process. It is also worth noting that the impacts to resources under a scaled-down Alternative C would still rise to the level of significant (i.e. still a significant impact to wildlife and visual resources, and still out of conformance with the BLM RMP, etc.). The evaporation ponds have only been designed to a 30%, or conceptual, level. If Alternative C is identified as the preferred alternative in the Record of Decision, then these assumptions can be reevaluated.</p> <p>Section 4.6 of the Final Pond Operation Strategy Report (Amec 2017a) discusses the need for freshwater in the brine transfer process. That report states a small amount of freshwater injected into the brine stream prevents pumps, pipes, and ditches from becoming plugged by precipitated salt. This recommendation is 5 - 10 gpm of freshwater in a 5,000 gpm brine transfer, or approximately 0.1% to 0.2% of the flow rate, which should be quickly evaporated upon completion of the brine transfer. If this freshwater is determined to not be needed for actual transfer operations then it could be discontinued.</p> <p>The designs are at a 30% / conceptual level. As pointed out, the 24 inch depth</p>

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							is within the range of existing pond design depths of IPM's ponds (10 to 40 inches). This can be re-evaluated and optimized during final design should Alternative C become the preferred alternative in the ROD.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.14	Management of Crystallizers: Limiting depth to less than 24-inches is not an efficient design. IPM ponds are approximately 10 to 20-inches deep. Recently, when IPM rebuilt several ponds they were constructed to a depth of 40-inches. IPM data indicates that this has improved pond operating efficiency. Research conducted by u's Department of the Interior demonstrates that pond depth appears to be only a minor factor and ponds can be efficiently operated at deeper depths.	The designs are at a 30% / conceptual level. As pointed out, the 24 inch depth is within the range of existing pond design depths of IPM's ponds (10 to 40 inches). This can be re-evaluated and optimized during final design should Alternative C become the preferred alternative in the ROD.
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.15	A 24-inch salt blanket covering the bottom is not required. IPM uses a 15-inch base of salt for protecting the pond liner. Also, IPM uses a global positioning system (GPS) and laser-based system to control the depths a scraper will cut into the salt	The 24-inch salt protective layer would be computed based upon the bearing capacity of the soil below the liner and the equipment used for salt harvest. Estimates of bearing capacity were made based upon the regional geology to develop the depth of the salt protective layer. If Alternative C is

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						<p>during harvest, which further protects the base liner. This greatly improves pond efficiencies. IPM is not familiar with any studies that support a 24-inch minimal base layer. Storage of salt for the deicing market can also be accomplished by building mounds in the ponds, rather than storage on a pad for drainage.</p>	<p>identified as the preferred alternative in the Record of Decision, then site-specific geotechnical data would be collected to compute the optimal depth of salt required to protect the liner. Use of GPS and laser based equipment is noted for use in salt harvest operations. Salt storage by mounding in the crystallizer ponds is noted pending the first bullet point of comment 269.02.</p>
269	York	Rick	General Manager	Intrepid Potash - Moab LLC	269.16	<p>Intrepid would also like to be given an opportunity to review well field performance and design. The well field's performance and design was not presented in the EIS, and we believe our expertise in this field could prove valuable to the efficient reduction of salt entering the Colorado River drainage. We believe a review of the well fields will also show Alternative C to be a better choice than Alternative B for maximum removal of salt from entering the Dolores River. IPM believes that a partnership between the BOR and IPM to create an efficient solar pond</p>	<p>The best available scientific information is utilized in the EIS in determining feasible alternatives and analyzing resources. The lack of a precise understanding of subsurface brine configurations and flows in the Paradox Valley affects each action alternative equally, as each action alternative would utilize the same infrastructure to collect the brine. Therefore, a precise understanding of subsurface brine configurations and flows in the Paradox Valley is not essential to a reasoned choice among alternatives. Under any action alternative, ongoing and future USGS studies could provide information to optimize the timing and location of brine collection so as to minimize the pumped volume of water while</p>

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						<p>facility would be the lowest cost to way reduce the salinity in the Colorado River Basin. IPM looks forward to working with the BOR to complete the analysis and prepare a final design of the solar ponds. If you have any questions or comments on this report, please contact me.</p>	<p>effectively reducing brine discharge to the river. Section 2.1.1 of the DEIS states further research from USGS would guide design features or operational changes needed to optimize future pumping rates at the PVU. Because the Paradox Valley hydrogeology is complex, recent scientific investigations (USGS 2017; USGS 2019; Reclamation 2019) have focused on brine discharge to the river and operations in and around the Paradox Valley Unit (PVU). USGS (2017) developed regression models relating specific conductance to total dissolved solids (TDS) concentrations, and the results were used to estimate salt loads for two sites on the Dolores River in the Paradox Valley. Net salt gain through the Paradox Valley was estimated as TDS load at the downstream site minus the TDS load at the upstream site (USGS 2017). The mean annual salt gain was about 137,900 ton per year prior to the operation of the PVU (1980-1993) and about 43,300 tons per year after the PVU began operation (1997-2015), which represents an average load reduction of 94,600 tons per year, a nearly 70 percent reduction in salt load to the river (USGS 2017). USGS (2019)</p>

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							<p>conducted surface geophysical surveys and monitored water levels in selected ponds and wells in the vicinity of the PVU in 2017-2018 to better characterize near-surface processes controlling spatial and temporal variations in brine discharge to the Dolores River. A conceptual model of brine discharge to the river is presented at three scales. At a regional scale, groundwater derived from recharge at higher altitudes in the valley, including the La Sal Mountains, drives dissolution of salt in the Paradox Formation and flow of brine into the alluvial aquifer (USGS 2019). At an intermediate scale, surface-water-groundwater interactions at the scale of the alluvial aquifer control seasonal and interannual brine discharge to the river (USGS 2019). At the finest scale, diurnal fluctuations in river stage appear to drive exchange of fresh river water with saltier groundwater in the hyporheic zone increasing brine discharge to the river during the winter (USGS 2019). Geophysical results from this study indicate a zone of brine-rich groundwater close to the riverbed along an approximately 4-kilometer reach of the river under low-flow (winter) conditions (USGS 2019). Under high-</p>

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							<p>flow (spring-snowmelt runoff) conditions, the brine was suppressed as much as two meters below the riverbed and brine discharge to the river was temporarily reduced to a minimum along the entire river reach (USGS 2019). A June 2019 presentation to the Salinity Control Forum provides an overview of U.S. Geological Survey (USGS) activities at the PVU including groundwater-age dating conducted in 2011 and development of a density-dependent groundwater-flow and solute-transport model for the Paradox Valley (Reclamation 2019). These studies support conclusions that brine discharge to the Dolores River is naturally occurring and is sourced from an essentially infinite supply of salt in the subsurface. The current PVU system of pumping and disposing of brine is effectively reducing salt concentrations in the Dolores River, and while actions and studies have been considered that could potentially optimize PVU pumping for more efficient brine capture, the objective of the DEIS is to evaluate alternatives for disposal of the extracted brine. Section 2.1.1 of the DEIS states further research from USGS would guide design features or</p>

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							operational changes needed to optimize future pumping rates at the PVU.

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## **Attachment 2: Individual Comment Submissions**

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## COMMENT LETTER 1

### Molly McCarter

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**From:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>  
**Sent:** Thursday, December 12, 2019 4:39 PM  
**To:** Molly McCarter  
**Cc:** Nicholas, Andrew J; Liff, Justyn M; Ward, Jennifer K  
**Subject:** Fw: Alternative C Paradox Valley

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Comment received today on the PVU DEIS.

### *Lesley McWhirter*

Environmental & Planning Group Chief  
Western Colorado Area Office, Upper Colorado Region  
Bureau of Reclamation  
445 W. Gunnison Avenue, Suite 221  
Grand Junction, CO 81501  
Office: 970-248-0608  
Mobile: 970-250-1909

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**From:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>  
**Sent:** Thursday, December 12, 2019 4:38 PM  
**To:** Kevin King <kking@evaporationworks.com>  
**Subject:** Re: Alternative C Paradox Valley

Hello,

We received your email. Thank you for providing comments on the Paradox Valley Unit Draft EIS.

Sincerely,

### *Lesley McWhirter*

Environmental & Planning Group Chief  
Western Colorado Area Office, Upper Colorado Region  
Bureau of Reclamation  
445 W. Gunnison Avenue, Suite 221  
Grand Junction, CO 81501  
Office: 970-248-0608  
Mobile: 970-250-1909

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**From:** Kevin King <kking@evaporationworks.com>  
**Sent:** Thursday, December 12, 2019 2:20 PM  
**To:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>  
**Subject:** [EXTERNAL] FW: Alternative C Paradox Valley

Hi Lesley,

I tried to send this email to the commenting address and received a failed delivery notice. Please forward to the correct personnel.

Thanks,

**Kevin D. King**

Chief Executive Officer

E3 Solutions LLC

**EVAPORATION WORKS!**

1000 N. Ashley Drive, Suite 510, Tampa, FL 33602

O: [+1.813.223.9000](tel:+18132239000)

C: [+1.970.589.1303](tel:+19705891303)

[kking@evaporationworks.com](mailto:kking@evaporationworks.com) | [www.evaporationworks.com](http://www.evaporationworks.com)

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**From:** Kevin King <kking@evaporationworks.com>  
**Date:** Wednesday, December 11, 2019 at 1:30 PM  
**To:** "paradoxeis@usbr.gov" <paradoxeis@usbr.gov>  
**Subject:** Alternative C Paradox Valley

Attn Ed Warner and other participating members regarding evaporation pond alternative C:

I would like to discuss the option for evaporation ponds not mentioned in the proposed draft alternatives. Enhanced Evaporation or Mechanical Evaporation techniques were not mentioned in this draft. The potential to create a smaller footprint could be achieved along with a much lower energy cost by utilizing patented technology our company offers. Please look over the attached renderings along with a spreadsheet of costing based upon the 300 GPM requirement being considered.

1.01

Please call me directly with any questions. Cell is the best 970.589.1303.

Best regards,

**Kevin D. King**

Chief Executive Officer

E3 Solutions LLC

**EVAPORATION WORKS!**

1000 N. Ashley Drive, Suite 510, Tampa, FL 33602

O: [+1.813.223.9000](tel:+18132239000)

C: [+1.970.589.1303](tel:+19705891303)

[kking@evaporationworks.com](mailto:kking@evaporationworks.com) | [www.evaporationworks.com](http://www.evaporationworks.com)

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**COMMENT LETTER 2**

McCarter, Molly &lt;mmccarter@blm.gov&gt;

**FW: [EXTERNAL] Paradox Salinity Control comment**

2 messages

**SOL, BOR-SHA-UC** <bor-sha-uc-sol@usbr.gov>  
To: "McCarter, Molly E" <mmccarter@blm.gov>

Sat, Dec 21, 2019 at 8:50 AM

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From: paradoxeis@usbr.gov On Behalf Of Scott Shine  
Sent: Saturday, December 21, 2019 8:50:16 AM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Paradox Salinity Control comment

Hello,

Thank you for taking comments on the proposed alternatives for salinity control in the Dolores watershed.

I'd like to express support for either Alternatives B or D.

More than that, however, I would like to express strong opposition to Alternative C. As I understand it, the physical footprint of Alternative C would be drastically larger than the other two options. Additionally, the cost would be greater and the jobs created would be less. The potential visual impacts and disruption to wildlife and the surrounding ecosystem seem to all be greater. All of these factors taken together seem to indicate that this option should be eliminated.

Thank you,  
Scott Shine

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**SOL, BOR-SHA-UC** <bor-sha-uc-sol@usbr.gov>  
To: "McCarter, Molly E" <mmccarter@blm.gov>

Mon, Dec 23, 2019 at 8:13 AM

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From: McWhirter, Lesley A.  
Sent: Monday, December 23, 2019 8:13:17 AM (UTC-07:00) Mountain Time (US & Canada)  
To: Scott Shine; BOR WCAO DL Paradox EIS  
Subject: Re: [EXTERNAL] Paradox Salinity Control comment

Dear Mr. Shine,

Thank you for your comment.

Sincerely,

Lesley McWhirter  
Environmental & Planning Group Chief  
Western Colorado Area Office, Upper Colorado Region  
Bureau of Reclamation  
445 W. Gunnison Avenue, Suite 221  
Grand Junction, CO 81501  
Office: 970-248-0608  
Mobile: 970-250-1909

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From: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov) <[paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)> on behalf of Scott Shine <[sshine82@gmail.com](mailto:sshine82@gmail.com)>

12/30/2019

DEPARTMENT OF THE INTERIOR Mail - FW: [EXTERNAL] Paradox Salinity Control comment

Sent: Saturday, December 21, 2019 8:50 AM

To: BOR WCAO DL Paradox EIS <[ParadoxEIS@usbr.gov](mailto:ParadoxEIS@usbr.gov)>

[Quoted text hidden]

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**COMMENT LETTER 3**

McCarter, Molly &lt;mmccarter@blm.gov&gt;

**FW: [EXTERNAL] Injection well**

1 message

**SOL, BOR-SHA-UC** <bor-sha-uc-sol@usbr.gov>  
To: "McCarter, Molly E" <mmccarter@blm.gov>

Mon, Dec 23, 2019 at 9:54 AM

From: paradoxeis@usbr.gov On Behalf Of Gene Goffin  
Sent: Monday, December 23, 2019 9:53:32 AM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Injection well

Mr. Ed Warner  
Area Manager  
Bureau of Reclamation  
Grand Junction Colorado

Dear Mr. Warner,

MId-morning on March 4 we heard a loud bang and then the house shook. We wondered if a plane had broken through the sound barrier or whether something had exploded. I looked around and found no blown up boiler. All household systems were intact. A little while later a friend from Denver emailed me asking if we had experienced the earthquake. Neither my wife nor I had ever experienced an earthquake before, so that was a surprise. Press reports at the time said the earthquake was centered near Nucla, about 35 miles south of us. We live in Glade Park, 11 miles south of downtown Grand Junction by road. Later we found many people in the city had also felt the quake.

When I read recently in the Grand Junction Daily Sentinel that your office knew nothing about this, I was surprised again. The press reports indicate no one in your office seems to know about any earthquakes felt beyond 15 miles. That was simply untrue. I also read that quakes of more than a 5, possibly ten times more powerful than the March quake could be experienced from an injection well. At the time of the quake, no one in your office took responsibility for the March earthquake, raising serious questions about BoR's transparency,

That you are even considering using injection wells is hard to understand given the March 4 earthquake and the potential for much more serious earthquakes in the future. Since you did not even know of a quake that must have been felt in Grand junction at your office, it appears that a lot of more investigation is necessary. I understand injection wells may be cheaper in the short run than other methods of reducing river salts, earthquakes could result in major claims against the government and any participating entities, thus the long range effects may be far more serious in terms of property damages, injuries and monetary claims.

3.01

Therefore, I am strongly against any option that includes one or more injection wells.

Gene Goffin  
20601 Little Park Road  
Glade Park, Colorado 80123

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**COMMENT LETTER 4**



McCarter, Molly <mmccarter@blm.gov>

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**FW: [EXTERNAL] Dolores River**

2 messages

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**SOL, BOR-SHA-UC** <bor-sha-uc-sol@usbr.gov>  
To: "McCarter, Molly E" <mmccarter@blm.gov>

Sun, Dec 29, 2019 at 11:09 PM

From: paradoxeis@usbr.gov On Behalf Of alf.s.karo  
Sent: Sunday, December 29, 2019 11:08:39 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Dolores River

Sent from my Samsung Galaxy smartphone.

I believe if a aqueduct was made for the Dolores River across the Paradox Valley the river water would not be contaminated by the salinity of the groundwater. And would cost multi millions of dollars less then the proposed ideas I have seen.

4.01

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**SOL, BOR-SHA-UC** <bor-sha-uc-sol@usbr.gov>  
To: "McCarter, Molly E" <mmccarter@blm.gov>

Mon, Dec 30, 2019 at 10:12 AM

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From: Ward, Jennifer K  
Sent: Monday, December 30, 2019 10:12:07 AM (UTC-07:00) Mountain Time (US & Canada)  
To: alf.s.karo; BOR WCAO DL Paradox EIS  
Subject: RE: [EXTERNAL] Dolores River

Thank you for your comment.

Sincerely,

Jennifer Ward  
Environmental Protection Specialist  
Bureau of Reclamation

[Quoted text hidden]

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winmail.dat  
11K

**COMMENT LETTER 5**

McCarter, Molly &lt;mmccarter@blm.gov&gt;

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**FW: [EXTERNAL] Paradox Valley Salinity Control Program Inquiry**

1 message

**SOL, BOR-SHA-UC** <bor-sha-uc-sol@usbr.gov>

Mon, Jan 6, 2020 at 11:12 AM

To: "McCarter, Molly E" &lt;mmccarter@blm.gov&gt;

---

From: paradoxeis@usbr.gov On Behalf Of Todd Larson  
Sent: Monday, January 6, 2020 11:11:40 AM (UTC-07:00) Mountain Time (US & Canada)  
To: McWhirter, Lesley A.; BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Paradox Valley Salinity Control Program Inquiry

Lesley and Ed,

I hope you both had a wonderful holiday season. My name is Todd Larson, I am a builder/contractor here in Grand Junction. The possibilities outlined in the Draft EIS for the Paradox Valley salinity control program are very interesting. It is fascinating to see a well illustrated analysis of the pros and cons of alternative solutions. Is there still opportunity to consider different solutions to those in the EIS or has that ship already sailed? I am envisioning something that takes pros from several options while eliminating some cons. I would love to schedule a short meeting with one or both of you to discuss possibilities. I am available this week other than midday Wednesday. I look forward to hearing from you.

Respectfully,

--

Todd Larson

Larson Building Solutions

(970) 234-0258

[larsonbuildingsolutions@gmail.com](mailto:larsonbuildingsolutions@gmail.com) <mailto:larsonbuildingsolutions@gmail.com>

CONFIDENTIALITY NOTICE: The contents of this email message and any attachments are intended solely for the addressee(s) and may contain confidential and/or privileged information and may be legally protected from disclosure.

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**winmail.dat**  
10K

## COMMENT LETTER 6

**Molly McCarter**

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**Sent:**  
**To:**  
**Subject:**  
**Attachments:**

Good morning,  
We received the attached letter re: the PVU DEIS from the Salinity Control Forum.

***Lesley McWhirter***

Environmental & Planning Group Chief  
Western Colorado Area Office, Upper Colorado Region  
Bureau of Reclamation  
445 W. Gunnison Avenue, Suite 221  
Grand Junction, CO 81501  
Office: 970-248-0608  
Mobile: 970-250-1909

---

**From:** Busch, Frederick A <fbusch@usbr.gov>  
**Sent:** Friday, January 3, 2020 8:25 AM  
**To:** Thomas, Susannah <Susannah.Thomas@sol.doi.gov>; Warner, Louis (Ed) <LWarner@usbr.gov>; Ward, Jennifer K <jward@usbr.gov>; Esplin, Brent <BEsplin@usbr.gov>; Pullan, Wayne G <WPullan@usbr.gov>  
**Cc:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>; Jacobson, Kib E <KJacobson@usbr.gov>  
**Subject:** Fw: [EXTERNAL] Question on PVU DEIS

All,

Attached is a letter from the Salinity Control Forum with the questions they want to discuss during the meeting on Monday at 3:00. Let me know if you have any questions before then.

Thanks,

***Frederick Busch, P.E.***

Civil Engineer, U.S. Bureau of Reclamation  
Environmental & Planning Group  
Western Colorado Area Office  
(970)248-0653 fbusch@usbr.gov

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**From:** Don Barnett <dbarnett@barnettwater.com>  
**Sent:** Thursday, January 2, 2020 5:13 PM  
**To:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>; Busch, Frederick A <fbusch@usbr.gov>; Jacobson, Kib E <KJacobson@usbr.gov>  
**Subject:** [EXTERNAL] Question on PVU DEIS

Lesley – pursuant to our discussions, attached hereto is a letter outlining the questions on the PVU DEIS which were brought up on the initial conference call of the Forum. Input from you or others on these questions will help the Forum as it further studies the DEIS and formulates comments. Thanks

*Colorado River Basin*  
**SALINITY  
CONTROL FORUM**

**Don A. Barnett**, Executive Director

**Colorado River Basin Salinity Control Forum**

106 West 500 South, Suite 101

Bountiful, UT 84010

(801) 292-4663

[dbarnett@barnettwater.com](mailto:dbarnett@barnettwater.com)

[www.coloradoriversalinity.org](http://www.coloradoriversalinity.org)



# Colorado River Basin SALINITY CONTROL FORUM

January 2, 2020

## GOVERNORS

Doug Ducey, AZ  
Gavin Newsom, CA  
Jared Polis, CO  
Steve Sisolak, NV  
Michelle Lujan Grisham, NM  
Gary R. Herbert, UT  
Mark Gordon, WY

Bureau of Reclamation  
c/o Lesley McWhirter  
Environmental & Planning Group Chief  
Upper Colorado Region, Bureau of Reclamation  
Western Colorado Area Office  
445 West Gunnison Ave Suite 221  
Grand Junction, CO 81501

## FORUM MEMBERS

### Arizona

Clint Chandler  
Krista Osterberg  
Suzanne Ticknor

### California

Bill Hasencamp, Chair  
Tanya Trujillo

### Colorado

Rebecca Mitchell, Vice Chair  
Pat Pfaltzgraff  
David W. Robbins

### Nevada

Andrew Burns  
Sara Price

### New Mexico

John R. D'Antonio, Jr.  
Rolf Schmidt-Petersen

### Utah

James Harris  
Eric Millis  
Gawain Snow

### Wyoming

Chad Espenscheid  
Patrick T. Tyrrell  
David Waterstreet

RE: Initial Questions on PVU DEIS

Dear Lesley:

On behalf of the Colorado River Basin Salinity Control Forum (Forum) I want to express appreciation for the significant efforts of Reclamation and specifically your team in researching and preparing the Paradox Valley Unit (PVU) Draft Environmental Impact Statement (DEIS). As the States have begun their initial review of the document, several key questions have come up which could influence subsequent comments or input by the Forum as follows:

- 1) **Closure of Existing PVU Injection Well:** In a number of places in the DEIS it speaks of plugging and abandoning the existing PVU injection well. Is this a foregone conclusion? Is there a time frame on such anticipated closure? Given the way the DEIS is presently written, can Reclamation continue to operate the existing PVU injection well for some period of time, either independently or in combination with a new alternative, after the issuance of the ROD (for example, could the existing injection well be operated at 50% or 75% of the previous injection rate in conjunction with the phasing-in of one of the other alternatives such as the zero liquid discharge alternative) or will the language in the DEIS need to be altered to allow such continued operations? Does the existing (historic) EIS allow for continuance of injection operations by the existing injection well until it is deemed to need to be plugged and abandoned independent of the new EIS (i.e. does the new EIS cancel or negate the old one?)?

6.01

## EXECUTIVE DIRECTOR

Don A. Barnett

106 West 500 South, Ste. 101  
Bountiful, UT 84010  
(801) 292-4663  
dbarnett@barnettwater.com  
www.coloradoriversalinity.org

- 2) **Phasing or Scaling of Alternatives:** As written, the DEIS shows a 200 gpm (or 114,000 tons per year) rate of brine disposal under the second injection well alternative and 50% more or 300 gpm (or 171,000 tons per year) rate of brine disposal under the evaporation pond and zero liquid discharge alternatives. It is our understanding that at the commencement of the EIS process a disposal rate of 300 gpm was selected as a common disposal rate for comparison of all alternatives but it was subsequently determined that a second injection well could probable not continuously inject brine at a rate greater than 200 gpm. Since initiation of the EIS process, the USGS has studied the historic record relative to brine discharge and such is reported on page 2-2 of the DEIS. Though we don't understand many of the factors which influence annual changes in brine discharge, it appears from the information found in Table 2-1 that there is not generally 171,000 tons of annual salt discharge to the Dolores River. Therefore, as Reclamation moves towards design and implementation of a preferred alternative, could a scaled down alternative be developed under the DEIS as written, or in the alternative, could the selected alternative be phased in over time (if appropriate - obviously a second injection well could not be phased in), or would additional analysis or language be required in the DEIS to allow for such phasing or scaling of the project? If allowable, can Reclamation provide any type of quantitative or qualitative input on the cost impacts of scaled down alternatives?

6.02

On a related matter, has there been any thought or study on how many tons of salt can be cost-effectively captured annually? The average "Estimated Amount of Salt Potentially Available for Control in the Paradox Valley" has varied from a high of 161, 628 to a low of 117,450 tons per year since full-time injection operations. How much of that could efficiently be captured before fresh water begins to be captured or the capture wells otherwise begin to operate inefficiently (i.e. the tds of the captured brine decreases or alternatively the wells capture brine which otherwise would not have discharged to the Dolores River)?

6.03

- 3) **Projected Service Life of Second Injection Well:** The DEIS indicates that the existing injection well is nearing the end of its service life after 23 years of operations (of course this is due to pore pressure build-up in the aquifer and not due to mechanical issues with the well itself). If we understand correctly, the DEIS places the service life on the injection well in the second well alternative at 50 years. It is our understanding that this is due to the assumed much greater aerial extent of the second well injection reservoir. Yet the previously unknown fault that has created recent concern with the present injection well is near the present injection well (only 1.6 km away) where pressures will be much closer to the injection pressure without as much chance to dissipate regardless of the aerial extent of the aquifer. Has there been any modeling or estimating by Reclamation on how far distant secondary faults in the second well alternative proposed injection reservoir would need to be from the new injection well before pressures would be acceptable and not create the present seismic concerns? Relatedly, it is our general

6.04

Lesley McWhirter

January 2, 2020

Page 3

6.04

understanding that the injection of brines only changes the frequency or probability of seismic activity but does not change the magnitude of an earthquake. Would the maximum probable earthquake magnitude be just as great under the second well alternative as the existing well?

- 4) **Worst Case Hydrology:** The DEIS identifies that the present benefit of the project is a reduction in downstream salinity of 9.2 mg/L and about \$23M in annual damages. We presume that this is based on average hydrology in the Colorado River System. What is the range in impacts and how do such impacts change under worst case hydrology?

6.05

- 5) **Existing Injection Costs:** For comparison purposes, can Reclamation provide to us the costs of the existing project, both annualized capital costs and OM&R of the existing project in a comparable format to the costs for the alternatives as arrayed in Figure 2-3?

6.06

- 6) **Alteration of Alternatives or Supplemental EIS:** Hopefully we don't find ourselves in this scenario, but the Forum would like to understand better the process moving forward if things are not found to be as we currently believe. It is our understanding that the information in the DEIS represents a 30% design level. Once a preferred alternative is selected and Reclamation begins final investigation and design, what happens if an important issue or flaw is found with the selected preferred alternative (i.e. if the second well alternative were selected and then the 3-D seismic information found issues with this alternative which rendered it infeasible or dramatically altered the costs), what is the process for Reclamation to re-evaluate the other alternatives and commence design work on it? Would a new or supplemental EIS be required?

6.07

Again, we very much appreciate the efforts leading up to the recent publication of the DEIS. Input from Reclamation on the above matters would help the Forum in the formulation of its comments. Should you have any questions, please don't hesitate to contact me.

Sincerely,



Don A. Barnett, Executive Director

cc: Forum, Work Group

COMMENT LETTER 7

CAO - GRAND JUNCTION  
DEC 17 19 PM 1:53

Mr. Ed Warner  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, Colorado 81501

Re: Colorado River Basin Salinity Control

December 12, 2019

Dear Mr. Warner,

We own 120 acres in Paradox Valley and have owned this land for over 33 years. It is a special place for us.

After reviewing the EIS, we realize there is no perfect solution for salinity control. So let this be our official comment that we would prefer Alternative B. A new injection well - since it would have the smallest impact on the land. Our second choice would be Alternative C-an evaporative pond at the landfill site nearest to Naturita.

We thank you for your time and careful consideration with this project.

Sincerely,

*Kathleen D. Cooney Charles M. Schildt Charles D. Schildt*

Kathleen D. Cooney, Charles M. Schildt, Charles D. Schildt  
895 Locust Lane  
Moab, Utah 84532

COMMENT LETTER 8



McCarter, Molly <mmccarter@blm.gov>

FW: [EXTERNAL] Objection to Paradox Valley brine injection well

1 message

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>  
To: "McCarter, Molly E" <mmccarter@blm.gov>

Thu, Jan 16, 2020 at 11:21 AM

**From:** paradoxeis@usbr.gov On Behalf Of Chad Alber  
**Sent:** Thursday, January 16, 2020 11:20:20 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

8.01

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

8.02

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and

8.03

environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

8.04

Sincerely,  
Chad Alber  
4040 Evans Dr  
Boulder, CO 80303



## COMMENT LETTER 9

McCarter, Molly &lt;mmccarter@blm.gov&gt;

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

1 message

**SOL, BOR-SHA-UC** <bor-sha-uc-sol@usbr.gov>  
To: "McCarter, Molly E" <mmccarter@blm.gov>

Thu, Jan 16, 2020 at 11:20 AM

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**From:** paradoxeis@usbr.gov On Behalf Of Nathan Knecht  
**Sent:** Thursday, January 16, 2020 11:15:36 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Hello,

My name is Nathan Knecht. I am a Colorado Native and taught with the Colorado Outward Bound School from 1996-1999. During that time I discovered the beauty of southwest Colorado and the San Juan wilderness areas. I have returned numerous times, now having the opportunity to introduce my wife and 3 children to this unique area of the United States.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

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I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Nathan Knecht  
[2125 Upland Ave](#)  
Boulder, CO 80304



— BUREAU OF —  
RECLAMATION

PARADOX VALLEY UNIT OF THE COLORADO RIVER BASIN SALINITY CONTROL PROGRAM

~~DRAFT ENVIRONMENTAL IMPACT STATEMENT~~

Meeting Location: Paradox Valley School  
 Meeting Date: 1-14-20  
 Name: CHRIS EKERISEN Cell 239-285-2200  
 Organization (if applicable): AQUA RESOURCES  
 Mailing Address (optional): P.O. Box 385 Paradox, CO 81429  
 City/State/Zip (optional): Paradox CO 81429  
 Email (optional): CHRIS@COPPER.NET

If you wish to provide written comments, please write your comments below. Written comments may be submitted using this card, via the project email address, by mail to Reclamation, or any other permitted written format within the comment period (see specific information at the bottom of this page).

AQUA Resources .com <sup>At Ed Maraula</sup>  
Produces Nano Platelets <sup>+ Lee Madden</sup>  
79 Patented Forms FROM BRINE <sup>911-850-642-4580</sup>  
and Electricity. Just one of those  
products is  $Mg(OH)_2$  Used to  
Extinguish Forest Fires 20/Acre at a time  
& non TOXIC Vs 1/4 Acre/Load & Toxic.  
Not to mention Government use, Oil Well  
Cleaning, Navy + NRSC + AFAK Fire Fighting  
in Australia + USFS in USA.

Please submit tonight or by February 4, 2020

Comments can also be submitted by email to paradoxeis@usbr.gov or to Ed Warner, Area Manager, Bureau of Reclamation, 445 West Gunnison Ave, Suite 221, Grand Junction, CO 81501. Comments must be received by February 4, 2020 to be considered.

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 4:22 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**From:** paradoxeis@usbr.gov On Behalf Of Luann Andrew  
**Sent:** Thursday, January 16, 2020 4:21:30 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Having lived in the area for 32 years and being a recreationalist on it all that time, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Luann Andrew  
1773 CR 205  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 12:30 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Gale Zander Barlow  
**Sent:** Thursday, January 16, 2020 12:28:53 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

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I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

The Climate Crisis has Australia on Fire. We need to stop drilling and turn to renewable energy sources

and stop ruining our planet with brine injection. We all need to start looking at how we live and how that impacts the planet. We treat the Earth like a garbage heap instead of treating like it is our home. I have stopped driving so much and starting walking and reading my bike more a win win win as I help the planet and I am staying healthier as well.

Thank you for your consideration of my concern.

Sincerely,  
Gale Zander Barlow  
212 E Park Ave  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:30 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

---

**From:** paradoxeis@usbr.gov On Behalf Of Carla Behrens  
**Sent:** Thursday, January 16, 2020 11:20:48 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

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I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

WHY IS THE TRUMP ADMINISTRATION CONSTANTLY TRYING TO DESTROY FOREVER OUR PUBLIC

LANDS AND OUR MOST BEAUTIFUL PLACES. IT IS CRIMINAL.

Sincerely,  
Carla Behrens  
904 Little Leaf Ct  
Longmont, CO 80503

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 1:57 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**From:** paradoxeis@usbr.gov On Behalf Of Larry and Carolyn Bollinger  
**Sent:** Thursday, January 16, 2020 1:56:21 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Dear Ed: If it is within your power, we ask that you reconsider your plans for the Paradox Valley brine injection well and associated infrastructure. From what we've read, we fear that the proposed development will irrecoverably alter the wild character of the Dolores River Canyon. Industrial development can be placed anywhere; pristine wilderness and near-wilderness experiences can only be enjoyed if we preserve places of rare beauty for future generations. Governor Polis just wrote that Colorado's wild places and natural beauty are the economic engines that will drive future of the state. This well project large footprint is unwelcome step in the wrong direction. PLEASE do not degrade the Dolores River Canyon.

14.01

We agree with San Juan Citizens Alliance when they wrote the following:

The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

We encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine

injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Larry and Carolyn Bollinger  
35 Cedar Drive  
Durango, CO 81301

**Becky Boyle**

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**From:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>  
**Sent:** Wednesday, January 22, 2020 8:04 AM  
**To:** Katie Patterson; Becky Boyle; Molly McCarter  
**Cc:** Ward, Jennifer K  
**Subject:** Fw: Paradox Valley

Good morning,

Please see email comment below. Please confirm that you received this comment. I didn't see it entered in the comment-response matrix yet, and I'm not sure I received it directly from the sender.

***Lesley McWhirter***

Environmental & Planning Group Chief  
Western Colorado Area Office, Upper Colorado Region  
Bureau of Reclamation  
445 W. Gunnison Avenue, Suite 221  
Grand Junction, CO 81501  
Office: 970-248-0608  
Mobile: 970-250-1909

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**From:** Nicholas, Andrew J <ANicholas@usbr.gov>  
**Sent:** Friday, January 17, 2020 10:54 AM  
**To:** Busch, Frederick A <fbusch@usbr.gov>  
**Cc:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>; Warner, Louis (Ed) <LWarner@usbr.gov>  
**Subject:** Fw: Paradox Valley

Frederick,

I just wanted you to be aware of this particularly interesting comment.

Andy

Andrew J. Nicholas  
U.S. Bureau of Reclamation  
Facility Operations Specialist  
Paradox Valley Unit  
970-859-7214 - Office  
970-759-1717 - Cell  
anicholas@usbr.gov

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**From:** paradoxeis@usbr.gov <paradoxeis@usbr.gov> on behalf of Brad Granley (CCES) <bgranley@ccenv.us>  
**Sent:** Friday, January 17, 2020 10:29 AM  
**To:** BOR WCAO DL Paradox EIS <ParadoxEIS@usbr.gov>  
**Subject:** [EXTERNAL] Paradox Valley

Mr. Warner,

Good morning. I just wanted to write to briefly request that your evaluation process for the Paradox Valley Unit remain flexible enough to consider new technologies as they become known by you and your team. Specifically, I am a colleague of Dr. Russell Vreeland of Eastern Shore Microbes. <https://www.esmicrobes.com/> As a Colorado resident and proponent of using best available technologies to solve environmental problems in our state, it would make sense to modify your evaluation process in order to consider Dr. Vreeland's "H.E.A.T." process for this project. This extremely unique technology results in the disposal of large volumes of highly saline brine by leveraging nature. This microbiologically enhanced brine evaporation method is low cost, low energy, entirely simple for implementation and ongoing operation, is sustainable, and it works. Technologies cannot be much 'Greener' than this. PR opportunities also exist. Certainly some great headlines would result, showcasing USBR's use of new, green tech to solve today's problems.

15.01

So, my hope from one environmental professional to another, is that you can still consider a new technology at this stage if it would have a chance of improving the treatment process, reduce the carbon footprint of the effort, and ultimately lead to a cleaner Colorado and for those downstream.

Thank you for your time. Respectfully submitted,

Brad Granley

Brad Granley, P.E.  
President / Founder  
[bgranley@ccenv.us](mailto:bgranley@ccenv.us)  
Parker, CO  
720.556.4801



*"Finding A Better Way"*  
[www.ccenv.us](http://www.ccenv.us)

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 12:08 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Seth Furtney**Sent:** Thursday, January 16, 2020 12:07:19 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I've boated the Dolores River and it has a well-deserved reputation as a spectacular wild river experience on par with the Grand Canyon.

I oppose constructing a new Paradox Valley brine injection well upstream of Bedrock, at Wild Steer Canyon.

Turning the end of this wilderness experience into a float through an industrial zone is horrifying. Instead of ending with a sense of peace and renewal... you propose a vision of demolition and development.

The Dolores River is a wild and scenic river candidate. Construction of roads, bridges, and powerlines will permanently destroy the values for which the river was identified.

16.01

Please more carefully consider the lasting impacts to recreation and social values, and irreplaceable environmental resources.

The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally valuable.

Sincerely,  
Seth Furtney  
11 Molas  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:27 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Anne Marie Greenberg  
**Sent:** Thursday, January 16, 2020 11:17:25 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please come to my home! I will take you to these magical, wild places and let you imbibe the radiance of our planets gifts!

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack

and runoff.

Sincerely,  
Anne Marie Greenberg  
324 Pine Ridge Loop  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 2:11 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Michael Gregory  
**Sent:** Thursday, January 16, 2020 2:10:14 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Dear Mr. Warner and Bureau of Reclamation Officials:

As a resident of western Colorado, I am writing to express my surprise and opposition to the plan for the construct of a new brine injection well at Wild Steer Canyon, upstream of Bedrock.

The site of proposed work is a treasure of our desert region, beloved by so many in the area. The peace and natural beauty of this area is unmatched. The idea of paved roads, new bridges, and industrial work in this area is a devastating notion.

I strongly hope and pray that the Bureau will consider some other type of plan that doesn't devastate this area. There are certainly alternatives to this plan, which benefits none of us locally, and in fact only desecrates this land.

Very Respectfully,  
Michael Gregory

Sincerely,  
Michael Gregory  
789 E HWY 145, PO Box 4223  
Telluride, CO 81435

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 1/19/2020 10:09 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Forrest Smith**Sent:** Sunday, January 19, 2020 10:09:28 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As an avid river runner and outdoorsman who cherishes this country's increasingly rare wild places, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Forrest Smith  
45764 Meadowlark Lane  
Big Arm, MT 59910

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 1/19/2020 7:58 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Scott Rollins**Sent:** Sunday, January 19, 2020 7:56:57 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my opposition to the existing plan to possibly construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

I've lived in CO and traveled this area for over 30 years. I know the country around the Dolores and La Sal Mountains inside and out from dozens of camping and hiking adventures. This area is a rare gem and should be preserved at all costs.

The Dolores River is deservedly identified as a wild and scenic river candidate, and few parts remain in a rare wild state.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives.

Please look to other areas for dealing with the brine issue. Your consideration will be respected and appreciated by the many who love our great wild scenic lands.

Most respectfully,  
Scott Rollins, MD

Sincerely,  
Scott Rollins  
PO Box 9  
Collbran, CO 81624

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 1/19/2020 2:03 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Heidi Marcum**Sent:** Sunday, January 19, 2020 2:03:36 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

I also have to wonder if allowing more water volume to continuously flow down the Dolores river would improve the salinity situation. The current proposal seems suspicious and convoluted at best.

21.01

There simply must be more logical, cost- effective, and lesser impactful alternatives available! Every tax payer should be concerned about this expensive and natural+cultural resource decimating plan.

Respectfully,  
Heidi Marcum

Sincerely,  
Heidi Marcum  
1420 Shadybrook Dr.  
Hailey, ID 83333

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 1/19/2020 1:34 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Teal Lehto**Sent:** Sunday, January 19, 2020 1:32:26 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

As someone who has had the privilege to experience this area in its current condition on a rafting trip

during April of 2016, I would be appalled to tarnish the future experiences of others in that area by implementing this development. Please consider an alternative plan.

Sincerely,  
Teal Lehto  
361 e 9th st  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 1/19/2020 1:01 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of David Kissane**Sent:** Sunday, January 19, 2020 1:00:26 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

This river is unique, and its value to the businesses in the area will not be matched or supported

through these projects, and the experiences it provides to those that pass through it's canyon are priceless.

Sincerely,  
David Kissane  
353 E 4th Ave  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 1:00 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of ALEXANDER HOBBS**Sent:** Thursday, January 16, 2020 12:58:45 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

To whom it may concern,

We all breathe the same air, drink the same water, and eat the same food. We must protect that which makes life possible and that is the wild lands of the west that allow for animals to roam free, water to become filtered through the ground, and minimize pollution of the clean air.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine

injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
ALEXANDER HOBBS  
324 Read Street, 1/2  
Santa Fe, NM 87501

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 1:59 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Christina Harrington**Sent:** Thursday, January 16, 2020 1:58:18 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Every spring, as the snow begins to melt in the San Juan mountains, one question is on the lips of every citizen of southwest Colorado: "will the lower Dolores flow this year?" We cross our fingers for high water and extended dam releases from McPhee, anticipating the chance to float through the Dolores river canyon's natural beauty. My time on the Dolores is one of my most valuable experiences - the rare chance to commune with a river so free from human interference. The construction of this brine injection site, and all the roads and bridges and industrial accoutrements that would accompany it, is unacceptable. Some places deserve to be left to nature's hand, places where we can experience the world without evidence of humanity's impact. The Dolores river canyon is one of those places.

I am writing to express my opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack.

Sincerely,  
Christina Harrington  
317 E 5th Ave  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:23 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Eric Husted**Sent:** Thursday, January 16, 2020 11:16:38 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Are you kidding me? Why on Earth would this be OK? Somebody has lost their effing mind.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Eric Husted  
PO Box 1222  
Bayfield, CO 81122

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 8:59 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jeremy May**Sent:** Thursday, January 16, 2020 8:59:02 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As a born and raised native to Southwest Colorado, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort on the whole in the context of climate change and ever decreasing snowpack and runoff.

We should be seeking more sustainable solutions including reducing consumption.

Sincerely,  
Jeremy May  
651 E 9Th Avenue  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:30 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Patricia McClenny  
**Sent:** Thursday, January 16, 2020 11:20:00 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

My husband and I have lived in Montezuma County outside of Dolores for 35 years. We have often hiked, biked and floated the Dolores River. Developing this section would negatively impact the canyon in a major way.

I want to emphasize that even if I did not recreate in this area--if no one did, it should still be protected as a last wild and special area in the part of Colorado. It should be protected just for that reason.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable. Recreation on the Dolores has a positive impact on the local economy and this part of the river should not be destroyed. Again, even if it were not for recreation, this area should not be so altered.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Patricia McClenny

Sincerely,  
Patricia McClenny  
12880 Road 31  
Mancos, CO 81328

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:34 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Amy McClintock  
**Sent:** Thursday, January 16, 2020 11:23:46 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please don't do this! I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,

Amy McClintock  
146 Chapman Ln  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 2:25 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Lucy McGuffey**Sent:** Thursday, January 16, 2020 2:24:32 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Please do not contribute to the already ecological devastation in this region and the world, particularly for the short-term interests of an inefficient and outmoded economic system that serves only elites at

the cost of all other current and future kinds of life.

Sincerely,  
Lucy McGuffey  
1422 Animas View Dr Unit 18 # 18  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 12:33 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Derek Young**Sent:** Saturday, January 18, 2020 12:32:29 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Mr. Warner, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. You see, I grew up in the Southwest and my first wild river experiences were on the San Juan and Upper Rio Grande. Sadly, I haven't had the opportunity to float the Dolores River Canyon and my fear with this new proposal that it's natural, wild state will be forever tarnished and I might not get the chance in my lifetime to see it.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you for listening,

Derek Young

Sincerely,  
Derek Young  
312 S. Lookout Mountain Drive  
Ellensburg, WA 98926

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 1:49 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Edward Mosimann**Sent:** Saturday, January 18, 2020 1:47:17 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Really? It's like a big ol dent in the side of a new F150 ...you can tell they knew they weren't clearing the fence post, and kept on driving anyway. That's the feel of mixing energy and nature. One giant intentional f-up!

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Edward Mosimann  
308 Highway 170  
Farmington, NM 87401

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 3:13 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Louis Gutschenritter  
**Sent:** Saturday, January 18, 2020 3:13:01 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please do not do this.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Louis Gutschenritter  
P.O. Box 772732  
Steamboat Springs, CO 80477

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:42 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Michael podmore  
**Sent:** Thursday, January 16, 2020 11:41:27 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Hello, my name is Mike Podmore and I am writing to express my opposition to the proposed paradox valley brain injection project.

I am a boater who has loved the remoteness a natural beauty of the Dolores river between slick rock in bed rock for the last 40 years. It is clearly one of the most beautiful stretches of river in Colorado, and it deserves to be protected and not destroyed.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Michael podmore  
PO Box 353  
New Castle, CO 81647

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:26 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Pauline Reetz**Sent:** Thursday, January 16, 2020 11:17:52 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

A number of years ago my husband and I and three friends rafted the Dolores River from just below the site of McPhee Dam to Bedrock, CO. It was a beautiful, wild, quiet area with little visitation, a rare place now in our growing State. We camped, hiked, explored ancestral Pueblan ruins and enjoyed the wildlife and scenery.

I am writing to express my extreme dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights. Hiking, camping, wildlife-watching and other quiet recreation would be foreclosed in the area. Wildlife habitat would be fragmented and in some places destroyed. Power lines could cause the deaths of hawks and eagles via collision with the lines.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable wildlife and wild country resources, in its choice of salinity

reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Pauline Reetz  
470 Clayton St  
Denver, CO 80206

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 9:59 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Scott Gerber**Sent:** Saturday, January 18, 2020 9:58:32 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

As a lifelong paddler and someone who knows beyond a doubt the value of wild places, I urge BurRec to take Alternative B1 off the table!

Come on.... our children and grandchildren have already been denied so much of what I have had opportunity to experience.

Please, leave it be!

Sincerely,  
Scott Gerber  
14199 SE MAPLE LN  
OR. 97267, OR 97267

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 11:17 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Evan Dean**Sent:** Saturday, January 18, 2020 11:16:05 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

The Dolores is an unparalleled gem, and federal agencies must treat it as such!

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Evan Dean  
4511 Gregory Way  
El Sobrante, CA 94803

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:32 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Shelby Robinson  
**Sent:** Thursday, January 16, 2020 11:20:56 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

I live in nearby Mancos & appreciate the priceless quiet & beauty of the Dolores River Canyon. Keep it wild.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack

and runoff.

Sincerely,  
Shelby Robinson  
12375 Road 38.7  
Mancos, CO 81328

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 5:40 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Joe Szuszwalak, Jr.**Sent:** Thursday, January 16, 2020 5:39:45 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thanks for your consideration on this critical issue.

Sincerely,  
Joe Szuszwalak, Jr.  
PO Box 48176  
Denver, CO 80204

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 12:32 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Don Thompson**Sent:** Thursday, January 16, 2020 12:31:16 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

It has now been over 30 years since I was able to float that portion of the Dolores River, but I still remember it with joy. The thought that you would want to impact that area with roads, pipelines and powerlines is beyond belief. Please stay away.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Don Thompson  
924 8th St  
Alamosa, CO 81101

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 11:42 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jeremy Womack  
**Sent:** Friday, January 17, 2020 11:41:01 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you,

Jeremy Womack  
River runner, EMT, county resident.

Sincerely,  
Jeremy Womack  
PO Box 3898  
Telluride, CO 81435

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 9:39 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Dave Van Manen**Sent:** Friday, January 17, 2020 9:37:24 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As a Colorado citizen who uses and appreciates our wild public lands, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I strongly encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Dave Van Manen  
PO Box 162  
Beulah, CO 81023

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 6:58 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Marcel Montoya  
**Sent:** Friday, January 17, 2020 6:50:44 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

I grew up spending time in that canyon and it would be travesty to let a project like this destroy it.

Sincerely,  
Marcel Montoya  
252 NE 87th st  
Miami, FL 33138

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 4:59 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jerry Mark**Sent:** Friday, January 17, 2020 4:58:26 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thanks for listening to my input!

Sincerely,  
Jerry Mark  
580 Society Drive  
Telluride, CO 81435

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 7:51 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of David MacMillan  
**Sent:** Friday, January 17, 2020 7:47:59 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Please do not destroy this special place that so many cherish. Instead give the river special protections against this type of abuse.

The Dolores river has existed for millions of years and was working just fine until mankind came along and started experimenting with it. It was the tampering with the Colorado river that started this nonsense. Let it flow into the sea of Cortez again!

Sincerely, David MacMillan

P.S. Impeach the criminal occupying the presidency.

Sincerely,  
David MacMillan  
p o box 201, 22387 Hwy 145  
Placerville, CO 81430

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:24 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of j tuomey**Sent:** Thursday, January 16, 2020 11:17:44 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Ed, You know this is a bad idea and should be abandoned. Harming the Dolores River Canyon will be a terrible legacy for you to leave behind as you come to the end your career.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
j tuomey  
947 Mud LN  
Ignacio, CO 81137

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:29 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Joey Wells**Sent:** Thursday, January 16, 2020 11:18:10 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As a fisherman and general outdoor enthusiast, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

1/21/2020

Mail - McCarter, Molly E - Outlook

Sincerely,  
Joey Wells  
1600 Westover Rd  
Austin, TX 78703

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 2:23 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Wendy Volkmann**Sent:** Thursday, January 16, 2020 2:22:27 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am opposed to any possible construction of a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Putting a new road up into the Dolores River Canyon and two bridges crossing the Dolores River, plus a power line will violate our recreational experience of this remote and gorgeous river canyon. The Dolores River offers among the most spectacular and beloved wild river experiences in the US. Making the last miles of this float into an industrial zone is wholly unacceptable.

I'm against the Bureau of Reclamation's Alternative B1. Power lines, roadways, lights, traffic, fences, buildings and etc. would entirely change the character of the float and its magnificent sights.

The Dolores River is a wild and scenic river candidate, but not if you muck it up.

Alternatives that similarly degrade beautiful Paradox Valley should be dismissed as well. Salt evaporation pits extending across the land adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected, plain and simple.

Please, Bureau of Reclamation, consider carefully the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in the choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Wendy Volkmann  
PO Box 6516  
Santa Fe, NM 87502

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 5:16 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Aubrey Bertram  
**Sent:** Friday, January 17, 2020 5:14:14 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

I currently live in Montana, but grew up in Colorado. I spent a lot of time in the southwest corner of the state - in my opinion, it is the most beautiful part of Colorado. The Dolores River and its surrounding ecoscape is an absolute gem of the American West.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Aubrey Bertram  
440 1/2 Yellowstone Ave  
Billings, MT 59101

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 11:41 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of timothy courington  
**Sent:** Friday, January 17, 2020 11:40:43 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Hello,

I'm writing as a concerned citizen, parent, and outdoor enthusiast. I'm am very concerned about this proposal as once wilderness is developed, it will never be the same. The current administration is already threatening many valuable natural areas that my children and yours won't ever know except as extraction or energy sources. It is sad to see the shortsightedness of these proposals. I understand the need for economic development and energy, however at the expense of taking away valuable resources and opportunities to enjoy the outdoors from our future generations is unacceptable, sad, and frankly without any regard to those without existing money or power. The only parties that benefit from this are energy and extraction businesses.

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I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff

Sincerely,  
timothy courington  
4641 trinchera trail  
evergreen, CO 80439

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 10:27 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Kurt Friederich**Sent:** Friday, January 17, 2020 10:26:32 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

While I understand the importance of reducing the salinity in the river, better options need to be explored in order to protect the natural beauty of this unique section of canyon. Maintaining the natural beauty of the area should be the highest priority in this decision making process, not simple convenience.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative

B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Kurt Friederich  
PO Box 2973  
Telluride, CO 81435

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 7:14 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Ariel Allee Jumbo**Sent:** Friday, January 17, 2020 7:11:50 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As a lifetime resident of Montezuma County, I know how special the Dolores River is. I've spent countless days enjoying it from the water. I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. Please keep the Dolores wild and scenic!!!

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Ariel Allee Jumbo  
14493 Road 31  
Mancos, CO 81328

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 7:41 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Bryan Miller**Sent:** Friday, January 17, 2020 7:31:38 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please don't allow more development in the Delores River area on public land. Every public servant such as yourself must do everything you can to protect our natural resources for future generations. We are in ecological crisis and public agencies like the BLM are our last hope of leaving anything natural for our grandchildren. Make yours proud. Don't allow more development. Thank you.

Bryan Miller  
Gunnison, CO

Sincerely,  
Bryan Miller  
720 N. Boulevard St.  
Gunnison, CO 81230

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 7:56 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Bruce Saxman**Sent:** Friday, January 17, 2020 7:56:38 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Seriously, doesn't this river struggle enough with development as is? My company has a commercial

permit for this river and we can barely run it. The last thing needed is more roads and bridges.

Sincerely,  
Bruce Saxman  
River Manager  
Durango RiverTrippers

Sincerely,  
Bruce Saxman  
17 Cedar court  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 9:40 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Michael Williams  
**Sent:** Friday, January 17, 2020 9:39:28 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my opposition to any plan to construct a new brine injection well in the Paradox Valley upstream of Bedrock at Wild Steer Canyon.

That canyon area is unique in the world. A new road 1.3 miles up the canyon, with two bridge crossings and a parallel powerline will ruin the experience of this remote and wild place. Turning the last miles of this float into an industrial zone is not an acceptable alternative. The Bureau of Reclamation's Alternative B1 would ruin the horizon with powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

The Bureau of Reclamation should more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources in its choice of salinity reduction alternatives. The Bureau of Reclamation should expand the evaluation of alternative potential brine injection well sites to locations that are less socially and environmentally destructive than Alternative B1 at Wild Steer Canyon.

Sincerely,  
Michael Williams  
12812 Rd 29  
Dolores, CO 81323

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 1/19/2020 9:09 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of jai cross**Sent:** Sunday, January 19, 2020 9:09:15 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to object to the new brine injection facility at the intersection of Wild Steer Canyon and the Dolores River Canyon. This is a beautiful unspoiled area of natural river-way and slick rock formations that deserves our strongest protections. The Bureau of Reclamation's proposal for new roads, pipeline, power lines and bridges is completely unacceptable in this pristine area. I strongly urge the BOR to find an alternative to destroying one of the best preserved natural areas on the Colorado Plateau.

Thank you for your consideration.

jai cross

Sincerely,

jai cross

PO Box 612

Arroyo Hondo, NM 87513

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 10:28 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Michele Silbert**Sent:** Saturday, January 18, 2020 10:27:57 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As Executive Director of a national grassroots organization of 8,500 members and supporters, with its headquarters in southwestern Colorado, called Great Old Broads for Wilderness, I am writing to express our dismay and opposition to the potential to construct a new Paradox Valley brine injection upstream of the current site on the Dolores River.

This is a completely inappropriate use in a BLM Wilderness Study Area, and a new road should not be built, neither should the two proposed bridges crossing the Dolores River, nor the powerline. This industrialization of a pristine and economically significant river canyon will negatively impact the wildlife habitat and recreational experience of this remote and scenic canyon.

As a recreational user of the Dolores River, I can speak to its significance in the region and its well-recognized value as one of the most special river experiences in the United States, especially for its wilderness quality.

We oppose The Bureau of Reclamation's Alternative B1 because of its physical impacts to the river downstream of Wild Steer Canyon. Likewise, it would irreversibly alter the experience as boaters float from La Sal Creek.

It does not benefit the county state, or local communities to mar a river The Dolores River, which has been recognized as a candidate for becoming a wild and scenic river. We must not allow the destruction of the very outstanding and remarkable values which give potential wild and scenic status to the river.

We strongly encourage the Bureau of Reclamation to thoroughly evaluate the permanent impacts these developments will cause. We implore The Bureau of Reclamation to find alternate ways to dispose of brine waters and evaluate alternate injection well sites Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation must also consider how the salinity disposal will exacerbate climate change and lead to reduced snowpack, which is critical to the entire region and its populace. Thank you for considering our comments and for looking for alternative options.

Sincerely,  
Michele Silbert  
P.o. Box 2924  
Durango, CO 81302

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 6:10 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Brian Curnutte**Sent:** Saturday, January 18, 2020 6:08:44 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Ed,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

The Dolores River is a popular river rafting area. The fact that the Dolores river has little to no infrastructure on some sections is what brings some people to this area to raft. It is important to me and many others that this area and river stay free of human impact. Preservation of the beauty and local ecologies should be your number one concern, not creating more human impact within and around the beautiful river and animals home.

Thank you, for you time and I hope you reconsider, for the animals.

Brian Curnutte  
Fort Lewis College  
Durango, CO 81301

Sincerely,  
Brian Curnutte  
2331 West 3rd Ave. #2  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 9:16 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Drew Ludwig**Sent:** Friday, January 17, 2020 9:15:27 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I spend part of my year in the Paradox valley and have a little place there right in Bedrock. I know a thing or two about the area.

I also have read over the various options the Bureau of Reclamation is proposing.

If I had to choose one I would choose option A as any salinity control in the valley appears to be more about the treaty with Mexico than actually getting to the root of salinity in the Colorado River corridor. A PEIS on the entire Salinity Control Program is needed. Salinity in the Colorado River has only increased since the Paradox program began. There has never been a thorough analysis, and the benefits of the Paradox project are not making a bit of difference when the agency doesn't address the root causes. That would be irrigation, over-appropriation, and the dams. They have a lot more analysis and disclosure to do in the DEIS in my opinion.

Option B1 would be disastrous to our efforts towards building a recreation economy. If you want lasting, sustainable jobs, don't put an injection well, two bridges and infrastructure farther up a river corridor that is currently a wilderness study area and under consideration as a wild and scenic river.

Option B2 is better but I worry about the improvement of roads as that could bring in a wave of uranium and gold speculation up on Monogram mesa. This would be my second choice if I had to choose.

Option C is not an option.

Option D isn't ideal either but maybe better suited in a more urban part of the river corridor? I would need to do more research on this one.

The thing that makes the Paradox valley special, and economically viable as a recreation economy, is its emptiness and lack of industrialization. It is hard for me to justify sacrificing that for salinity concerns on a river that doesn't reach the ocean. Any desalination efforts are a gesture.

Thank you for the consideration of my opinion and feel free to reach out if I can be of any help.

Drew Ludwig

970-596-6246

Sincerely,  
Drew Ludwig  
PO BOX 25  
Bedrock, CO 81411

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 9:09 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Scott Triesmann**Sent:** Saturday, January 18, 2020 9:09:12 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I have floated the Dolores River on a multiday recreational rafting trip. It is an incredibly unique and special river and unlike any other in the southwest. Its outstanding natural landscape needs further protection, not further degradation.

In 2017 12 friends and I from Gunnison County, CO, spent hundreds of dollars in the local economy while traveling to and floating the river. This is a more sound future economic benefit for the community than dirty industry.

in addition, further development of roads in this landscape increases erosion from both water and wind and exacerbates aridification and drought.

60.01

surely there are cleaner and more sustainable alternatives available to dealing with the brine.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 5:05 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Bob Gleason**Sent:** Friday, January 17, 2020 5:04:55 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

I understand the proposed new well will inject the brine into the same rock strata that was storing the brine in the previous injection well. It is logical, that the instability and resulting earthquakes that were

61.01

1/21/2020

Mail - McCarter, Molly E - Outlook

61.01

caused by the earlier well would likely be an issue with the new well.

I feel that study could come up with a better solution. I ask that an in depth study be done with the intent of finding a better solution.

Sincerely,  
Bob Gleason  
104 Elkhorn ct  
Telluride, CO 81435

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 1/16/2020 2:51 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Vicki Whitaker

**Sent:** Thursday, January 16, 2020 2:50:11 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Below is part of the canned letter.

It is appalling that you are even thinking along these lines!

Canned letter outtake:

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Sincerely,  
Vicki Whitaker  
45 Road 3141  
Aztec, NM 87410

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 4:22 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Tim Wheeler**Sent:** Thursday, January 16, 2020 4:21:51 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I live in Durango, CO and have enjoyed recreating in the Dolores Canyon many times. I read recently of the proposed new brine injection wells there.

As a result, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack

and runoff.

Sincerely,  
Tim Wheeler  
189 Verde Lane  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 9:45 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Susan Ray**Sent:** Thursday, January 16, 2020 9:45:05 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my complete opposition to a project to construct a new Paradox Valley brine injection well at Wild Steer Canyon. I was a long time resident of that area so am familiar with the wild untouched beauty of the Dolores River Canyon. It's like stepping back in time hundreds of years to see the geology, the petroglyphs, dinosaur tracks, rare wild flowers, cryptobiotic soil, and fossils. There is something mystical about the silence in the canyon with the wind and the water being the only sounds.

Building roads, bridges and powerlines in the Dolores River Canyon will devastate this area forever. It must remain remote and wild as there are so few wild places left untouched.

Any plan alternative that impacts the Paradox Valley must also be rejected. The valley itself is a geologic anomaly with a river that flows in the "wrong" direction which must be preserved and studied. Salt evaporation pits will cause unintended consequences to this area and must never be seriously considered.

I encourage the Bureau of Reclamation to carefully consider the lasting impacts to irreplaceable environmental resources in its choice of salinity reduction projects. Please choose an alternative brine injection well site that is not as socially and environmentally destructive as Alternative B1 in Wild Steer Canyon. Better yet, with the Colorado River system under so much stress from decreasing flows, let the downstream users desalinate their own water and stop polluting Colorado.

Sincerely,  
Susan Ray  
2491 Sawmill Rd  
Santa Fe, NM 87505

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 9:40 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jim Milstein**Sent:** Thursday, January 16, 2020 9:39:03 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

In addition to the points below, I oppose new infrastructure to support fossil fuel development of any kind. Countering global climate change due to fossil fuel use is far more important than enabling more extraction of fossil fuels.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Jim Milstein  
895 Cactus Dr  
Pagosa Springs, CO 81147

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 11:26 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Stephen Krest**Sent:** Thursday, January 16, 2020 11:18:10 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

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Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Also, what is the expected life of this proposal? Will this "solution" have to be repeated upstream

66.01

1/21/2020

Mail - McCarter, Molly E - Outlook

66.01

again in the next 25 years as this strata fills up?  
Are there no other solutions?

Sincerely,  
Stephen Krest  
498 CR 132, PO Box 163  
Marvel, CO 81329

January 25, 2020

To: Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave, Ste 221  
Grand Junction, CO 81501  
[paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)  
(970) 248 - 0600

Dear Ed Warner and the Bureau of Reclamation,

I am writing to ask you to consider Alternative A with regard to the Dolores River salinity control project scheduled for approval in the spring. I am a recreational user of this area and enjoy the natural environment of Slick Rock canyon near Bedrock, Colorado. In addition to being an outdoor enthusiast, I am a local resident of Colorado. This special place is my home, and I urge you to abandon any further disturbance to our local area for a few reasons listed here.

1) Wilderness Study Areas (WSAs) are identified by BLM as suitable for designation as wilderness and are recommended for such designation through Congress. The Dolores WSA has been determined to possess wilderness area characteristics: minimum roadless size, apparent naturalness, outstanding opportunities for solitude or primitive and unconfined recreation, and supplemental values. There is no need for a new deep injection well and underground pipeline directly in the Dolores River bed, ruining the most beautiful aspect of this watershed and adversely affecting WSA preservation. Please do no more harm, and instead continue to maintain our wilderness to the highest standards possible.

67.01

2) The primary recreational activities on BLM-administered lands in the vicinity of the Paradox Valley are hunting, river-related uses, such as fishing, rafting, and canoeing, off-highway vehicle use, hiking, rock climbing, mountain biking, backpacking, and camping. Recreational opportunities based on solitude and natural setting near the study area would be affected by noise and construction impacts such as the construction of two bridges and facilities that would be visible from Reclamation land to rafters and hikers, this change to the characteristic landscape would be visible, and so would the scar created by the installation of an underground pipeline which is not ideal.

67.02

3) There is no need for excess roads and infrastructure in this pristine natural area. Alternative B1 has severe impact and is not a good option because accessing the top of Skein Mesa for the Vertical Injection Well would require widening sections of County Roads and a ½-mile access road would need to be constructed to the new well head location. Construction of the facility

would require numerous pieces of heavy equipment, such as a drilling rig, pile driver, dozers, excavators, motor graders, compactors, dump trucks, backhoes, pipe layers, and forklifts. All of which will adversely alter the natural environmental beauty of this special area.

4) Emissions of air pollutants (including GHGs), the release of H<sub>2</sub>S in reportable quantities, and odor potential are not favorable. Alternative A is the best option for the least Emissions and would have no further effect on the airshed at Arches National Park.

67.03

5) The geologic potential of increased ground shaking and changes in the frequency, magnitude, and spatial distribution of earthquakes, compared with existing and historical trends is the primary identified hazard for the project - involving loss of human life, as well as economic and environmental impacts.

67.04

6) The most affordable option is to plug the current well and abandon it. Other options are expensive and would have impacts like increased traffic, increased air emissions and noise, wildlife habitat and vegetation loss, small mammal and reptile mortality, and localized impacts on land. Gunnison sage-grouse and big horn sheep are of concern.

Why has compliance with the US-Mexico Water Treaty, in addition to compliance with the Salinity Control Act become the standard? Is the salinity coming from the Dolores River in Paradox basin toxic or natural? Let us consider that the ecosystem is more valuable than money, then we can work to change previous agreements in an effort to protect this natural resource without further disturbances.

Please hear the collective voice of ours that wishes to protect our wild places, and withdraw your proposal to the U.S. Secretary of the Interior. Honor your very own goals and objectives to avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in this regional environment. Be in the best interest of the public, including considerations of health and safety and the local community's desired future conditions.

In this case, we desire to keep our beautiful Dolores river watershed pristine. Thank you for your time and consideration on this issue.

Sincerely,

  
\*KRISTIAN BELL  
20280 US-160 APT 201C  
Durango, CO 81303.

## COMMENT LETTER 68

Bureau of Reclamation  
Attn: Ed Warner, Area Manager  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Letter sent via email to: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Re: Paradox Valley Unit Draft EIS

Dear Mr. Warner,

Please accept the following comments submitted by the Colorado Wildlands Project (CWP). The CWP is a new advocacy project focused on the protection of wilderness quality public lands under the administration of the Bureau of Land Management (BLM) in Colorado. We are particularly interested in decisions that could impact Conservation Lands such as Wilderness Study Areas (WSAs) as well as lands with wilderness characteristics (LWCs).

Our recommendation is that the Bureau of Reclamation (BOR) choose Alternative A, the No Action Alternative because of several significant deficiencies with the DEIS outlined below. In particular, we oppose Alternative B because it is incompatible with the non-impairment standard required for management of the adjoining BLM lands in the Dolores River Canyon WSA. The other alternatives, C and D, also have significant potential detrimental impacts on the environment and nearby

communities. We recommend that BOR complete a more holistic analysis of the costs and benefits associated with the entire Colorado River Salinity Control Program and weigh the overall need of the Paradox Valley Unit (PVU) in that context and developing a different range of alternatives before making a final decision (beyond Alt A) on the future of the PVU.

68.01

### **Purpose and Need**

The need for the action alternatives in the DEIS is to “control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin.”<sup>1</sup> However, the DEIS fails to quantify the impact of the existing PVU operations since 1996:

*because of the many variables associated with quantifying the effect of pumping on the river’s salinity (such as base salt load conditions, river flows, irrigation practices, and groundwater flow into the river), the change in TDS levels between the two U.S. Geological Survey (USGS) stations at Paradox*

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<sup>1</sup> DEIS at 1.3

*Valley (09169500 and 09171100) does not exactly correlate with the volume of brine pumped from the brine production wells.*

*However, no complete models of salt control in the Paradox Valley exist with which to determine the salinity control effect of PVU operations; therefore, based on best available scientific information, Reclamation is continuing to estimate salt control in the Paradox Valley based on its historical determination.<sup>2</sup>*

The lack of solid data demonstrating the effectiveness of the PVU makes it impossible for the public to assess whether the project meets the purpose and need, as well as whether it is a wise investment in these costly action alternatives, both to taxpayers as well as to the surrounding environment.

Though the Colorado River Basin Salinity Control Act of 1974 authorizes the PVU, it does not mandate a particular kind of operation at Paradox Valley, or direct BOR that it must engage in a particular type of operation at Paradox Valley.<sup>3</sup> Indeed, other locations are listed where there are no significant operations, such as at Crystal Geyser in Utah.

Recommendation: The BOR should not decide on one of the action alternatives unless it can demonstrate to the public that it meets the purpose and need.

68.02

## **Range of Reasonable Alternatives**

NEPA requires that an actual "range" of alternatives be considered, so as to "preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative."<sup>4</sup> This requirement prevents the DEIS from becoming "a foreordained formality."<sup>5</sup> In addition, the "evaluation of alternatives mandated by [NEPA] is to be an evaluation of alternative means to accomplish the general goals of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals."<sup>6</sup>

BOR must also develop alternatives that are consistent with the mitigation hierarchy. NEPA and associated Council on Environmental Quality (CEQ) regulations

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<sup>2</sup> DEIS at 2.1.1

<sup>3</sup> 43 U.S. Code § 1592

<sup>4</sup> Col. Env'tl. Coal. v. Dombeck, 185 F.3d 1162, 1174 (10th Cir. 1999) (citing Simmons v. U.S. Corps of Eng'rs, 120 F.3d 664, 669 (7th Cir.1997))

<sup>5</sup> City of New York v. Dep't of Transp., 715 F.2d 732, 743 (2d Cir. 1983). See also Davis v. Mineta, 302 F.3d 1104 (10th Cir. 2002)

<sup>6</sup> Colo. Env'tl. Coal. v. Dombeck, 185 F.3d 1162, 1174 (10th Cir. 1999)

require federal agencies to analyze potential impacts and consider ways to avoid, minimize and mitigate impacts – in accordance with the mitigation hierarchy.<sup>7</sup> The mitigation hierarchy aims to minimize environmental harms associated with agency actions. First and foremost, BOR must seek to avoid impacts; then minimize impacts (e.g., through project modifications, permit conditions, interim and final reclamation, etc.); and, generally, only if those approaches are insufficient to fully mitigate the impacts, seek to require compensation for some or all of the remaining impacts (i.e., residual effects). BOR must apply the mitigation hierarchy to evaluation of the proposed Project.

The DEIS fails to present a reasonable range of alternatives, including alternatives to mitigate impacts. The three action alternatives each present troubling environmental and community impacts, yet it fails to contemplate alternatives that might also reduce salinity intrusion at Paradox Valley such as managing river flows at existing BOR facilities in the Dolores River (such as at McPhee Dam) to increase flows and thus reduce salinity.

68.03

The action alternatives present the public with significant negative impacts to the environment and the community:

- Alternative B - impacts to the Dolores River and its canyons that may impair the wilderness study area, impair the suitability of a wild and scenic river, permanently diminish recreational values, destroy habitat for desert bighorn sheep and the Gunnison sage grouse, and ultimately create additional earthquakes in the region.
- Alternative C - evaporation ponds could harm migratory birds and would damage the scenic and rural nature of the Paradox Valley
- Alternative D - more industrial development would damage the scenic and rural nature of the Paradox Valley and burning fossil fuels to power the crystallizers would require a pipeline to bring natural gas as well as create a new source of greenhouse gas use contributing to climate change.

Recommendation: the BOR should develop a more reasonable range of alternatives that consider actions that have less harmful impacts to the environment and nearby communities, including alternatives to mitigate impacts.

### **Wilderness Study Area Impairment**

Consistent with its obligations under FLPMA and implementing regulations, BLM must manage and protect Wilderness Study Areas (WSAs) to preserve wilderness

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<sup>7</sup> 40 C.F.R. §§ 1508.8, 1502.14, 1502.16.

characteristics so as not to impair the suitability of such areas for designation by Congress as a Wilderness. Alternative B in the DEIS does not meet these obligations.

In July 2012, the Department of the Interior released updated guidance on BLM management of WSAs.<sup>8</sup> Manual 6330 provides “general policies for the administration and management of [WSAs]” and “outlines procedures to ensure the Congressional mandate to manage” WSAs to a non-impairment standard is met. As a general policy, BLM must “protect the wilderness characteristics of all WSAs in the same or better condition than they were on October 21, 1976, until Congress determines whether or not they should be designated as wilderness.”<sup>9</sup> Further, when “managers are in doubt as to a course of action in a WSA, this [policy] should serve as a guiding principle.”<sup>10</sup> “The benchmark for the non-impairment standard is the condition in 1976 or current condition of the WSA, whichever is the better condition of wilderness characteristics.”<sup>11</sup>

The Dolores River Canyons WSA is a 30,000 acre area of slickrock canyons surrounding the Dolores River, recommended by the BLM to be designated wilderness by Congress.<sup>12</sup> The WSA and the “Slickrock Section” of the Dolores River that winds through the WSA is a popular and sought after recreational resource when flows are sufficient to float the stretch. The WSA “includes all surface *and subsurface* features under the jurisdiction of the BLM [italics added for emphasis].”<sup>13</sup>

68.04

The non-impairment standard requires a two part test for proposed actions. One is if the action is temporary and the second is whether the action creates a surface disturbance.<sup>14</sup> Alternative B1 would be a permanent action within the WSA, even though it is subsurface, so it fails the non-impairment standard test.

BLM Manual 6330 does make limited exceptions to application of the non-impairment standard, and the DEIS seems to excuse impacts from Alternative B by claiming that since “PVU is authorized by Congress under Title II, Section 202(a)(1), of the Colorado River Basin Salinity Control Act (PL 93-320, as amended)” then that is a qualifying exception.<sup>15</sup>

However, although Manual 6330 does allow that “other obligations may be

<sup>8</sup> BLM Manual 6330- Management of Wilderness Study Areas (Public) (July 13, 2012)

<sup>9</sup> Manual 6330 § 1.6.B.

<sup>10</sup> Id.

<sup>11</sup> Id. at 1.6.B.6

<sup>12</sup> BLM Colorado Wilderness Study Report ROD, October 1991

<sup>13</sup> Manual 6330 § 1.4.C

<sup>14</sup> Id. at 1.6.C.1

<sup>15</sup> DEIS at 3.13.2.2

created by Congress,<sup>16</sup> it is not plausible to read that Title II, Section 202(a)(1), of the Colorado River Basin Salinity Control Act would be a qualifying act of Congress because the Colorado River Basin Salinity Control Act never mentions, much less authorizes, activities specifically in a location that is now within the Dolores River Canyon WSA (the WSA did not exist in 1974). So since Congress was not specific in location or name, it creates no congressionally-mandated exception, or other valid existing right, that would satisfy the exception requirements to the non-impairment standard. And since there is no current, existing PVU-related use within the WSA and existing facilities only were established in 1996, it eliminates any exception for grandfathered uses prior to the 1976 effective designation date of the WSA.

The DEIS then goes on to claim:

*The permanent subsurface facilities would not affect the wilderness characteristics; therefore, they would not impair the area's suitability for preservation as wilderness.*<sup>17</sup>

This statement is entirely subjective and attempts to presuppose the judgement of Congress. In fact, Congress has been extremely reluctant to designate wilderness where there are ROWs and subsurface infrastructure, so it is not credible to claim that a pipeline would not impair the area's suitability. Congressionally-designated wilderness is managed to a different standard: to wit there is no non-impairment standard in wilderness, there are only degradations to naturalness and non-conforming uses (like pipelines) that would likely create impediment to wilderness designation for this portion of the WSA.

Finally, BLM Manual 6330 states:

*If an impairing proposed project—even one that meets an exception—can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that the project is implemented outside the WSA.*<sup>18</sup>

Since there are other alternatives that would not impair the WSA, and since Alternative B falls short of a qualifying exception to the non-impairment standard, then BOR should eliminate Alternative B as an alternative, or at least amend it to entirely avoid the surface *and subsurface* of the WSA.

Recommendation: BOR should eliminate or rework Alternative B to entirely avoid the Dolores River Canyon WSA. BOR cannot adopt Alternative B as proposed in the

68.05

<sup>16</sup> Manual 6330 § 1.6.C.2.g

<sup>17</sup> DEIS at 3.13.2.2

<sup>18</sup> Manual 6330 § 1.6.C.2

DEIS because it would violate the non-impairment standard, the PVU is not a qualifying exception to the non-impairment standard, and there are other alternatives available that would not impair a WSA.

### **Hard Look at Potential Impacts**

The fundamental objective of NEPA is to ensure that an “agency will not act on incomplete information, only to regret its decision after it is too late to correct.”<sup>19</sup> NEPA dictates that agencies take a “hard look” at the environmental consequences of a proposed action, and the requisite environmental analysis “must be appropriate to the action in question.”<sup>20</sup> In order to take the “hard look” required by NEPA, BLM must assess impacts and effects, including: “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative.”<sup>21</sup>

BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS:

68.06

- Impacts to river recreation, such as new bridges and other infrastructure over the Dolores River within a popular boating section, creating new public hazards.

- Impacts to scenic and aesthetic qualities of community and area. Paradox Valley is a rural, residential and agricultural community. Building significant industrial infrastructure could harm these qualities, and depress already low property values.

68.07

- Impacts to economy and efforts at just transition. The West End of Montrose County is working to recover from the boom and bust cycles of the uranium mining era and still reeling from the job losses resulting from the closure of the Tri-State power plant and mine at Nucla. There have been significant efforts to reinvent the local economy around outdoor recreation. New trails have been built, and efforts are being made to promote existing resources like boating on the Dolores River or hiking in the WSA. The DEIS fails to analyze the effects that any of the alternatives would have on the economic revitalization efforts of the area.

68.08

- Impacts to wildlife. The DEIS acknowledges the impacts that Alternative B would have on potential Gunnison sage grouse habitat, however the DEIS incorrectly states that there is low public interest or no economic or recreational concerns in bighorn sheep species in the project area.<sup>22</sup> On the

<sup>19</sup> Marsh v. Or. Natural Res. Council, 490 U.S. 360, 371 (1989)

<sup>20</sup> Metcalf v. Daley, 214 F.3d 1135, 1151 (9th Cir. 2000).

<sup>21</sup> 40 C.F.R. § 1508.8

<sup>22</sup> DEIS at 3.11

68.09

contrary, the public and Colorado Parks and Wildlife have had significant interest in the health and recovery of the herd in the Dolores River canyons.<sup>23</sup>

Recommendation: BOR should go back and further analyze impacts to recreation, local economy and wildlife in the DEIS.

Thank you for your consideration of Colorado Wildland Project's comments on the DEIS for the Paradox Valley Unit. We have significant concerns about this project and intend to remain involved in all future stages of the planning process. If you have any questions or concerns, please feel free to contact me.

Sincerely,

Scott Braden  
Director  
Colorado Wildlands Project  
587 21 1/8 Rd  
Grand Junction, CO 81507  
[lodoreconsult@gmail.com](mailto:lodoreconsult@gmail.com)  
(720) 530-7473

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<sup>23</sup> <https://durangoherald.com/articles/305780>

WCAO - GRAND JUNCTION  
JAN 28 '20 PM1:37

MR. WARNER,

PLEASE NOTE MY DISPLEASURE  
IN HEARING OF MORE DEVELOPMENT,  
POSSIBLY, IN THE DELWES RIVER  
ABOVE BEDROCK.

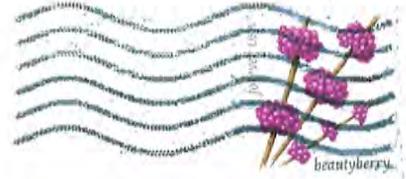
IF THERE IS ANY ALTERNATIVE TO  
A NEW PUMPING STATION THERE IS  
BE IN FAVOR OF THAT.

THANKS FOR YOUR ATTENTION,

DENNIS BROWN  
DURMOS, CO.

D.L. Brumm  
11 SPRUCE CT.  
DURANGO, CO 81301

ALBUQUERQUE NM 870  
23 JUN 2020 PM 3 L



EO WARNER, AREA MGR.  
BUREAU OF RECLAMATION  
445 W. CUNNINGHAM AVE., SUITE 222  
GRAND JUNCTION, COLO, 81501

81501-570399



Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:03 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Sunday, January 19, 2020 7:23 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Cara McGary

**Sent:** Sunday, January 19, 2020 7:21:23 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am a biologist, conservationist and commercial tour guide. My livelihood depends on clean water and intact ecosystems.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Cara McGary  
PO Box 501  
Gardiner, MT 59030

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:03 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

---

**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Sunday, January 19, 2020 8:39 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

---

**From:** paradoxeis@usbr.gov On Behalf Of Michelle Reott

**Sent:** Sunday, January 19, 2020 8:37:40 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am a boater who loves the wild and scenic nature of the Dolores River. I am writing to express my opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Building a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

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Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Michelle Reott  
250 W 16TH St  
DURANGO, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:05 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 20, 2020 10:07 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Sylvie Hetherton

**Sent:** Monday, January 20, 2020 10:06:55 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Dear sir

Thank you in advance for your time and consideration. My name is Sylvie and I live in Colorado. I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Sylvie Hetherton  
2780 Eliot Circle  
Westminster, CO 80030

1/30/2020

## COMMENT LETTER 73

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:05 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 20, 2020 9:40 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Kirby MacLaurin

**Sent:** Monday, January 20, 2020 9:38:54 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I oppose construction of a new Paradox Valley brine injection well upstream from Bedrock, at Wild Steer Canyon.

I foresee impacts on the local ecosystem, and destruction of a fairly well preserved natural area, with the creation of a new road extending 1.3 miles up the Dolores River Canyon, and two bridges crossing the Dolores River, as well as a parallel powerline in that area. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable. We have only so many wild, untouched places in this region, and this one is particularly beautiful. Once marred, it can never again return to an original historic and balanced state.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Kirby MacLaurin  
288 Animas View Dr Trlr 51  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 12:15 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 1:06 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Mary Amerman

**Sent:** Monday, January 27, 2020 1:05:51 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

It is our hope that any plans for construction of a new Paradox Valley brine injection well farther upstream of Bedrock at Wild Steer Canyon will be rejected. Please consider:

We need to protect the wild areas that are left. Building a road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon.

The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States.

Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Mary Amerman  
1121 Briar Rdg  
West Des Moines, IA 50265

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:52 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 4:02 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Charlene Anderson

**Sent:** Monday, January 27, 2020 4:01:49 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Over 40 years ago I first floated this stretch of river, fell in love with the winding scenery and solitude. Why would this even be considered for industrialization is beyond me. We should never throw such a gem away to development. Preserve it!

We must find an alternate location for the injection complex -- this is such unspoiled and beautiful remote country. For myself, my nieces and nephews, and for my friends in their 70's and 80's who first took me there almost a half a century ago, it is our obligation to take care of it for the future.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Charlene Anderson  
308 HIGHWAY 170  
Farmington, NM 87401

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:51 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 6:07 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Marilyn May

**Sent:** Monday, January 27, 2020 6:06:48 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Surely you can find a better place for this instead of this beautiful river canyon.

Sincerely,  
Marilyn May  
2271 Tuscana Avenue S.  
Salem, OR 97306

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 3:01 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Rick Ryan**Sent:** Monday, January 27, 2020 3:00:32 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. I have been boating, hiking, and working with the BLM in the proposed construction area since the early 1980's.

The existing brine injection well is within site and sound just North and East of the Dolores Canyon Wilderness Study Area (WSA) Boundary. This segment of the WSA is recommended for Wild status, the most protective under the Wild & Scenic Rivers Act. The BLM does not even allow motorized watercraft in this area.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline would in effect move the well into a more remote area surrounded on 3 sides by the WSA. This new location would have the effect of generating greater impacts to the natural resources and recreation experiences than exists now.

One of the recreational highlights of the proposed new location area is the opportunity for solitude. Not only boating but hiking and birding. The Dolores Canyon Wilderness Trail runs along the river for more than six miles to view dinosaur tracks and ancient rock art. The new bridges and road would have a drastic effect on the trail and the opportunity to experience solitude.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack

and runoff.

Sincerely,  
Rick Ryan  
502 N Ash St.  
Cortez, CO 81321

1/30/2020

## COMMENT LETTER 78

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 12:02 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 1:37 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Tim Schaldach

**Sent:** Monday, January 27, 2020 1:36:06 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my opposition to the proposed Paradox Valley brine injection well at Wild Steer Canyon. Please leave the Dolores River Canyon alone.

Sincerely,  
Tim Schaldach  
20 Bacus Avenue  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 12:01 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 2:31 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Matthew Sheldon

**Sent:** Monday, January 27, 2020 2:29:54 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff. Hey, where has common sense gone. Surely there must be an alternative site or two much more suitable that is out of sight. Leave the serenity of the canyon alone.

Sincerely,  
Matthew Sheldon  
11587 Road 22  
Cortez, CO 81321

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:49 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 7:50 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Dave Welz

**Sent:** Monday, January 27, 2020 7:49:53 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As someone who has been privileged to float the Dolores River on numerous occasions since 2011, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Dave Welz  
2519 Thomas Ave  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:17 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Tuesday, January 28, 2020 2:55 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Erika Brown

**Sent:** Tuesday, January 28, 2020 2:45:08 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am strongly opposed to the potential construction of a new Paradox Valley brine injection well upstream of Bedrock, at Wild Steer Canyon.

Creating a new road up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Erika Brown  
16 Artisan Ct  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 1/28/2020 6:18 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Tamra Fenberg**Sent:** Tuesday, January 28, 2020 6:17:16 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please, please, please make every effort to reevaluate the new location for the new injection plant! Of course Everyone has their own preference according to their own interest and benefit, so please consider a way to meet all parties interests in this project. Is this really the best option and especially is it really the only option? It is a glorious part of the world and so rare, that it would be terribly sad to damage its beauty with crude man made structures. Again, please reconsider this location for the long-term preservation of the Dolores river.

Thanks you!

Tamra Fenberg

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Tamra Fenberg  
401 Hillcrest Dr  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:17 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Tuesday, January 28, 2020 4:15 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Matt Giblin

**Sent:** Tuesday, January 28, 2020 4:13:43 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

To whom it may concern:

The Dolores River Canyon is one of my favorite places in Colorado. Every year there is enough water to float the river I try my best to make it down there from Denver to float. Its a big undertaking, and involves spending considerable time and resources to do. Many of these resources end up getting injected (no pun intended) back into the local economy in the form of hotel stays, restaurant meals, groceries and gas. Why do I and so many others do this? What makes this place so special. The single biggest reason is without a doubt the unspoiled wilderness character of this river and the canyon it flows through. There is no way to build this project without changing that, in reality destroying the exact unique wilderness characteristic that makes this place so special, even if it is just for a portion of the canyon. Its an unacceptable impact.

Bulldozing a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified, and destroy any chance that this section of river could ever receive the Wild and Scenic designation it so clearly deserves.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon.

Sincerely

Matt Giblin

Sincerely,  
Matt Giblin  
2015 E ARKANSAS AVE  
DENVER, CO 80210

1/30/2020

## COMMENT LETTER 84

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:17 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Tuesday, January 28, 2020 2:09 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Josh Holleb

**Sent:** Tuesday, January 28, 2020 2:08:55 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

I know people who wait their entire lives to float this stretch of river when it runs. Please keep it wild.

Sincerely,  
Josh Holleb  
2635 Mapleton Ave #68  
Boulder, CO 80304

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 1/28/2020 7:18 AM

To: McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Doug Holmes

**Sent:** Tuesday, January 28, 2020 7:18:02 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please do not construct new roads, power lines or wells in the area of the Dolores River Canyon. It will ruin the nature of the canyon.

Thanks,

Sincerely,  
Doug Holmes  
707 W 31st Street  
Farmington, NM 87401

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:16 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Tuesday, January 28, 2020 9:14 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Gregory Goltz

**Sent:** Tuesday, January 28, 2020 9:13:45 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my complete opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate my, and many others, recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you for considering my experience as well as my children's future experience, which you will permanently eliminate, if you move forward with this injection well plan.

Sincerely,  
Gregory Goltz  
19 Artisan Ct  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 1/28/2020 1:40 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of David Hughes**Sent:** Tuesday, January 28, 2020 1:39:41 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Upon hearing of the proposal to place a brine injection well upstream of Bedrock on the most amazing river in SW Colorado, I was dumbfounded. This is a river dear to me and my family. We have wonderful memories of floating from when my kids were toddlers to now as young adults. There is no other canyon like it in Colorado and the thought of desecrating it with further industrialization is an outrage.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack

and runoff.

Sincerely,  
David Hughes  
683 Eagle Pass  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:17 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Tuesday, January 28, 2020 7:35 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] ObjecÅon to Paradox Valley brine injeccÅon well

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**From:** paradoxeis@usbr.gov On Behalf Of Laura Moorefield

**Sent:** Tuesday, January 28, 2020 7:35:12 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

The Dolores River is one of my favorite places on Earth. Really. Please, please let it remain the beautiful river canyon that it is today.

This is why I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable. It's just sad.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Laura Moorefield  
408 Cortez Pl  
Santa Fe, NM 87501

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 1/28/2020 12:48 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Scott Koch**Sent:** Tuesday, January 28, 2020 12:47:40 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am disgusted that you land managers would want to destroy the canyon when you can choose a site across the highway where the impacts would go with the other impacts of the area to defile a beautiful area instead is irresponsible and shows little respect for the unique character of the Dolores River.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Scott Koch  
Pob 2044  
Telluride, CO 81435

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:16 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Tuesday, January 28, 2020 8:16 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Robin Richard

**Sent:** Tuesday, January 28, 2020 8:15:50 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Robin Richard  
440 East Montezuma Avenue  
Cortez, CO 81321

1/30/2020

## COMMENT LETTER 91

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:15 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Wednesday, January 29, 2020 9:40 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Marjorie Connolly

**Sent:** Wednesday, January 29, 2020 9:40:11 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my opposition to the new plan to impact the Paradox Valley . It is a terrible project in the wrong location.

This area is important for wildlife. Building a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the experience of this remote and wild river canyon. Changing the last 1.3 miles of the Dolores River float trip into an industrial zone is unconscionable.

Sincerely,

Marjorie Connolly

Sincerely,

Marjorie Connolly

8501 Rd.40.1

Mancos, CO 81328

1/30/2020

## COMMENT LETTER 92

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 11:14 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Thursday, January 30, 2020 9:34 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Jess Wilton

**Sent:** Thursday, January 30, 2020 9:33:08 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Dear sirs,

I am writing to express my whole-hearted support for an effort at finding an alternative to the proposed new brine injection well in the Paradox Valley. Having enjoyed recreation opportunities in that particular area many times, I do not think it's fair to ask all recreationists, as taxpayers, to compete with civilization in one of the last un-spoiled areas of wilderness in the American West. The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified - I urge you to consider that there must be a better solution than the proposed new injection site at Wild Steer Canyon.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally sensitive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you for your time and consideration of this important issue.

Sincerely,  
Jess Wilton  
2945 1/2 E 4TH AVE  
DURANGO, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 8:11 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Conor Intemann  
**Sent:** Monday, January 27, 2020 8:10:08 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I understand the purpose of the brine injection well however disagree with its implementation in a backcountry wilderness zone such as this one in the Dolores watershed. Please consider how unique this area is and how important it is to preserve places such as this one. Constructing a road and multiple bridges will forever change the landscape there. Look in areas where we already have infrastructure instead. This area is worth protecting.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative

B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Conor Intemann  
537 Society Dr  
Telluride, CO 81435

1/30/2020

## COMMENT LETTER 94

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Thu 1/30/2020 10:57 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Sunday, January 19, 2020 3:35 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of David Blaine

**Sent:** Sunday, January 19, 2020 3:33:19 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

HEY, BUREAU OF WRECKLAMATION-

Stay out of the Dolores River Canyon. Certainly, you can find a better area to do your injection well than in this NATIONAL TREASURE of a river.

I first rafted the Dolores back in 1983, right before you damned the river with the McPhee Dam. Yep, I bet some of you engineers weren't even born yet! Well, I have first dibs on what to do with that land- and it is to LEAVE IT ALONE. Go somewhere else with your toy trucks, dynamite, pollution, and all the other shit you'll bring in to play your little boy-games.

Hell, there's a ton of private land all around that area and I bet those landowners would love to sell you the rights to your well on their property. Go ask 'em.

To do all this harm to a pristine area is shameful. Hang your heads for even considering such an action. You can do better than this. Put your heads together and figure out a better alternative.

Respectfully (or disrespectfully, the choice is yours),

David Blaine

Mancos, CO

Sincerely,  
David Blaine  
10436 Road 39  
Mancos, CO 81328

**FW: Delores River**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 1/24/2020 1:29 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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From: 'Mary Kane' via BOR WCAO DL Paradox EIS

Sent: Friday, January 24, 2020 1:28:41 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS; Irincwhirter@usbr.gov; Nicholas, Andrew J

Subject: Delores River

Please consider alternative A with regard to the Delores River salinity control project scheduled for approval in the spring.

Mary Kane

Sent from my iPad

**FW: [EXTERNAL] Dolores river**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Sun 1/26/2020 10:35 AM

To: McCarter, Molly E <mmccarter@blm.gov>

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From: paradoxeis@usbr.gov On Behalf Of Lissa Paak/Gordon Henriksen  
Sent: Sunday, January 26, 2020 10:34:52 AM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Dolores river

To whom it might concern,

I would like my voice counted as a NO to the proposal for putting in new injection wells near the Dolores River. I am a hiker and boater and do not want to see more industrialization happen to this beautiful area. Leave the Dolores alone, come up with alternative sites or more high tech solutions, please.

Sincerely, Lissa Paak

**FW: Comment on Paradox valley Salinity project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 4:43 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Belson, Aaron**Sent:** Monday, January 27, 2020 4:42:19 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Comment on Paradox valley Salinity project

Dear Mr. Warner:

I am a long time resident of Southwest Colorado, and avid outdoors man. My family has enjoyed the Dolores river and its canyons for generations, going back to my uncle and his family who was a river guide on the Dolores prior to the construction of the McPhee Dam. I have been taking advantage of the seasonal recreational releases from McPhee for whitewater boating whenever I have the chance. The Dolores river is incredibly important to me as a recreational resource and a largely unadulterated piece of Mother Earth. I also believe that it has great potential as a magnet for local recreation industry. I oppose the suggested alternatives as they seem to have a very large impact on the scenic nature of the river corridor. My hope is that we can find an alternative that will both protect the environment and continue to provide the unbridled beauty that the Dolores has shown its visitors for generations.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Kindly,

Aaron Belson, LCSW  
*he/him/his*  
Counselor  
Fort Lewis College Counseling Center  
260 Noble Hall  
970.247.7212  
[abelson@fortlewis.edu](mailto:abelson@fortlewis.edu)

**Confidentiality Statement:**

This message is intended only for the use of the Addressee and may contain information that is PRIVILEGED and CONFIDENTIAL. If you are not the intended recipient, dissemination of this communication or any attachments contained herein is prohibited. If you have received this communication in error, please erase all copies of the message and its attachments and notify me immediately.

**FW: Alternative A**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 1/28/2020 7:27 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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From: 'bridget holvenstot' via BOR WCAO DL Paradox EIS

Sent: Tuesday, January 28, 2020 7:26:45 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Subject: Alternative A

Hello,

I would like to add my opinion in regards to desalinating of the Dolores river. Please choose alternative A to allow nature to take it's course, therefore there is no harm to any wildlife or humans. Not to mention the low cost of no project.

Sincerely,  
Bridget Holvenstot  
P.O. Box 144  
Telluride CO

Sent from my iPhone

**FW: [EXTERNAL] Proposed salt removal plans for the Paradox River**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 1/28/2020 4:27 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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From: paradoxeis@usbr.gov On Behalf Of Dennis O'Leary  
Sent: Tuesday, January 28, 2020 4:25:57 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Proposed salt removal plans for the Paradox River

Sirs:

I comment as a retired USGS geologist familiar with the geology of the salt valleys. The best alternative is to cease the salt extraction program altogether. As long as the Dolores River crosses Paradox Valley it will dissolve and transport salt and the underlying anticline will rise to maintain the stream gradient. The only solution is to case the channel of the river with concrete to isolate the salt from the flowing water. 99.01

Sincerely,  
Dennis O'Leary

Sent from my iPad

**FW: Comments on the EIS for the Paradox Valley Salinity Control project upgrade**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 1/29/2020 3:24 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of K Summers**Sent:** Wednesday, January 29, 2020 3:22:43 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Comments on the EIS for the Paradox Valley Salinity Control project upgrade**Ed Warner****Area Manager****Bureau of Reclamation****445 West Gunnison Ave., Suite 221****Grand Junction, CO 81501**

Dear Mr. Warner,

We are retired software engineers living in Dolores, CO. We previously lived on the Front Range, but always came to the Western Slope for recreation. We are compelled to write to you to request further study of alternatives to the improvement of the Paradox Valley Salinity Control project. We prize the beauty and remoteness of the area and request that the Bureau of Reclamation consider different options than the ones proposed to upgrade the current brine injection project. The infrastructure required for the current proposed upgrades would forever change the landscape of the Dolores River Canyon and surrounding area.

We encourage the Bureau to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives.

Thank you,

Kellee and Doug Summers

Dolores, CO

**FW: [EXTERNAL] Dolores river salinity project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/30/2020 11:33 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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From: paradoxeis@usbr.gov On Behalf Of Martha

Sent: Thursday, January 30, 2020 11:32:30 AM (UTC-07:00) Mountain Time (US &amp; Canada)

To: BOR WCAO DL Paradox EIS

Subject: [EXTERNAL] Dolores river salinity project

Dear Ed Warner,

I am shocked to hear that there is yet another effort to further harm the Dolores River. I love the Dolores and raft it when possible with decent water conditions. The Dolores river corridor is one of the most spectacular river landscapes in all of the US Southwest.

I especially like the section from Slickrock to Bedrock. I am also in the process of moving to Montrose - one reason being I will be closer to the Dolores River!

Please consider only Alternative A - no action. The other alternatives would impact recreation, wildlife, Wild and scenic values, and wilderness values. They would damage irreplaceable environmental resources.

Considering the reality of climate change, be aware that we continue to have decreasing snowpack and runoff which would not work well with the other alternatives.

The whole idea of desalinization is crazy in the first place!

Thanks you  
Martha Hut  
POB 554  
Tabernash, co 80478  
Sent from my iPhone

**FW: [EXTERNAL] Dolores River development and desalination**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/31/2020 7:53 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Jeffrey Carter**Sent:** Friday, January 31, 2020 7:51:49 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Dolores River development and desalination

TWIMC,

Please reconsider the impact of new development along the wild Dolores River in SW Colorado. This is a beautiful, Wild area with minimal ranches and development. I urge you to keep it that way for our children and children's children. We and they need preserved areas like this to experience the outdoors in an unspoiled way.

As so eloquently stated by Jon Muir, "Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul."

Regards,  
Jeff Carter, nature enthusiast

**FW: Paradox EIS Comment**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/30/2020 9:13 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** 'Joseph Weimer' via BOR WCAO DL Paradox EIS**Sent:** Thursday, January 30, 2020 9:11:02 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** Paradox EIS Comment

Mr. Warner

Thank you for the opportunity to comment on the Bureau of Reclamation's Salinity control alternatives for the Paradox Valley.

As a landowner in the Paradox Valley, a citizen of the area, and a BLM grazing permittee, I am strongly opposed to Alternative C, the evaporation ponds. An evaporation pond complex will be an offensive site, unavoidable to anyone traveling through the valley along Highway 90. This alternative will have the largest surface disturbance and significant environmental impact, adversely affecting wildlife, vegetation, and grazing within the confines of the proposed complex with potential impact to adjacent lands. The proposed waste dump will be a permanent scar on the landscape and require ongoing management far beyond the 50-year life of the project.

Evaporation ponds will have far too many adverse impacts for the Paradox Valley and should be eliminated as a salinity control alternative.

Respectfully,

Joseph Weimer  
PO Box 68  
Nucla, CO 81424  
weimerranches@aol.com  
(970)260-6320

**FW: [EXTERNAL] public comment on DEIS Paradox Salinity project**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 1/28/2020 6:53 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Steve Johnson  
**Sent:** Tuesday, January 28, 2020 6:52:15 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] public comment on DEIS Paradox Salinity project

BuRec Commissioner:

As a Telluride, Co resident, I have recreated in the Paradox Valley extensively for over 30 years, climbing, boang , cultural resource invesg aons, etc. I support the no-acon alternav e.

BuRec should act to reduce out-of-basin Colorado river diversions and increased Colorado River depleons, to avoid increasing salinity and allow greater salinity diluon, an alternav e not addressed but which should have been.

104.01

Your DEIS and your project summary are disnctly inconsistent:

DEIS  
The PVU is in western Montrose County, Colorado, approximately 50 miles southwest of Grand Juncon and 10 miles east of the Colorado-Utah border. The PVU extracts naturally occurring brine groundwater in Paradox Valley, which prevents brine from entering the Dolores River, a tributary to the Colorado River. The brine is then injected deep underground into a permeable, porous rock formaon, thus improving water quality in both the Dolores and Colorado Rivers. The PVU currently removes about 95,000 tons of salt per year that would otherwise enter the Colorado River. This tonnage represents 7 percent (%) of the current salinity control in the Colorado River at Imperial Dam, just upstream of the Northerly Internaonal Boundary (NIB) with Mexico.

104.02

BuRec press release:  
The PVU consists of facilies to intercept shallow brine and inject it into the Leadville geologic formaon via a Class V deep injecon well. The PVU has been inyecng brine since 1996. Approximately 100,000 tons of salt are injected annually; this correlates to about ten percent of the total salinity control in the Colorado River, making the PVU one of the most effecv e salinity control projects in the Colorado River Basin.

So your fundamental factual predicates for the purpose and need are misrepresented. Which are correct?

I want to point out that the cultural resources in the Paradox are incredible. Rock climbers as well as archeologists have found numerous panels, etc. that deserve utmost protecon.

The DEIS failed to property document the exisng cultural resources, as well as climbing areas upstream of Bedrock. They are there, and now your BLM field staff know it. They will be desecrated by acvity in and around and approaching a new injecon well site (alternav e B). These need to be fully documented in a supplemental analysis.

104.03

All other alternav es, aside from the one I first menone d, are excessively destrucv e.

Regards, Steve Johnson

Stephen B. Johnson Law Firm, P.C.  
100 W. Colorado Ave.  
Wintercrown Building #227A  
Telluride, CO 81435 (courier only)  
PO Box 726  
Telluride, CO 81435 (US mail only)  
Tel. No. 970-728-5301  
[steve@8750law.com](mailto:steve@8750law.com)  
[http://t\\_elluridecolawyer.com](http://telluridecolawyer.com)

**FW: [EXTERNAL] Bedrock**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 1/29/2020 9:07 AM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Drew Ludwig

**Sent:** Wednesday, January 29, 2020 9:05:56 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Bedrock

To whom it may concern,

I spend part of my year in the Paradox valley and have a little place there right in Bedrock. I know a thing or two about the area.

I also have read over the various options the Bureau of Reclamation is proposing.

If I had to choose one I would choose option A as any salinity control in the valley appears to be more about the treaty with Mexico then actually getting to the root of salinity in the Colorado River corridor. A PEIS on the entire Salinity Control Program is needed. Salinity in the Colorado River has only increased since the Paradox program began. There has never been a thorough analysis, and the benefits of the Paradox project are not making a bit of difference when the agency doesn't address the root causes. That would be irrigation, over-appropriation, and the dams. They have a lot more analysis and disclosure to do in the DEIS in my opinion.

105.01

Option B1 would be disastrous to our efforts towards building a recreation economy. If you want lasting, sustainable jobs, don't put an injection well, two bridges and infrastructure farther up a river corridor that is currently a wilderness study area and under consideration as a wild and scenic river.

105.02

Option B2 is better but I worry about the improvement of roads as that could bring in a wave of uranium and gold speculation up on Monogram mesa.

Option C is not an option.

Option D isn't ideal either but maybe better suited in a more urban part of the river corridor? I would need to do more research on this one.

The thing that makes the Paradox valley special, and economically viable as a recreation economy, is its emptiness and lack of industrialization. It is hard for me to justify sacrificing that for salinity concerns on a river that doesn't reach the ocean. Any desalination efforts are a gesture.

Thank you for the consideration of my opinion and feel free to reach out if I can be of any help.

Drew Ludwig  
[970-596-6246](tel:970-596-6246)

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 12:02 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

From: SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Sent: Friday, January 24, 2020 12:16 PM

To: McCarter, Molly E <mmccarter@blm.gov>

Subject: FW: [EXTERNAL] Objection to Paradox Valley brine injection well

From: paradoxeis@usbr.gov On Behalf Of Andy Corra

Sent: Friday, January 24, 2020 12:15:22 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Subject: [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am Andy Corra, one of the owners of 4Corners Riversports in Durango, a business serving the diverse river-running community for of the region for over 35 years. The Dolores River is the most beautiful and unique in the Colorado system. Please help preserve the wild and scenic character of this river.

Adding a new injection well and the associated roads, bridges, and other infrastructure, will do untold harm to the nature of one of the most iconic and most floated sections of the Dolores. The Dolores River is on of the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, and buildings.

Please consider the lasting impacts to recreation and social values, the irreplaceable environmental resources, in your choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Andy Corra  
312 Fiesta Circle  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 11:59 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Saturday, January 25, 2020 12:33 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf OF DIANE YOUNG

**Sent:** Saturday, January 25, 2020 12:26:08 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am an old woman now, but in my younger days, I hiked, camped, explored, in this area of Colorado. The river, rocks, country around there is one of the most beautiful I have ever seen. It needs to remain as it is, so others can enjoy it, come to love it, and have wonderful memories in their old age also.

Hence, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
DIANE YOUNG  
207 WEDGEWOOD RD  
BUFFALO, MO 65622

1/31/2020

## COMMENT LETTER 108

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 11:55 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 10:20 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Janet Spain

**Sent:** Monday, January 27, 2020 10:19:41 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

The Dolores River is deservedly identified as a wild and scenic river.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you for reconsidering and stopping another senseless travesty to our region and neighboring state

Sincerely,  
Janet Spain  
800 Heartwood #26  
Bayfield, CO 81122

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 11:57 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 10:11 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Kristina Woodall

**Sent:** Monday, January 27, 2020 10:09:07 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

This would constitute irreversible and irretrievable impacts to this pristine area! This would directly violate NEPA for this area (long-term impacts!) and destroy it's overall enduring "wild character" of this river and adjacent area/resources!

DO YOUR JOB AND PROTECT WHAT IS IRREPLACEABLE!

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

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Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Kristina Woodall  
PO Box 18662  
Boulder, CO 80308

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 11:56 AM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Monday, January 27, 2020 10:17 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Michael Wylie

**Sent:** Monday, January 27, 2020 10:16:52 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

STOP! This is completely unacceptable. WE VOTE.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

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Sincerely,  
Michael Wylie  
493 Perins Peak Lane  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 12:13 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

---

**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Thursday, January 30, 2020 8:15 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of April Johnson

**Sent:** Thursday, January 30, 2020 8:15:02 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff. Until this is done, just. STOP. IT. Please.

Sincerely,  
April Johnson  
PO Box 258  
Kanab, UT 84741

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 12:12 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Thursday, January 30, 2020 8:17 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Dean Mullen

**Sent:** Thursday, January 30, 2020 8:16:12 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

The Dolores is one of the most amazing places I have ever

been right on par with the Grand Canyon. There are

so many reasons to preserve all of it in its exact current state and so few frivolous reasons to exploit it. This proposal of an injection well comes with way too many risks and adverse effects. This area deserves to be left alone for future

generations to enjoy as wild as possible. Please please please do not allow this project to go forward. Thanks

Dean Mullen

Sincerely,  
Dean Mullen  
2901 W 2nd Ave  
Durango, CO 81301

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 12:04 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Friday, January 31, 2020 3:38 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Laurie Lee

**Sent:** Friday, January 31, 2020 3:37:51 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As a Naturalist who has spent time on the Dolores River, I implore you to preserve this delicate ecosystem!

I am dismayed and am in opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Laurie Lee  
3993 Nelson Rd  
Longmont, CO 80503

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 12:10 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Friday, January 31, 2020 12:07 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Richard Post

**Sent:** Friday, January 31, 2020 12:05:52 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Please give us a chance to share something with future generations that was saved from development.

Respectfully,  
Richard Post

Sincerely,  
Richard Post  
102 W Homestead Road  
Norwood, CO 81423

Fw: [EXTERNAL] Objection to Paradox Valley brine injection well

McCarter, Molly E <mmccarter@blm.gov>

Fri 1/31/2020 12:11 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Friday, January 31, 2020 3:34 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Objection to Paradox Valley brine injection well

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**From:** paradoxeis@usbr.gov On Behalf Of Susan Selbin

**Sent:** Friday, January 31, 2020 3:32:32 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am totally opposed to the possible construction of a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon.

The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs.

No to a horizon criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives.

The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon.

The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

The Dolores is an unparalleled gem. Federal agencies must leave the canyon alone

Sincerely,  
Susan Selbin  
505 San Carlos Ct. SW  
Albuquerque, NM 87104

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/30/2020 2:00 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of John Maiorano III**Sent:** Thursday, January 30, 2020 1:59:36 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Hello Mr. Warner,

I am writing to express my frustration and opposition to the potential plans to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Creating 1.3 miles of new road up the Dolores River Canyon, with two bridges crossing the Dolores River, along with an adjoining powerline will devastate the recreational and experience of this remote and wild river canyon. Coupled with this will be a detrimental effect to the ecology and the overall remote wilderness experience of the special canyon. The Dolores River has a renowned reputation as being one of the few spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is clearly not an acceptable course of action.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected as well.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. I would request the Bureau of Reclamation to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. I would also ask the Bureau of Reclamation to consider the future prospects of the salinity removal effort as a whole in the context of climate change and ever

decreasing snowpack and runoff.

I respectfully request that you reconsider the long-term impacts of the salinity reduction program and look to move forward in a more sustainable direction that preserves the true wilderness, heritage and ecology of the Dolores Valley.

Sincerely,  
John N. Maiorano III  
Master Electrician/ Owner  
Rocky Mountain Electrical LLC

Sincerely,  
John Maiorano III  
2919A Richard Drive  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/30/2020 4:50 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Mark Wardell**Sent:** Thursday, January 30, 2020 4:50:28 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

If this projected is approved future generations, will never get to experience the beauty that brought

you to to work in the Dolores River District. Denying thousands of people that same pleasure you have been paid to experience.

A short term solution to a problem will only make it more costly in the future and restoration project will never fully regain the original charm. While recreation continues to bring more and more economic wins without endangering the habitat and environment.

This temporary fix will do nothing to help prevent Global warming as it strips away the land and create a future problem that will cost more and more money to try to mitigate.

Sincerely,  
Mark Wardell  
285 Coyote Dr.  
Pagosa Springs, CO 81147

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/31/2020 8:44 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Irene Vasquez**Sent:** Friday, January 31, 2020 8:43:16 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I want our rivers to be protected. We should be moving away from further damming. I oppose the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Irene Vasquez  
4959 Ponderosa Way  
Midpines, CA 95345

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 2/2/2020 9:50 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of john rosapepe**Sent:** Sunday, February 2, 2020 9:49:49 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Having lived in Durango and hiked in the Dolores River watershed I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

2/2/2020

Mail - McCarter, Molly E - Outlook

Sincerely,  
john rosapepe  
6900 Apamatica Lane  
Chesterifeld, VA 23838

**FW: paradox valley salinity project**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 1/30/2020 7:10 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Scott Triesmann

**Sent:** Thursday, January 30, 2020 7:10:33 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] paradox valley salinity project

to whom it may concern,

I am writing to voice my opposition to the further development of saline water injection sites in the bedrock area of paradox valley, especially alternative B.

alternative B1 proposes an excessive amount of development including road and bridge development. the fragile ecosystem of the dolores river would be permanently damaged by this sort of development.

it is my understanding that the original injection site has been in operation for about 20 years and is now filled to capacity. what happens when the proposed site is filled? we just build another one, and then another one? this is not sustainable and a massive use and waste of taxpayer money.

120.01

while there may be some short term economic gain for the local community who might get to help build the new project, ultimately, they will be the losers in the long run as their backyard is turned to a defunct industrial clean up project. not to mention the threat of even more, even bigger earthquakes directly related to this practice.

120.02

the local community stands a better chance at long term economic benefit by drawing in tourists to enjoy the beauty and recreational opportunities of an unspoiled and unique landscape. the local farmers and ranchers also deserve to work in an agricultural environment unpolluted by industrial byproducts.

120.03

in 2017, 12 friends and I from Gunnison co. participated in a multi-day river trip on the dolores. while doing so, we spent hundreds of dollars locally to real people from the area.

none of the proposed alternatives seem very appealing. perhaps an honest discussion needs to take place as to whether this saline water needs to be migrated at all.

thank you for your me,  
scott triesmann  
po box 662  
crested butte, co. 81224

**FW: [EXTERNAL] development in the Dolores River Canyon**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/31/2020 8:55 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Richard Nevle**Sent:** Friday, January 31, 2020 8:51:25 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] development in the Dolores River Canyon

Dear Mr. Warner,

It's recently come to my attention that the Paradox Valley is being considered as the potential site of a desalinization injection project that would bring significant industrial development to the valley, including a new road and two bridges crossing the Dolores river. Although I understand that no perfect alternatives exist, I agree with author Craig Childs that "loading industry into this pristine river canyon would be a titanic mistake." Wild spaces are becoming increasingly rare in our country, and we need to do everything we can to preserve what few spaces remain for ourselves, for our children, and for the wild beings with whom we share our home.

Sincerely,

Richard Nevle

**FW: [EXTERNAL] Draft Environmental Impact Statement (EIS) for the Paradox Valley Salinity Unit (PVU)**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 1/31/2020 10:20 AM

To: McCarter, Molly E <mmccarter@blm.gov>

---

**From:** paradoxeis@usbr.gov On Behalf Of Elisabeth Gick

**Sent:** Friday, January 31, 2020 10:20:23 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Draft Environmental Impact Statement (EIS) for the Paradox Valley Salinity Unit (PVU)

Dear Mr. Warner,

In a world on fire the idea of destroying more natural areas for some dubious reason is wrong, and extremely shortsighted. WE NEED TO PRESERVE THE LAST PRISTINE PLACES LEFT UNTOUCHED.

All of the proposed solutions to the salt issue have major risks and will have negative impacts on the region's scenery, wildlife, cultural and wilderness qualities, and human inhabitants.

How about the obvious solution of allowing more water to flow freely in the Dolores River?

Respectfully,  
Elisabeth Gick

**FW: No on Bedrock development**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 1/31/2020 9:54 AM

To: McCarter, Molly E <mmccarter@blm.gov>

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**From:** 'Nancy Craft' via BOR WCAO DL Paradox EIS

**Sent:** Friday, January 31, 2020 9:53:45 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** No on Bedrock development

As a 40 year resident of San Miguel County, the only sane choose is no-action Alternative A retirement option of salinity control. Please don't industrialize the Paradox Valley.

Thank you.

**FW: Stop further encroachment and development in the Dolores River riparian area**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/31/2020 9:15 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

---

**From:** paradoxeis@usbr.gov On Behalf Of Donald Carter**Sent:** Friday, January 31, 2020 9:14:16 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Stop further encroachment and development in the Dolores River riparian area

TWIMC,

Please reconsider the impact of new development along the wild Dolores River in SW Colorado. This is a near one of a kind wild area with minimal human impact and should stay that way. I strongly urge you to keep it that way for our children and children's children. All of the locals, visitors and nature lovers of the world need areas such as this preserved to experience the outdoors in an unspoiled way.

As eloquently stated by Jon Muir, "Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul."

I consider this specific area and the few like it as my temple to contemplate and worship. Please leave it an unspoiled sanctuary!

Sincerely,

Don Carter  
nature enthusiast with reverence for the natural world

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 2/1/2020 1:32 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Kristen Roth**Sent:** Saturday, February 1, 2020 1:32:04 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please, do not construct a new Paradox Valley brine injection well at Wild Steer Canyon.

Roads will change the experience of this remote and wild river canyon as well as compromise the health of the river. This river and the ecosystem around it is a beautiful, unspoiled area that should remain as is. Making the last 1.3 miles of this river is just not an ethical decision.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Kristen Roth  
519 Loma Vista Ct.  
Pagosa Springs, CO 81147

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 10:24 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Angela Werneke  
**Sent:** Monday, January 27, 2020 10:23:51 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

As a 45-year resident of the Southwest I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Angela Werneke  
3466 Cerrillos Rd, J1  
Santa Fe, NM 87507

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 10:39 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Gar Skiba**Sent:** Monday, January 27, 2020 10:38:41 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I opposed to the proposal to construct a new brine injection site at Wild Steer Canyon on the Dolores River. I am a regular user of this area, and its wild character would be destroyed by the construction of the roads, bridges and other facilities that would be required. I currently live in northwest New Mexico, which is essentially an industrial zone due to oil and gas development. Well pads, roads, pipelines, and the associated traffic have turned what could be an iconic and unparalleled badlands experience into a trip through an outdoor factory. That is what is being proposed for the Dolores Canyon above Bedrock.

In addition to recreational values, the canyon is home to sensitive wildlife species, including peregrine falcons and bald eagles. The intrusions into the canyon would undoubtedly have negative impacts on these species as well as the native fishes that use this section of the Dolores River.

The Dolores River Canyon is a special place, and this proposal would significantly degrade the resources and values that make it special.

Please strongly consider recreational, cultural, and environmental values as you move forward in your analysis. There are undoubtedly less destructive alternatives that can achieve salinity reduction goals.

Sincerely,  
Gar Skiba  
56 Road 2634  
Aztec, NM 87410

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 12:00 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Tom Ribe**Sent:** Monday, January 27, 2020 11:59:00 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am a user of public lands in the Dolores River Canyon and a citizen of the United States. I know that under the current administration, protection of public lands is not a priority.

I understand a new injection well site is needed for brine in the Paradox Valley area. I understand the Bureau of Reclamation proposes to enter a wild area where no industrial development exists and put a large facility with roads, bridges, powerlines, pollution and noise.

I suggest that land close to civilization be used instead. Leave wild areas alone. Find a place close to a highway and use that. Leave our wild river wild.

128.01

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction

alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff

Sincerely,  
Tom Ribe  
56 Hidden Valley Rd  
Santa Fe, NM 87505

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 11:38 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Marilyn McCord**Sent:** Monday, January 27, 2020 11:37:19 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

LEAVE THE DOLORES RIVER CANYON ALONE!!!

Sincerely,  
Marilyn McCord  
1625 County Road 500  
Bayfield, CO 81122

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 11:01 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Elizabeth Long**Sent:** Monday, January 27, 2020 11:00:56 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

In short, I am appalled at this plan, which needs to be rejected for all of us who spend time in this lovely unspoiled wilderness. It is short-sighted and serves no one's real interests.

Sincerely,  
Elizabeth Long  
698 12 Point Buck Trail  
Durango, CO 81301

**COMMENT LETTER 131****FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 10:40 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Theodore Lewis**Sent:** Monday, January 27, 2020 10:39:17 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

I am a whitewater kayaker and my sons are kayakers and rafters. Constructing a new road up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River is among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,

Theodore Lewis  
1742 O'Neal  
Pagosa Springs, CO 81147

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 11:48 AM

**COMMENT LETTER 132****To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Karinne Knutsen  
**Sent:** Monday, January 27, 2020 11:47:57 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. Let's stop destroying our wild places for unhelpful, short term profit. We do not need this.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Karinne Knutsen  
4241 county road 509  
Bayfield, CO 81122

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 11:44 AM

**COMMENT LETTER 133****To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Ralph Kisberg**Sent:** Monday, January 27, 2020 11:43:12 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

The idea of "brine" injection wells anywhere in the incredibly beautiful and ecologically sensitive Paradox Valley is abhorrent. How dis such horrendous decisions ever get get made? To allow construction of another toxic, radioactive sludge, seismic event inducing injection well farther upstream of Bedrock, at Wild Steer Canyon is completely unacceptable.

A new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will destroy the RE-creational opportunity of this priceless remote and wild river canyon. The Dolores River is among the most spectacular and cherished wild rivers in the United States. Leave it alone!

Alternative B1 would impact the river corridor below Wild Steer Canyon as well as significantly change the character of the experience farther upstream.

The Dolores is a spectacular wild and scenic river and should have designated as such a long time ago. What is wrong with you people who make these decisions that you are so blind to the real value and need for these few places left still wild to remain so. Please reexamine your priorities and your your mission as an agency.

The amount of hydrocarbons to come out of the entire 4 Corners region are by in large money losing propositions for all but the developers that find ways to continue to extract funding for projects that only work for them ( Not there lenders and investors) without massive government support such as allowing for easily accessible infrastructure construction like this proposal. The nation has no need for the oil and gas from this remote region which also happens to have huge economic value left alone.

Any alternatives that similarly degrade the remarkable Paradox Valley are also not acceptable. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected too.

The Bureau of Reclamation needs to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation should also consider the future prospects of the salinity

removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Ralph Kisberg  
1736 Almond St.  
Williamsport, PA 17701

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 11:24 AM

**COMMENT LETTER 134****To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Patrick Keelan**Sent:** Monday, January 27, 2020 11:22:42 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Dear Mr. Warner,

I am writing to express my passionate opposition to the proposed brine injection well at Wild Steer Canyon.

Our greatest resource as a species is wilderness, and as populations grow wilderness will become increasingly essential for our mental health and well being. As Ed Abbey once said, "The idea of wilderness needs no defense. Only more defenders."

The proposed brine well road, bridges, etc. will devastate this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable. As a boater, I cherish the canyon country and the escape it provides from civilization, not to mention the countless other species who exist in this haven away from our destructive tendencies.

We need to preserve beautiful areas for future generations, and not bend to myopic projects that decimate forever the character of a place. We lost Glen Canyon due to the shortsightedness of engineers, let's save what we can while we still can. As Mollie Beatty said, "What a country chooses to save is what a country chooses to say about itself."

There are other places for the well. The wild and scenic quality of this stretch of river is irreplaceable, and will be forever blighted by this project.

Please keep it wild for my daughter.

Patrick Keelan  
Durango

Sincerely,  
Patrick Keelan

2/3/2020

Mail - McCarter, Molly E - Outlook

132 Grizzly Ln  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 10:51 AM

**COMMENT LETTER 135**

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Gail Harriss**Sent:** Monday, January 27, 2020 10:50:24 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am a citizen of Durango, a recreation, outdoor enthusiast and I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

I have been fortunate enough to take a couple of river trips down the Dolores River. It is a beautiful area which should not be spoiled by this injection well. I am certain that there are other better, less costly and less damaging to the environment alternatives to this proposed action. Let's think clearly and preserve the beauty in our environment.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative

B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Climate change is something that is so important to consider as it becomes more and more of a significant factor in our world. Please look at all the alternatives and preserve the importance and beauty of our environment and our outdoor experiences. Thank you for your consideration of my comments. I

Sincerely,  
Gail Harriss  
2024 Glenisle Ave  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 136**

Mon 1/27/2020 10:38 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Lisa Floyd-Hanna**Sent:** Monday, January 27, 2020 10:37:09 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

In 1979, I worked for the Dolores River Project as part of my Ph.D. research and saw first hand the closure of one of the most valuable, beautiful rivers in the southwest to support McPhee Reservoir. I am adamantly opposed to further destruction of the Dolores drainage and valuable biological resources. I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection, a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline. Such construction will endanger this valuable ecosystem, and will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Respectfully,

Lisa Floyd-Hanna

Sincerely,

Lisa Floyd-Hanna

426 Trail Road

Hesperus, CO 81326

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 137**

Mon 1/27/2020 10:26 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Steve Ellison**Sent:** Monday, January 27, 2020 10:24:58 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my opposition to the potential construction of a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. Although I am sympathetic to the goal of reducing salinity I would urge you to perform some serious brainstorming, think out of the box, and develop some less impactful proposals.

The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the float experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon.

Sincerely,  
Steve Ellison

2/3/2020

Mail - McCarter, Molly E - Outlook

P.O. Box 1242  
Farmington, NM 87499

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 11:10 AM

**COMMENT LETTER 138****To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Brian Brown**Sent:** Monday, January 27, 2020 11:09:25 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Please do not allow development of the Dolores river basin. I have enjoyed the scenic beauty of this river for many decades, often canoeing the stretch from Bradfield bridge down through Bedrock. This proposal would impact my enjoyment of this run and be counterproductive of its potential listing as Wild and Scenic.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative

B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Brian Brown  
2030 w Meadow rd  
Durango, CO 81303

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well****COMMENT LETTER 139**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 1/27/2020 11:13 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Russell Bodnar**Sent:** Monday, January 27, 2020 11:11:52 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

The benefits from recreation like hunting, fishing, camping, birding, and river running far outweigh the

negative impacts of your proposal.

Sincerely,  
Russell Bodnar  
5A Road 2976  
Aztec, NM 87410

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 140**

Mon 1/27/2020 10:37 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Dorothy Biggs**Sent:** Monday, January 27, 2020 10:36:00 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

I have enjoyed hiking and rafting and trying to interpret ancient petroglyphs and pictographs in this area and want my grandchildren to experience the wonder and joy of this country. Don't defile one of

the few last best unspoiled places!

Sincerely,  
Dorothy Biggs  
5475 S Lowell Blvd  
Littleton, CO 80123

# FW: Objection to Paradox Valley brine injection well, particularly site B1

COMMENT LETTER 141

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Mon 1/27/2020 12:14 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Greg Barker

**Sent:** Monday, January 27, 2020 12:11:38 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well, particularly site B1

To the Bureau of Reclamaon,

I am wring t o express my objecons t o the potenal t o construct a new Paradox Valley brine injecon well upstream of Bedrock, at Wild Steer Canyon.

I understand the Bureau's interest in cheap-and-simple, and desire to use its own land to address the salinity issues on the Dolores. However, this is a special recreaon sit e with unique character, part of a larger Wilderness Study Area through which thousands of ciz ens from the Four Corners are able to have mul-da y wilderness experiences. Turning the last poron this s tretch of river into an industrial zone is incredibly short-sighted, and would be a poor decision that coming generaons w ould have to live with for decades into the future.

Alternav e B1 is not only a problem for the last 1.3 miles of this river secon, but it w ould significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them crisscrossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly idenfied as a wild and scenic riv er candidate, and construcon of ne w roads, bridges, and powerlines will permanently impair the outstanding values for which the river was idenfied.

Alternav e C, the evaporaon pond, w ould create an unacceptable eyesore in the Paradox Valley and should be dismissed also.

Alternav e D is summarized as "26,700 MWh of energy use, 4,630 kW of electrical demand, and 4,200,000 hundred cubic feet (CCF) of natural gas required annually." The Bureau is looking for a 50-year soluon and needs t o consider the atmospheric carbon impact of its energy use here. Salinity reducon cr eate huge economic benefits for downstream users, and allows for water use in downstream states that enables billions of dollars in agricultural producvtiy . Keeping all that created value in mind, the Bureau can redesign Alternav e D to use electricity generated nearby from abundant solar resources and avoid creang 50 y ears of carbon dioxide polluon tha t will contribute to the worldwide climate impacts that are worsening deserfic aon in this r egion.

141.01

The Bureau needs to think beyond cheap and easy here, remove its salinity treatments far from beloved recreaon and wilderness ar eas, and avoid creang a polluon sour ce in this beauful ar ea.

Thanks,

Greg Barker  
Mancos, Colorado

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 142**

Thu 1/23/2020 5:57 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Chris Curry**Sent:** Thursday, January 23, 2020 5:57:29 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

My name is Christopher Curry, I grew up floating the Dolores River and I still float her as often as the good lord allows. This river is something else, when I tell people about it the words are hard to form. The beauty is unmatched and unparalleled. Please consider our plea to keep her wild and free.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Chris Curry  
317 W. 4th St.  
Palisade, CO 81526

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 143**

Wed 1/22/2020 6:17 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jo Young**Sent:** Wednesday, January 22, 2020 6:16:58 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

The Dolores River is deservedly identified as a wild and scenic river candidate-- Few are left. Please leave it be.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack

and runoff.

Sincerely,  
Jo Young  
326 Aztec Street  
Mancos, CO 81328

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 144**

Wed 1/22/2020 10:11 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jessica Newens**Sent:** Wednesday, January 22, 2020 9:58:18 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am very unhappy about the prospect of a new Paradox Valley brine injection well upstream of Bedrock, at Wild Steer Canyon. While I understand and appreciate the need to reduce salinity in the Colorado River, there must be a better location for an injection well.

The Dolores River is a cherished recreational area thanks to its remoteness and extreme beauty. I have spent a lot of time hiking and boating in this area since 1995, when I moved to Norwood. The proposed plan of creating a new road, two bridges and a power line, not to mention the daily impact of maintaining this facility, would forever change this pristine wilderness area. The Paradox Valley as a whole is an extremely unique location that deserves special care and consideration when considering projects like this.

I strongly urge you to consider different, more appropriate and significantly less impactful locations to address the need for salinity reduction.

Thank you for your time.

Jessica Newens

Sincerely,  
Jessica Newens  
38497 Hwy. 145, Box 688  
Norwood, CO 81423

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well****COMMENT LETTER 145**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 1/22/2020 5:35 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Heather Narwid  
**Sent:** Wednesday, January 22, 2020 5:34:07 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

IT IS OUR RESPONSIBILITY TO DO WHAT IS \*RIGHT\*, NOT WHAT IS EASIEST.

You do have an actual choice in whether you irrevocably destroy a large area of wilderness. Put the site and it's surrounding mess elsewhere!

An incongruous, industrialized zone does not belong there, whether people have to look at it or not.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation

and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Heather Narwid  
25 Forrest Groves Ln  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 146**

Tue 1/21/2020 9:59 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Madison Ledgerwood  
**Sent:** Tuesday, January 21, 2020 9:58:45 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

Hello,

My name is Madison Ledgerwood. I have a MA in Sustainable Communities and teach sustainability to first year college students. I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. As a teacher, I know it is of utmost importance to show our care for one another and life forms on earth to really teach and provide youth with the hope of a future.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate yet another unsurmountable amount of species, whether that be insects, mammals, soil, amphibians, humans who love this area, the children we are supposed to be showing an example. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine

injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you,  
Madison Ledgerwood

Sincerely,  
Madison Ledgerwood  
401 w. Cedar ave  
Flagstaff, AZ 86001

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 147**

Tue 1/21/2020 9:04 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Amanda Kuenzi  
**Sent:** Tuesday, January 21, 2020 8:54:10 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I have worked as a biologist in the southwestern United States for over 20 years and I have a comprehensive understanding of riverine systems. I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Amanda Kuenzi  
504 E 32nd St  
Durango, CO 81301

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well****COMMENT LETTER 148**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 1/21/2020 1:30 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Karen Hickerson  
**Sent:** Tuesday, January 21, 2020 1:29:25 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

"We must begin thinking like a river if we are to leave a legacy of beauty and life for future generations."

— David Brower

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack

and runoff.

Sincerely,  
Karen Hickerson  
349 Mariposa Dr.  
Durango, CO 81301

**FW: Paradise Valley Salinity Project - COMMENT**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 149**

Thu 1/16/2020 5:46 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**From:** paradoxeis@usbr.gov On Behalf Of Van Lewis**Sent:** Thursday, January 16, 2020 5:44:49 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradise Valley Salinity Project - COMMENT

Mr. Ed Warner  
 Area Manager  
 Bureau of Reclamation

Mr. Warner,

I'm writing to express my concern about the Bureau's plans to build access roads, bridges, and an injection well in the Dolores River Canyon, near the confluence with Wild Steer Canyon. After reading the EIS, I see that alternatives to this potentially-disruptive plan exist, and are under consideration. In my opinion, the Bureau should be allocating budget to provide the *least disruptive solution*, even if it costs more. The Dolores River Canyon, as you know, is one of the most scenic, magnificent, unique, and undisturbed public areas left on the Colorado Plateau. I urge the Bureau to consider it *precious*, not only for its own merits, but as a bulwark against further encroachment of development in the region. Especially in light of recent setbacks in the region—most notably where industry interests trumped public interests in downsizing the Grand Staircase-Escalante National Monument and in The Bears' Ears—I believe we need to allocate resources generously, in the true spirit of conservation, to this beautiful and wild place.

149.01

One of my best experiences in the outdoors in a lifetime of outdoor adventure was floating the Dolores river. It is unmatched, and the principles of stewardship demand that we protect it from unnecessary encroachment.

Thank you for your service and for considering my comment.

**John Vandenberg Lewis**  
**High Desert Workshop LLC**  
**245 North Vine Street #75**  
**Salt Lake City UT 84103**

[van@method-studio.com](mailto:van@method-studio.com)  
[vee.eh.en@gmail.com](mailto:vee.eh.en@gmail.com)

winner best of state  
 utah | 2018, 2019



**FW: [EXTERNAL] Dolores River**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 1/16/2020 7:26 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 150**

---

From: paradoxeis@usbr.gov On Behalf Of Alex Mickel  
Sent: Thursday, January 16, 2020 7:25:07 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Dolores River

Hello,

Please Please do not intrude on one of the last unspoiled and special canyons of the Colorado Plateau.

Sincerely,

Alex Mickel  
Mild to Wild Rafting and Jeep Trail Tours, Inc.  
P: 970-247-4789  
[www.Mild2WildRafting.com](http://www.Mild2WildRafting.com)

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**FW: [EXTERNAL] Comments on the Proposed Salinity Project on the Dolores River**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 1/16/2020 5:18 PM

To: McCarter, Molly E <mmccarter@blm.gov>

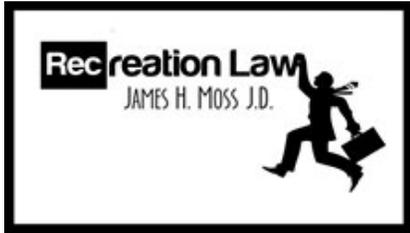
**COMMENT LETTER 151**

1 attachments (91 KB)

Dolores River PVU Comments 1.16.2020.pdf;

**From:** paradoxeis@usbr.gov On Behalf Of Jim@jim-moss.com  
**Sent:** Thursday, January 16, 2020 5:19:10 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Cc:** info@doloresriverboating.org  
**Subject:** [EXTERNAL] Comments on the Proposed Salinity Project on the Dolores River

Please see my attached comments concerning your EIN for the PVU



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Jim Moss  
Attorney & Counselor at Law

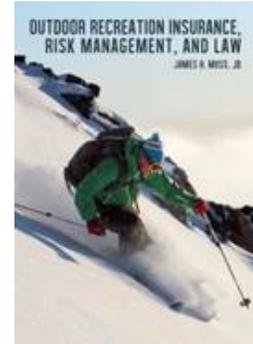
PO Box 16743  
Golden, CO 80402

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**James H. Moss, P.C.**

**Attorney at Law**

PO Box 16743  
Golden, CO 80402-6012  
720 Edit Law  
720-334-8529

January 16, 2020

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Re: Proposed additions to the Paradox Valley Unit

Via Email: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Dear Area Manager Warner:

That education, that entertainment is easily achieved when there are no interruptions. No sounds except the wind, water and wildlife. No visual interruptions except the natural beauty surrounding the river.

Your plans to create the Paradox Valley Unit of the Colorado River Basin Salinity Control Program will destroy the valley and the opportunities it presents. You will take the most beautiful river and riparian area in Colorado and force visitors to face the reality that power, greed, corruption and the needs to destroy invades all places. You will take those opportunities and replace them with visual interruptions, dust and noise.

Your actions will destroy the Dolores River Valley. I urge you to adopt Alternative A. Do not destroy this beautiful untouched area of Colorado.

[jim@jim-moss.com](mailto:jim@jim-moss.com)



James H. Moss, P.C.  
Attorney at Law

Page 2  
January 16, 2020

Sincerely,

James H. Moss

Cc Senator Corry Gardner  
Senator Michael Bennett  
Representative Diane DeGette  
Dolores River Boating Advocates

**FW: [EXTERNAL] Reject the Paradox Valley Salinity Project****COMMENT LETTER 152**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 1/21/2020 9:37 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Ashleigh Diaz**Sent:** Tuesday, January 21, 2020 9:26:09 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Reject the Paradox Valley Salinity Project

Dear Mr. Warner:

The Dolores River is a magical place with deep canyons and prehistoric history. It has been a special place to take my children on a remote beautiful stretch of river and a great way to teach environmental issues from climate change and also how to protect the places we love and want to keep pristine. Please for my children and future generations leave the Dolores River Canyon alone and stand in opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Ashleigh Diaz  
Managing Partner  
4Corners Riversports  
360 S. Camino Del Rio  
Durango, CO 81301  
970.259.3893  
1-800-4CORNER

[www.riversports.com](http://www.riversports.com)

[www.facebook.com/4CornersRiversports](https://www.facebook.com/4CornersRiversports)

[sales@riversports.com](mailto:sales@riversports.com)

**FW: [EXTERNAL] Please Leave the Dolores River Canyon Alone!**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 153**

Thu 1/23/2020 8:55 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Anna Thorne**Sent:** Thursday, January 23, 2020 8:55:00 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Please Leave the Dolores River Canyon Alone!

Dear Mr. Warner:

I love the Dolores River Canyon for its indescribable peace, recreational opportunities, and the easy access for so many to explore the natural world. The Dolores River unfortunately did not escape the terrible damming process that so many other scenic rivers avoided, but this is your chance to help the Dolores continue to recover from the devastating effects of altering a natural landscape. It will never fully recover, but building new infrastructure, no matter how beneficial to your goals, WILL NOT HELP.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you for considering. I hope you will dig deep into your heart and consider more than just infrastructure, but the many living beings that call that basin home.

Sincerely,

Anna Thorne

River Lover, Naturalist, Southwest Dweller

**FW: [EXTERNAL] Paradox Valley Unit New Injection Well**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 154**

Tue 1/21/2020 11:13 PM

To: McCarter, Molly E <mmccarter@blm.gov>

From: scottschoettgen@everyactioncustom.com On Behalf Of Scott Schoettgen  
Sent: Tuesday, January 21, 2020 11:11:48 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Paradox Valley Unit New Injection Well

Dear Area Manager Ed Warner,

Thank you for the opportunity to comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. I am very concerned that the impacts from the proposed Alternative B1 would be devastating to the scenic qualities of the Dolores River Canyon.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by power lines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

154.01

A new road, two river crossings, and associated infrastructure would damage the outstanding values of this popular stretch of river. However, I also have concerns that the new bridges would impose a safety hazard not present elsewhere in the reach. This segment of river is rated class II+, defined as

154.02

"straightforward rapids with wide, clear channels" by the International Scale of River Difficulty. The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.

154.03

As an avid outdoor recreationist, I encourage the Bureau to more carefully take impacts to recreational and social values into consideration in the proposed alternatives. Other locations for potential brine injection wells should be considered that would not be as socially and environmentally impactful.

154.04

Additionally, the Bureau should consider the future prospects of the salinity removal effort in the context of climate change and decreasing water supply and runoff.

Sincerely,  
Mr. Scott Schoettgen  
22920 Parrotts Ferry Rd Columbia, CA 95310-9770  
scottschoettgen@gmail.com

**FW: [EXTERNAL] Paradox Valley Unit New Injection Well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 1/22/2020 5:01 PM

**COMMENT LETTER 155**

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

---

From: rcollis79@everyactioncustom.com On Behalf Of Robert Collis  
Sent: Wednesday, January 22, 2020 5:00:24 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Paradox Valley Unit New Injection Well

Dear Area Manager Ed Warner,

I frequently visit Colorado to raft this stretch of river. The Dolores river is a gem that should have development in this section limited to the maximum extent. I'd like to comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. I am very concerned that the impacts from the proposed Alternative B1 would be devastating to the scenic qualities of the Dolores River Canyon.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by power lines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

A new road, two river crossings, and associated infrastructure would damage the outstanding values of this popular stretch of river. However, I also have concerns that the new bridges would impose a safety hazard not present elsewhere in the reach. This segment of river is rated class II+, defined as "straightforward rapids with wide, clear channels" by the International Scale of River Difficulty. The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.

As an avid outdoor recreationist, I encourage the Bureau to more carefully take impacts to recreational and social values into consideration in the proposed alternatives. Other locations for potential brine injection wells should be considered that would not be as socially and environmentally impactful. Additionally, the Bureau should consider the future prospects of the salinity removal effort in the context of climate change and decreasing water supply and runoff.

Sincerely,  
Mr Robert Collis  
1912 N 2nd St Flagstaff, AZ 86004-4207  
rcollis79@gmail.com

# FW: [EXTERNAL] Paradox Valley Unit New Injection Well

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

COMMENT LETTER 156

Wed 1/22/2020 10:17 AM

To: McCarter, Molly E <mmccarter@blm.gov>

---

From: lfranz@everyactioncustom.com On Behalf Of Lynn Franz  
 Sent: Wednesday, January 22, 2020 9:54:45 AM (UTC-07:00) Mountain Time (US & Canada)  
 To: BOR WCAO DL Paradox EIS  
 Subject: [EXTERNAL] Paradox Valley Unit New Injection Well

Dear Area Manager Ed Warner,

I appreciate the opportunity to comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. I'm concerned that the proposed Alternative B1 would be devastating to the scenic qualities of the Dolores River Canyon.

This alternative would impact the river corridor below Wild Steer Canyon. It would also significantly alter the experience of boaters seeking to explore and enjoy the history, geology, and natural richness of the area. I'm concerned about the possibility of boating safety hazards created by the new bridges. The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.

156.01

As an avid outdoor recreationist, I encourage the Bureau to consider the impacts to recreational and social values from the proposed alternatives. As our world changes due to the impacts from climate change, future plans need to consider the newly evolving water/runoff patterns also. Please consider other locations for potential brine injection wells, which would not be as socially and environmentally impactful.

Sincerely,  
 Ms Lynn Franz  
 600 Heartwood Way Whittier, NC 28789-7139  
 lfranz@gmail.com

**FW: [EXTERNAL] Paradox Valley Unit New Injection Well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 1/22/2020 9:34 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 157**

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From: auseklis@everyactioncustom.com On Behalf Of Andrew Frishman  
Sent: Wednesday, January 22, 2020 9:23:23 AM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Paradox Valley Unit New Injection Well

Dear Area Manager Ed Warner,

Thank you for the opportunity to comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. I feel strongly that the proposed Alternative B1 would have unacceptable impacts on the Dolores River Canyon and this alternative should not be chosen.

As a long-time whitewater rafter and avid hiker, this section of the Dolores Canyon holds important resources for me: recreational opportunities, wilderness character and archeological and paleontological resources. Alternative B1 would carry substantial negative impacts to all these values with its new river crossings, roadways, lights and other infrastructure.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by power lines, roadways, traffic, chain link fences, storage tanks, buildings, and lights. Such changes would also damage the values which caused this section of the Dolores to be found eligible for Wild and Scenic status.

The Bureau should instead consider other alternatives for well locations that would avoid these environmental and recreational impacts.

Thank you for considering my comment.

Sincerely,  
Mr. Andrew Frishman  
606 N F St Albion, WA 99102  
auseklis@hotmail.com

**FW: [EXTERNAL] Paradox Valley Unit New Injection Well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 158**

Wed 1/22/2020 6:57 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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From: mikeg493@everyactioncustom.com On Behalf Of Mike Giordano  
Sent: Wednesday, January 22, 2020 6:55:26 AM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Paradox Valley Unit New Injection Well

Dear Area Manager Ed Warner,

Thank you for the opportunity to comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. I am very concerned that the impacts from the proposed Alternative B1 would be devastating to the scenic qualities of the Dolores River Canyon.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by power lines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

A new road, two river crossings, and associated infrastructure would damage the outstanding values of this popular stretch of river. However, I also have concerns that the new bridges would impose a safety hazard not present elsewhere in the reach. This segment of river is rated class II+, defined as "straightforward rapids with wide, clear channels" by the International Scale of River Difficulty. The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.

As an avid outdoor recreationist, I encourage the Bureau to more carefully take impacts to recreational and social values into consideration in the proposed alternatives. Other locations for potential brine injection wells should be considered that would not be as socially and environmentally impactful. Additionally, the Bureau should consider the future prospects of the salinity removal effort in the context of climate change and decreasing water supply and runoff.

This is such a beautiful area that has already been devastated by the McPhee reservoir dam!! Do not build bridges here. My friends and family raft this river when possible and the addition of these bridges and roads is deplorable.

Sincerely,  
Mr. Mike Giordano  
2661 Apres Ski Way Steamboat Springs, CO 80487-2132  
mikeg493@aol.com



**FW: [EXTERNAL] Paradox Valley Unit New Injection Well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 159**

Wed 1/22/2020 1:21 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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From: heck4877@everyactioncustom.com On Behalf Of Andrew Heckard  
Sent: Wednesday, January 22, 2020 1:20:21 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Paradox Valley Unit New Injection Well

Dear Area Manager Ed Warner,

Thank you for the opportunity to comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. I am very concerned that the impacts from the proposed Alternative B1 would be devastating to the scenic qualities of the Dolores River Canyon.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by power lines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

A new road, two river crossings, and associated infrastructure would damage the outstanding values of this popular stretch of river. However, I also have concerns that the new bridges would impose a safety hazard not present elsewhere in the reach. This segment of river is rated class II+, defined as "straightforward rapids with wide, clear channels" by the International Scale of River Difficulty. The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.

As an avid outdoor recreationist, I encourage the Bureau to more carefully take impacts to recreational and social values into consideration in the proposed alternatives. Other locations for potential brine injection wells should be considered that would not be as socially and environmentally impactful. Additionally, the Bureau should consider the future prospects of the salinity removal effort in the context of climate change and decreasing water supply and runoff.

I understand the need for water in a dry environment, however, please, please, please consider aesthetic & environmental beauty as a top priority for your project.

Thank you,  
Andrew

Sincerely,  
Mr Andrew Heckard  
915 Heather Ln Montrose, CO 81401-9748  
heck4877@gmail.com



**FW: [EXTERNAL] Paradox EIS Comment**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 160**

Mon 2/3/2020 5:44 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (26 KB)

Salinity plant.docx;

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**From:** paradoxeis@usbr.gov On Behalf Of Robbie Bunker

**Sent:** Monday, February 3, 2020 5:39:23 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox EIS Comment

Please open the Salinity plant.doc in regards to the salinity project.

Jody C. Weimer

2-2-2020

Regarding: Parado EIS Comment

Mr. Warner:

Thanks for allowing citizen input into your proposal for Paradox EIS. I want to tell all you idiots from the federal government that you can't control mother nature. First off, this is ridiculous. Have you ever put salt in a skillet? It burns and pops. Right now, the Democrats want to stop coal mining without a plan to provide an alternative heating source for the people. Fossil fuels need to be removed from under the earth. If not, there are going to be volcanoes erupting all over again. Put salt into the earth along with the coal fires, and something is going to blow up, or there is going to be a shift in the ground, i.e., earthquake.

I am completely opposed to the evaporating ponds in East Paradox. Everyone I've talked to is against this plan. Also, forget evaporation ponds on the surface of the ground. It will ruin the aesthetics of Paradox Valley.

I have an idea that would benefit this area. How about taking the saltwater, filling large water containers, and shipping the salt to the ocean. This will create new revenue for roads and jobs. In the end, the clean H2O5 Act will be met, and Mexico will be happy.

160.01

The salinity project does not need to be in East Paradox. It will be an eyesore; we will lose habitat (trees, brush, small animals, and large). Eventually, the soil will have to be processed again. Large amounts of salt are not only bad for humans but the environment. Think about the potential lawsuits from our neighbors. Let's do the right thing.

Jody C. Weimer

Semi-retired rancher

P.S. In the first place, I do not believe the federal government and common sense go together. Put this product on trucks and send it South. Jobs created taxes will help in the reconstruction of highways. I would call this plan a good job.

**FW: [EXTERNAL] Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 2/2/2020 2:32 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 161**

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**From:** paradoxeis@usbr.gov On Behalf Of sarah@willbraffitt.org**Sent:** Sunday, February 2, 2020 2:31:39 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley brine injection well

Dear Mr. Warner,

I visited Bedrock for the first time in October 2019. A close friend had purchased land along the Dolores River, and so we selected her property for our annual wilderness tea party. I was captured by the beauty of the valley and the majesty of the mesa.

I had heard much about the current brine injection well, which she researched heavily when considering buying the property. I want to express my opposition to the potential construction of a new Paradox Valley brine injection well further upstream at Wild Steer Canyon.

The Bureau of Reclamation's Alternative B1 would significantly change the character of the pristine wild river canyon. I encourage the Bureau to more carefully considering the lasting impacts to natural resources when making their decision, especially considering the fixed lifetime of such a project.

Thank you for the consideration.

Sarah Will

**FW: [EXTERNAL] NO! to Sheep Mountain development**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 162**

Sat 2/1/2020 3:40 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

---

**From:** paradoxeis@usbr.gov On Behalf Of Lyra Mayfield**Sent:** Saturday, February 1, 2020 3:40:03 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] NO! to Sheep Mountain development

To Mr. Ed Warner and the Bureau of Reclamations,

On behalf of all wild places and the flora and fauna who have coexisted here for centuries, please do not consider the industrial desalination development along the wild and scenic Dolores River. Too few wild places exist, and they do not have voices except from the people who treasure them, and so I am speaking out for them and for the wild-ness of this river.

Please continue to research alternative options to improve the water quality along the CO River Basin.

Thank you,  
Lyra Mayfield

1340 King Ave, Boulder, CO

*Lyra Mayfield*

[lyramayfield@gmail.com](mailto:lyramayfield@gmail.com)  
720-352-2631 / cell

**FW: Please Protect Dolores River**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 163**

Sat 2/1/2020 9:23 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of lisa allee**Sent:** Saturday, February 1, 2020 9:23:25 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Please Protect Dolores River

Dear Mr. Ed Warner,

I am writing to you to comment on the proposals for the Paradox Valley Salinity Unit. I have lived in the Dolores area for almost 30 years and I have spent a lot of me in the Dolores River Canyon hiking and boating. I have also enjoyed the incredible beauty of the Paradox Valley either just traveling through it or hiking, camping and rock climbing. Both areas are precious resources to those that live there, human and other beings, and for those who travel through. I strongly urge you to select to implement Alternative A--no action as this will be the best choice for all of us. The other alternatives carry too much of a negative impact on the local area and contribute to climate chaos in ways that are just not worth it! The Bureau of Reclamation needs to do its part to maintain and preserve the beauty that exists and to minimize our human impact on the earth and the beings we share it with. Please carry these crucial values into this decision.

Thank you for the work you do and have a more than beautiful day!  
Lisa Allee, RN, CNM  
14493 Road 31 Mancos, CO 81328  
970-570-7936

**FW: [EXTERNAL]**

**COMMENT LETTER 164**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 1/31/2020 11:49 AM

To: McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of neal mathews

**Sent:** Friday, January 31, 2020 11:48:14 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL]

I am in favor of alternative A only, no action. The other alternatives would impose way too much negative impact on the area. Sincerely, **Neal Mathews, Ridgway Colorado 81432**

**FW: paradox valley salinity unit**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 165**

Fri 1/31/2020 2:05 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Melanie Kent**Sent:** Friday, January 31, 2020 2:03:54 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] paradox valley salinity unit

Hello Ed Warner,

My name is Melanie Kent and I live in San Miguel County and consider the west end to be a huge asset to this region, both geologically and historically. Not to mention the beauty of the Dolores river canyon with its waters and many archeological sites. I urge you to go with Alternative A for this specific situation. The impact any of the other options is far to great and destructive, already the amount of seismic activity due to the current plant is remarkable. Lets let this plant remain and let these waters do their natural thing. In order to preserve the West end and the Dolores canyon with all of its rich archeology and geology, leave it alone!

Many thanks,

Melanie Kent  
PO BOX 731  
Ophir, Co 81426  
970 708 4938

**FW: [EXTERNAL] Injection well site**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/31/2020 9:29 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 166****From:** paradoxeis@usbr.gov On Behalf Of Charla Brown**Sent:** Friday, January 31, 2020 9:27:46 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Cc:** Charla Brown**Subject:** [EXTERNAL] Injection well site

To whom it may concern:

The impacts of a new injection well site in Paradox Valley would be devastating to the wild character of the Dolores River. The Dolores River is one of the last, best unspoiled places on the Colorado Plateau. The Bureau of Reclamation's plan to relocate the well to Wild Steer Canyon would forever change the last few miles of the magical float through the slickrock canyon. Please consider any options that would not turn this pristine area into an industrial zone. There are surely better options than sacrificing the extraordinary, and irreplaceable, beauty and serenity of the Dolores River Canyon, options like alternate sites for injection wells or higher tech solutions like zero-liquid discharge technology

166.01

Thank you for your consideration,

Charla Brown

*Charla Brown  
PO Box 170  
Crested Butte, CO 81224*

# FW: [EXTERNAL] Salinity Project on the Dolores River

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 1/30/2020 6:29 PM

**COMMENT LETTER 167**

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Candee Pearson

**Sent:** Thursday, January 30, 2020 6:28:31 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Salinity Project on the Dolores River

Hi,

I am concerned about any impacts that a new project could have on the Dolores River. I do not want to see any new bridges over the river, and to minimize new roads and development adjacent to the Dolores River corridor, as it is one of the last wilderness areas of it's kind. I do not think that any type of project that includes injection into the ground is a good idea, because nobody really knows what impact that could have in the future, but I would be in favor of other technology that would be the least invasive. Please make sure that any alternative mitigates as many visual, noise, and wildlife impacts and access for all users of the river.

167.01

Thanks,

Candee Pearson

25 Hermosa Drive  
Durango, CO 81301  
970-764-5615 cell

"A shift in consciousness takes place only when we choose it." Alan Fogel

**FW: [EXTERNAL] opposition to new roads, bridges, and powerlines for injection well site.**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 168**

Mon 1/27/2020 12:23 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Randy Hays

**Sent:** Monday, January 27, 2020 12:22:03 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] opposition to new roads, bridges, and powerlines for injection well site.

Ed Warner,

I am writing to inform you that I oppose the new roads, powerlines, and bridges proposed for the Dolores River. Constructing these new roads and bridges will significantly alter the current character of the river corridor and leave a permanent scar. I respectfully request you find an alternate location for the new injection well.

168.01

Thank you in advance for your consideration.

Randy Hays

**FW: Bedrock road and bridge proposal**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 1/24/2020 6:06 AM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 169**

**From: 'Kassidy Kremer' via BOR WCAO DL Paradox EIS**

Sent: Friday, January 24, 2020 6:05:35 AM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Subject: Bedrock road and bridge proposal

Hi Mr. Warner

How are you?

I wanted to drop a note urging you to reconsider the development proposal in bedrock canyon.

Is there an alternate spot of the injection well? The infrastructure alone sounds extremely expensive

169.01

# FW: [EXTERNAL] Alternative A favored with regard to Dolores River Action Planned

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 170**

Thu 1/23/2020 1:58 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Ron Margolis

**Sent:** Thursday, January 23, 2020 1:55:57 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Alternative A favored with regard to Dolores River Action Planned

ED WARNER  
AREA MANAGER  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

Dear Ed and the entire Bureau of Reclamation,

Have you ever walked around the Dolores River Basin, smelled the freshness of the air, enjoyed the peace and quietness of this mostly untravelled land? I believe that if you have not already done so, you should get out there as soon as possible and see and listen to, and feel the beauty of this peaceful and natural land. How can we expect to continue to live on this planet when we are continually wanting to take more and more of it and place its wildness, uniqueness, and its generosity into the category of a resource for the taking?

I live in Durango Colorado and gladly call this corner of SW Colorado my home. Here are some reasons why I do not believe the Bureau should be so crass as to try and further "develop" this wild land.

1. **We do not need** a new deep injection well and underground pipeline in the Dolores River bed for any reason. This area, if I am not mistaken is already designated as a WSA (Wilderness Study Area) and this type of facility there, would destroy its beauty and the Wilderness for which it is noted.

170.01

2. Alternative A would seem to be the best option for preserving the airshed at Arches National Park.

170.02

3. You could also just choose to plug the current well and abandon it. This option would save the taxpayers money in addition to maintaining this glorious land's beauty and wildness.

170.03

4. If I am not mistaken there are Big Horn Sheep in that area and we would not want to upset their habitat.

170.04

In conclusion I believe you should withdraw your proposal to the US Secretary of the Interior, and help preserve this wondrous and wild land, and defend it

in the futre from further del=velopment so that our children and our children's children will be able to enjoy this spot well into the future.

This would require big thinking and deep consideration and being able to "feel" the importance of preservation versus continued and ongoing further development.

Thank you very much for your time!

ronald a. margolis  
longtime Durango, Colorado resident

## FW: Comment on EIS Alternatives

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Mon 2/3/2020 5:21 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 171**

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From: 'Jenny Russell' via BOR WCAO DL Paradox EIS  
Sent: Monday, February 3, 2020 5:21:36 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: Comment on EIS Alternatives

My husband and I spend significant time boating, hiking and backpacking in the Dolores River Wilderness Study area and the area around Bedrock. There are significant cultural, historic and environmental values that would be destroyed by any of the action alternatives considered in the EIS. Therefore, we strongly support the no action alternative because all of the other alternatives present significant and unacceptable environmental and other negative impacts.

Please put me on the list for information as this process moves forward. We are very gravely concerned with all of the proposed actions.

171.01

Jenny Russell & Clay Wadman

**FW: [EXTERNAL] public comment Kathryn Fulton**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 172**

Mon 2/3/2020 9:49 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (30 KB)

Comments Dolores Desal.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Kathryn Fulton

**Sent:** Monday, February 3, 2020 9:48:23 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] public comment Kathryn Fulton

Dear Mr. Warner,

Please add my comments to the public record.

Thank you,

Kathryn Fulton

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

Kathryn Fulton  
39850 Rd. J  
Mancos, CO 81328

February 3, 2020

Dear Mr. Warner:

This letter is regarding the Paradox Valley Salinity Project. I have studied the alternatives proposed in the Draft EIS. All of the proposed alternatives would have significant negative impacts to recreation, wildlife, cultural resources, and wilderness qualities.

I have enjoyed recreational activities in the Dolores River Canyon since shortly after construction of McPhee Reservoir. The scenic, cultural, and wildlife values within the canyon are rare, unique, and relatively pristine. Residents of the region know this area as a gem of a resource for hiking, boating, fishing, and hunting. During these years, I have witnessed dramatic changes in the ecosystem downstream from the dam due to irregular and unnatural flow regimes. The irregular releases have caused severe degradation to natural vegetation and fish habitat.

Alternative B1 in particular would have an extremely detrimental impact to the Dolores River Canyon. Under this alternative there would be a new injection well location farther upstream into the Dolores River Canyon, at the confluence with Wild Steer Canyon. This would include constructing 1.3 miles of new road upstream from the current injection well, crossing back and forth over the Dolores River with two new bridges, accompanied by a new powerline and buried pipeline. I am adamantly opposed to this alternative due to the negative impacts to one of the most scenic stretches of river canyon in America.

I support alternative A, no action at this time. I would encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable

environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation should develop a more reasonable range of alternatives that are not as socially and environmentally destructive, and should also consider the future prospects of the overall salinity removal effort in the context of climate change and ever decreasing snowpack and runoff.

172.01

Respectfully,  
Kathryn Fulton  
[kestrelfarm@gmail.com](mailto:kestrelfarm@gmail.com)

## FW: Paradox Valley Unit EIS - Public Comment

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 173**

Mon 2/3/2020 6:34 PM

To: McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (15 KB)

Paradox Valley, River Salinity, EIS Comment 2020.docx;

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**From:** paradoxeis@usbr.gov On Behalf Of Ellen FOSTER

**Sent:** Monday, February 3, 2020 6:28:57 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox Valley Unit EIS - Public Comment

Attached is my public comment regarding the Paradox Valley Unit of the Colorado River Basin Salinity Control Program EIS.

Thank you for your consideration.

Ellen Foster

PO Box 1648

Dolores, CO 81323

**Paradox Valley Unit of the Colorado River Basin Salinity Control Program  
DRAFT Environmental Impact Statement -- PUBLIC COMMENT**

**I oppose all Alternatives proposed in the Draft EIS.**

**A better alternative would be to build a pipeline across the Paradox Valley (3-5 miles) that would transport the Dolores River from the south edge to the north edge of the valley. Prevent the river from flowing through the salt deposit of the Paradox Valley. It would be more efficient and less expensive to keep the salt out of the river to start with than having to get it out of the river after it flows through the Paradox Valley.**

The Dolores River picks up 205,000 tons of salt annually as it passes through the Paradox Valley. According to Ed Warner, Area Manager of Reclamation's Western Colorado Office, the desalination plant removes 95,000 tons of salt annually. That means that 110,000 tons of salt picked up in the Paradox Valley remain in the Dolores when it meets the Colorado River.

If the river doesn't flow through the salt deposits of the Paradox Valley, an estimated 205,000 tons of salt annually will be prevented from entering the Dolores River. That would be 95,000 tons more than is accomplished by the Paradox Valley Unit. The concentration of salt in the Dolores River, before it meets the Colorado River, would be less than it is now after treatment at the desalination plant.

In addition, water that would have been pumped down the injection well would continue down the Dolores River instead.

173.01

Since the Paradox unit began operating in 1991, over 6,000 earthquakes have been recorded. Bigger quakes are happening more frequently. Well pressure is reaching permit threshold standards, an indication that the total capacity of the Leadville formation site storing the brine has been reached. A new injection well 1 or 2 miles from the existing well will only increase the size and frequency of earthquakes.

173.02

**A pipeline would eliminate the need for a desalination plant to remove the salt. There would be no need for a new injection well to dispose of brine fluids (Alternative B) There would be no need for evaporation ponds and their associated drawbacks. (Alternative C) There would be no need for a 60-acre onsite salt landfill. (Alternative C) There would be no need for a hydrogen-sulfide treatment system to remove H2S before brine is discharged to the evaporation ponds. (Alternative C) There would be no need for a zero-liquid discharge facility to evaporate water from the brine. (Alternative D) Seismic activity would be greatly reduced. People with water rights for irrigation in the Paradox Valley would receive less salty water.**

173.03

Please give this New Alternative serious consideration.

Submitted on February 3, 2020 by:

Ellen Foster  
PO Box 1648  
Dolores, CO 81323

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 2/2/2020 1:39 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 174**

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**From:** paradoxeis@usbr.gov On Behalf Of Karla VanderZanden**Sent:** Sunday, February 2, 2020 1:39:27 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to oppose the proposed location for a new brine injection well on the Dolores River. I am very familiar with this area, having boated and hiked in the area since the late 1970's. My experience was as private citizen and as Founder, Director and Guide for Canyonlands Field Institute (CFI.) CFI held commercial BLM Special Recreation Permit for the Bradfield to Bedrock stretch of the Dolores for twenty years.

The proposed location will require road work, bridges and other industrial infrastructure. This location is adjacent to Slickrock Canyon (Dolores River) Wilderness Study Area and considered for the Wild and Scenic Rivers system. It has world class geological formations, prehistoric and historic cultural features and family friendly recreational opportunities. The industrial complex proposed will greatly disturb the riparian corridor and negatively impact visitor experience as they emerge from the canyon on the way to the take out.

Currently in high flow years, hundreds of people float this river each day for one to two months and contribute to the nearby economy through shuttle, fuel and food purchases. Many users will choose to go elsewhere if this well goes in.

The Bureau of Reclamation needs to select an alternative brine injection well site that is not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon.

Sincerely,  
Karla VanderZanden  
2690 Nuevo Ct.  
Moab, UT 84532

Fw: [EXTERNAL] Alternative B1 is the wrong choice for the Dolores River

McCarter, Molly E <mmccarter@blm.gov>

Tue 2/4/2020 12:32 PM

To: Boyle, Rebecca J <rboyle@blm.gov>

**COMMENT LETTER 175**

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**From:** SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**Sent:** Tuesday, February 4, 2020 9:40 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

**Subject:** FW: [EXTERNAL] Alternav e B1 is the wrong choice for the Dolores River

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**From:** paradoxeis@usbr.gov On Behalf Of A S

**Sent:** Tuesday, February 4, 2020 9:39:30 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Alternative B1 is the wrong choice for the Dolores River

Dear The Bureau of Reclamation,

I am writing to express my opposition to the proposal to construct a new Paradox Valley brine injection well farther upstream of Bedrock, in the Dolores River Canyon.

Constructing 1.3 miles of new road up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River is renowned as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial park will destroy that experience as well as undermine the wild characteristics that make the area so remarkable.

The Bureau of Reclamation's Alternative B1 would also significantly change the character of the habitat for the desert bighorn sheep, mule deer and a litany of other species that inhabit the lower canyon.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives.

Sincerely,  
A S  
408 so church  
Aztec, NM 87410

**FW: [EXTERNAL] Paradox Valley brine injection**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 8:55 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 176**

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**From:** paradoxeis@usbr.gov On Behalf Of John Fielder**Sent:** Thursday, January 16, 2020 8:52:49 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley brine injection

For Mr. Ed Warner

Dear Mr. Warner:

I am writing to express my opposition to construction of a new Paradox Valley brine injection well upstream of Bedrock at Wild Steer Canyon, your B1 alternative.

I have spent the past 40 years photographing most of Colorado's 66 million acres. The Dolores River Canyon from Bradfield Bridge to Dewey Bridge in Utah, about 165 river miles, is one of the highlights of a very scenic state, not to mention the entire planet. I know this because twice in my life I have rafted this entire stretch of the Dolores.

Many people aspire to restore the ecological integrity of this canyon negatively impacted by a dam and water diversions. I believe that this can and will happen. The proposed injection well is an industrial project antithetical to this goal.

The salinity of one of the most dammed and diverted rivers on Earth, the Colorado, should not be used to justify further degradation of the Dolores. Agricultural irrigation is to blame, not the aquifers of the Dolores. Agriculture in partnership with your agency must be find a more appropriate solution, one that does not sacrifice one of the most extraordinary river canyons on Earth.

Sincerely,  
John Fielder  
303-907-2179  
Summit County  
Colorado

Sent from my iPhone

**FW: Injection Well site**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 4:41 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 177**

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**From:** Joe Greiner**Sent:** Thursday, January 16, 2020 4:38:34 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Injection Well site

IMr Warner,

I am a boater that values the remoteness of the Dolores river valley. I beg you to stop any consideraon for placing injecon well sites upstream of Bedrock. This area is a treasure that should not be disturbed.

Joe Greiner  
719-221-8895

Sent from [Mail](#) for Windows 10

**FW: [EXTERNAL] Dolores Desalination Plant**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 1:51 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 178**

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From: paradoxeis@usbr.gov On Behalf Of Alex Baeseman

Sent: Friday, January 17, 2020 1:43:13 PM (UTC-07:00) Mountain Time (US &amp; Canada)

To: BOR WCAO DL Paradox EIS

Subject: [EXTERNAL] Dolores Desalination Plant

Ed Warner,

The Dolores river is incredibly close to my heart and it would be an utter catastrophe to alter this river in such a way that it will never be the same again. The wild character and beauty of this river cannot be understated. I completely disagree with the possible decision to take away recreational rights to enjoy this river for future generations. Please let my voice be heard.

Alex Baeseman

**FW: [EXTERNAL] Paradise Valley salinity project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 179**

Mon 2/3/2020 1:33 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Rich Packman**Sent:** Monday, February 3, 2020 1:32:04 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradise Valley salinity project

Greetings,

I am a Dolores River recreational user and concerned citizen. It is my belief that none of the proposals are satisfactory, and No Action should be taken.

Thank you

Richard Packman

**FW: [EXTERNAL] Paradox**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 180**

Mon 2/3/2020 2:00 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Vivian Russell**Sent:** Monday, February 3, 2020 1:58:53 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox

Please choose:

*Alternative A – No Action (no salinity control in the Paradox Valley)**My comment: This is a very special wilderness environment that should be preserved for recreation.**Continuing to develop this area will be a tragedy for people and animals alike.*

*Vivian Russell  
PO Box 599  
Telluride, CO 81435  
(970) 708-7195*

**FW: [EXTERNAL] Paradox valley considerations**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 2/4/2020 12:16 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 181**

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**From:** paradoxeis@usbr.gov On Behalf Of chris marie logan**Sent:** Tuesday, February 4, 2020 12:15:06 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox valley considerations

Please consider implementing Alternative B-1 only. The other alternatives have ghastly long term impacts that would create environmental disasters for wildlife, historical preservation sites, as well as negative impacts on recreational use of the area.

Please only consider Alternative B-1.

Please preserve as much of this precious land and water as possible.

Create the most positive outcome!

Thank you!

Chris Marie Logan

**FW: [EXTERNAL] Brine Injection Conundrum**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 7:55 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 182**

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**From:** paradoxeis@usbr.gov On Behalf Of Doug Capelin**Sent:** Friday, January 17, 2020 7:53:57 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Brine Injection Conundrum

Dear Mr. Warner,

First of all, let me say that I respect that something needs to be done in regards to the salinity of the Colorado River, downstream obligations, and the shrinking efficacy of the current brine injection facility upstream from Bedrock. So, it's not like I'm thinking you all need to forget it, conserve everything, and focus on rafting and fishing access.

I've lived in Western Colorado since 1977. In 1984, my wife and I founded Deer Hill Expeditions ([www.deerhillexpeditions.com](http://www.deerhillexpeditions.com)) providing wilderness expeditions (canyons, rivers, mountains) and service learning trips (Navajo, Hopi, and Zuni communities) for youth from all over the world. I understand the value of the scenery, the history, and the people of the Colorado Plateau.

I oppose the construction of a new Paradox Valley injection well farther upstream of Bedrock simply because that stretch of the Dolores is scenic, historic, and relatively untrammled.

That said, I understand the need for a site for salinity control and brine injection. The question isn't whether or not it's necessary (legally or otherwise), but where. I encourage you to explore and consider any and all options that could mitigate the impact of this new Bureau of Reclamation project.

Thank you,  
Doug Capelin

**Doug Capelin**

Founder/Owner

cell: 970-759-0876

email: [doug@deerhillexpeditions.com](mailto:doug@deerhillexpeditions.com)

PO Box 180 | 7850 Rd 41

Mancos, CO 81328



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**FW: Comment**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 12:30 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 183**

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**From:** 'Scott Graham' via BOR WCAO DL Paradox EIS**Sent:** Saturday, January 18, 2020 11:37:14 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** Comment

Dear Mr. Warner,

We appreciate the active role the BLM has played in working to increase river recreation on the Dolores River. We believe developing the lower Dolores River canyon above Bedrock to install the proposed new injection plant will irreparably harm the river corridor and the river recreation experience. Please consider other alternatives that will not harm the natural and recreational values of the river corridor.

Thank you.

Scott and Susan Graham  
Durango, CO

**FW: Dolores River Development**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 2/5/2020 8:52 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 188**

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**From:** paradoxeis@usbr.gov On Behalf Of LEE WINSLOW**Sent:** Wednesday, February 5, 2020 8:51:07 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Dolores River Development

To whom it may concern:

I am a long me visit or to the Dolores River. Started back in the 1970's. I am opposed to an industrial development along the river. This is one of the most beautiful places in Colorado and it needs to be protected.

Thank you,  
Lee Winslow

**FW: [EXTERNAL] PVU 1/15 meeting**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 185**

Wed 1/15/2020 9:39 AM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Rica Fulton

**Sent:** Wednesday, January 15, 2020 9:37:02 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] PVU 1/15 meeting

Hi there,

I am unable to make it to Montrose this evening, but am curious if there is a way to call into the meeting, or if there will be notes or any documentation available afterwards?

Thank so much!

--

Rica Fulton  
 Restoration Coordinator  
[Dolores River Restoration Partnership](#) & [Desert Rivers Collaborative](#)  
 o(970) 256-7400  
 c(970) 799-3316  
[www.riversedgewest.org](http://www.riversedgewest.org)



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**FW: [EXTERNAL] paradox EIS**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 186**

Sun 1/19/2020 7:36 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Billy KOONS**Sent:** Sunday, January 19, 2020 7:35:05 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] paradox EIS

Dear Mr Warner

Please choose alternative D, for salinity control in the paradox valley. B is in conflict with river users which has become a viable income for this part of the western slope. Alternative A is not an option for the long term. Alternative C can lead to environmental damage including bird loss from these open pit ponds. Alternative D would be a feather in the cap for all involved.

Thanks You

William Koons

**FW: [EXTERNAL] Paradox EIS**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Mon 1/20/2020 9:02 AM

**COMMENT LETTER 187**

**To:** McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (104 KB)

Comments on Draft EIS.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Jim Stover

**Sent:** Monday, January 20, 2020 9:01:44 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox EIS

Attached are my comments on the draft Paradox EIS.

Jim Stover, P. E.

T S Landfill, Inc.

2352 N 7th Street, Unit B

Grand Junction, CO 81501

O: 970-245-4101 M: 970-260-0802

Paradox Valley Unit of the Colorado River Basin Salinity Control Program  
Draft Environmental Impact Statement  
Montrose Meeting

Some EIS documents detail options considered but not carried forward. This EIS just has three options with all three carried forward. It seems there must be some options that were considered but not carried forward like lining the river or completely rerouting the river. I think the EIS is faulty for not listing all of the options considered but not carried forward.

187.01

The three options have a life span of 50 years. I think the EIS should have a vision for technical advances that will occur in the next 10 or so years that could impact the decisions made this year. Alternative D (zero liquid discharge) assumes natural gas will provide the necessary heat for the next 50 years. There have been recent advances in small modular nuclear reactors. What would the economics look like for Alternative D if the fuel was derived from a small nuclear reactor in years 10 through 50? There may be small modular nuclear reactors available today.

187.02

An attendee at the Montrose meeting indicated there might be mining in the surrounding area at some point in the future and he was concerned how the earthquakes would impact future mining.

187.03

It might be worthwhile to have some evaporation ponds to give flexibility to Alternatives B and D. If there was a problem with the injection well and or the zero liquid discharge option, the brine could be temporarily diverted to the pond(s).

187.04

**FW: Dolores River Development**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 2/5/2020 8:52 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 188**

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**From:** paradoxeis@usbr.gov On Behalf Of LEE WINSLOW**Sent:** Wednesday, February 5, 2020 8:51:07 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Dolores River Development

To whom it may concern:

I am a long me visit or to the Dolores River. Started back in the 1970's. I am opposed to an industrial development along the river. This is one of the most beautiful places in Colorado and it needs to be protected.

Thank you,  
Lee Winslow

**FW: [EXTERNAL] Paradox EIS Comments**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/4/2020 8:08 AM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 189**

 1 attachments (28 KB)

ParadoxEIS\_Feb2020.odt;

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**From:** paradoxeis@usbr.gov On Behalf Of Brian Westphal

**Sent:** Tuesday, February 4, 2020 8:05:32 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS; info@sanjuancitizens.org

**Subject:** [EXTERNAL] Paradox EIS Comments

Dear Sirs:

First off, my major complaint is the fact that one of the requirements for the EIS is to “remove 100k ton/yr of salt” which is presumptuous in that any alternative that does not remove salt from the Dolores river will fail the basic premise of the EIS. It is as if the conclusion is predetermined particularly considering the pilot plant studies and dollars spent on options B, C, and D to date. I also am not sure where the 100k ton/yr salt increase to the Dolores river comes from when the USGS [1] data indicates a value of 74k ton/yr of salt (and not 95k ton/yr as stated in [2]) is currently being removed from the Dolores river by the current injection technology (PVU). I think the public is being misled by this inflation of the real data from 74k to 95k ton/yr. Additionally, the current EIS [2] also states approximately 150k ton/yr of salt would be added to the Dolores river without the PVU which is an inflation by a factor of two to the real data. I realize it is difficult to quantify exactly the contribution but giving three different values is confusing and misleading.

189.01

Another bothersome item is the lack of a model for the entire Colorado river basin concerning salinity control. Given the ability of computers and relative costs to pilot studies, modeling holds the key to any solution, assuming you trust the model. A comprehensive computer model of the entire Colorado river basin salinity program should be created and utilized for predictive purposes and exploration of potential solutions to the problem.

189.02

To take a step back and look at the problem and potential solutions I think is needed at this time. As stated in the draft EIS [2], 9.2 mg/l of salt would be added by the Dolores river at Imperial Dam. This amount of salt would only change the overall salt content by 1.2% ( $9.2/786$ ) at Imperial Dam if the No Action option is selected. I cannot understand how spending more than \$100 million for options B, C, and D justifies only 1.2% of the problem. I also understand mitigation of the problem may be needed but when the Dolores river only contributes 1.2% of the salt, it would seem that efforts should be applied elsewhere.

189.03

Furthermore, it would seem that all three alternatives (Options B, C, and D) in the EIS are reactionary fixes to the problem, that is, it is assumed that salt HAS to enter the Dolores river and then be removed. In so doing, injection, evaporation, and salt crystallization technologies further the damage to the environment by seismic, visual, energy consumption, and waste disposal issues. Just because a lot of money has been spent to date on Options B, C, and D, does not mean other solutions should be excluded from the draft EIS.

189.03

To address the problem, prevent salt getting into the river, I think should be the goal. The previous EIS [3] for the PVU briefly mentions the creation of a bypass channel for the Dolores river with “uncertain outcomes”. There is no data in either the former [3] or latter [2] EIS addressing how much a bypass channel would cost or how much environmental damage to the valley would be incurred. In fact, the recent EIS [2] (Table 2-7) goes further and states that lining the Dolores river would not solve the problem although no data is given, particularly for the contribution of the La Sal mountains to the problem. It has been 40 years since the original EIS

189.04

[3] was issued and yet it appears that the conclusions have not changed despite the passage of time.

To summarize my comments:

- 1) The current EIS should not state “removal” of the salt but “mitigation of the problem may be necessary”.
- 2) How much salt is added to the Dolores river in Paradox valley? 74K, 95k, or 150k ton/yr?
- 3) A computer model should be included, if not already created, in the draft EIS to assess the effects of salinity on the Colorado river basin in general and the Dolores river specifically.
- 4) The value of 1.2% increase in salt load at Imperial Dam should be included in the current EIS. By so doing, the public would then be aware of how insignificant the problem may be.
- 5) Other alternatives to the salt problem need to be addressed in the EIS and studied as in depth as options B, C, and D.
- 6) Provide data for costs of bypass channel or lining the Dolores river.
- 7) Provide environmental impacts of bypass channel or lining the Dolores river.
- 8) What is the contribution of the La Sal mountains to the salt loading of the Dolores river?

[1] K.R. Watts, “Estimates of Dissolved Solids Load of the Dolores River in Paradox Valley 1988-2009”, USGS report (2010).

[2] Draft Environmental Impact Statement, Paradox Valley Unit of the Colorado River Basin Salinity Control Program, Volume 1 (December 2019).

[3] Colorado River Basin Salinity Control Project, Paradox Valley Unit, Final Environmental Statement, US Dept. Interior, Bureau of Reclamation (March 1979).

Sincerely,

Brian Westphal

18510 Road 26, Dolores, CO 81323

westphalbri@gmail.com

# FW: Comment on Draft EIS for Paradox Valley Salinity Unit

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

COMMENT LETTER 190

Tue 2/4/2020 9:38 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of mary beth mueller

**Sent:** Tuesday, February 4, 2020 9:38:22 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Comment on Draft EIS for Paradox Valley Salinity Unit

To Ed Warner and The Bureau of Reclamation,

I am writing to express my opposition to Alternatives B-D proposed in the Draft EIS for the Paradox Valley Salinity Unit. Options B-D all pose various unacceptable risks to many of the values held dear by residents of this region. For folks who live in southwestern CO and for visitors who come for here for the beauty and solitude of this unique landscape, there are serious threats contained within Alternatives B-D that would have broad and lasting negative impacts, whether seen from the perspective of farmers and ranchers, hunters and hikers, or boaters and bikers. All of these groups benefit from the special nature of this remote area. I, myself, am a hiker, traveler, resident, boater and biker in this region, and as such I have an abiding respect for grandeur of this area.

Small communities in this corner of Colorado--Nucla, Naturita, Dove Creek, Bedrock--and the larger gateways to the Lower Dolores and the Uncompahgre Plateau like Dolores and Cortez all see economic gain from the exceptional recreational opportunities in the Dolores River watershed. The experience of being on the Lower Dolores River is sublime, owing to the pristine nature of the environment where this river flows. Likewise, the neighboring mesas and canyons are a delight to the senses, a real gem of our region. It is of paramount importance to preserve the spectacular qualities of this quiet and wild place for explorers from near and far. The impacts of Alternatives B-D would degrade the recreational value of this area tremendously! The landscape here, with its riches and harshness, also the shapes the lifestyles of present day residents, while revealing the long history of civilization across its mesas and canyons. Solutions to salinity levels in the river must give serious weight to the considerations of the people, communities, and businesses of this region that rely at their core on the unspoiled beauty of this place and the value of its historic sites.

- Any new injection well site (Alternatives B1 & B2) would require building new roads, thereby damaging an immense amount of fragile, high desert earth. Roads, not to mention the construction thereof, with heavy machinery, loud noise and unnatural lights would be devastating to this area, compromising not only the land itself, but also disrupting important habitat for Desert Bighorn Sheep and Gunnison Sage Grouse, just to name a couple of the more famous local fauna. Building bridges over and pipeline under the Dolores River would cause permanent degradation of the wild and exceptional Lower Dolores River, without ever guaranteeing a permanent fix to the salinity problem. Evaporation Ponds in the Paradox Valley (Alternative C) would have broad negative impacts on local residents and wildlife, and would restrict vital winter range for migrating species. The potential loss of range and farmland in the Paradox Valley proposed in Alternative C is totally unacceptable. The risks created by noxious chemicals and hydrogen sulfide gas in this option are a threat to humans and animals alike and should not be imposed upon residents, even of a sparsely populated place. And Alternative D proposes a level of energy use

190.01

190.02

190.03

190.04

and CO2 emissions that would send our region and the country backwards as we try to make meaningful headway towards minimizing emissions of CO2.

Alternatives B1, B2, C & D all come with significant and permanent degradation of the environmental, cultural, social, and recreational character of the Lower Dolores River, the Paradox Valley, and the precious surrounding areas in this watershed. It seems that the best choice, Alternative A, is the most simple and economical, given the information now at hand. Increasing flows in the Dolores River is not without complications, but it remains a much better way to improve water quality in the Colorado River than any of the other Alternatives put forth in the Draft EIS. I urge you to increase flows in the Dolores as a method for handling the issue of salinity in the river and the problem of maximum capacity at the current injection well.

It is essential to think with a very long view about this and other water issues in the West. Please do not accept any plan that does not consider the changing climate of our region and the impact of future drought conditions on the Colorado River Basin. I believe there needs to be a more thorough analysis

190.05

done on the impacts of the PVU on Colorado River desalinization efforts. How effective is this program as a whole, in light of the over-allocation of the Colorado River? The answer matters, and must be examined by the BOR and other participating agencies.

190.06

It is my hope that you will pursue Alternative A, as a promising, much cheaper, and far lower impact solution that will not irrevocably alter this part of the Colorado River Basin and the Uncompahgre Plateau.

Respectfully,  
Mary Beth Mueller

**FW: [EXTERNAL] Public Comment for PVU**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 2/4/2020 3:07 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 191**

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**From:** paradoxeis@usbr.gov On Behalf Of Sheamus Croke**Sent:** Tuesday, February 4, 2020 3:07:00 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Public Comment for PVU

To whom it may concern,

After reviewing the EIS for the PVU alternatives, I wanted to voice my opinion that Alternative C (Evaporation Ponds) should **not** be considered as a viable alternative. I hold this opinion because not only does Alternative C have the highest environmental costs, but it also would have substantial negative effects on the aesthetics of the Paradox Valley. I work in economic development in the West End, and large portion of this work focuses on promoting recreational tourism as one of the primary ways to improve the overall economic well-being in the region. I believe that any further negative aesthetic effects on the beautiful area of Paradox Valley should be avoided as this will inevitably have negative effects for recreational tourism.

As for the other alternatives, I understand that the problem of salinity is exacerbated by sub-ideal irrigation practice further down the Colorado River Basin, so if I had it my way I would favor Alternative A and call for more accountability/action among those who conduct more unsustainable practices downriver. However, I also understand that this is a very complex and difficult issue, and therefore would also be in favor of promoting Alternative D as the best long-term solution, even though it has the highest cost per salt tonnage. Possibly, the energy required for Alternative D could also be obtained (at least partially) through solar power, provided that a solar field would not have similar negative aesthetic effects as the evaporation ponds would.

Thank you for being open to public comment, and I hope you are able to take these thoughts into consideration when making a final decision.

Sincerely,  
Sheamus Croke

**FW: [EXTERNAL] Public Comment Paradox Valley Unit Salinity Project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 2/3/2020 4:08 PM

**COMMENT LETTER 192**

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of jkelly@westslopelaw.com  
**Sent:** Monday, February 3, 2020 4:07:18 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Public Comment Paradox Valley Unit Salinity Project

Ed Warner  
Area Manager, Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501.

Mr. Warner,

Please accept this as public comment on the Paradox Valley salinity project alternatives being proposed.

I am a lifelong resident of the Dolores, Colorado area and am an interested stakeholder as a business owner, hunter and boater. This area is incredibly important to wildlife, including endangered sage grouse, rare desert bighorn sheep, winter habitat for migratory elk and deer herds, as well as riparian habitat for numerous other species. The area is rich in archeological sites including rock art panels along the river. The roadless and wilderness qualities of the area are a resource worth preserving. I respectfully remind the Bureau that the existing injection well was responsible for the 2019 4.5 magnitude earthquake that shook the region including the area of McPhee dam.

I ask that the Bureau of Reclamation adopt Alternative A—no action and start over with a more reasonable range of options to address salinity.

I strongly oppose Alternative B1 the new injection well location farther upstream into the Dolores River Canyon, at the confluence with Wild Steer Canyon. This would include constructing 1.3 miles of new road and bridges accompanied by a new powerline and buried pipeline significantly impacting the recreational, wild and scenic, and wilderness qualities of this stretch of the Dolores River. It would also harm the Desert Bighorn Sheep population in the area.

I strongly oppose Alternative B2 the New injection well on Monogram Mesa which involves building a pipeline and new road through important habitat for Gunnison Sage Grouse and Desert Bighorn Sheep.

I also oppose Alternatives C and D for the same impacts on the wildlife and the unnecessary impacts on cultural resources. Alternative D would result in the highest carbon emissions, further exacerbating the negative effects climate change is already having on snowpack in the Colorado River Basin.

Thank you.

Jon L. Kelly  
14630 Road 29  
Dolores, CO 81321  
(970) 799-4473



**FW: [EXTERNAL] DEIS Paradox Salinity**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 193**

Mon 2/3/2020 12:47 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Kent Ford

**Sent:** Monday, February 3, 2020 12:46:33 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] DEIS Paradox Salinity

**Kent Ford**

550 Riverbend ~ Durango, CO, 81301 ~ USA

Phone (970)-259-1361 ~ [www.performancevideo.com](http://www.performancevideo.com) ~ Email [wkentford@gmail.com](mailto:wkentford@gmail.com)

February 3, 2020

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

I am writing to comment on the Draft Environmental Impact Statement (EIS) for the Paradox Valley Salinity Unit.

I support alternative A, eliminating the salinity project from the Dolores River corridor. The Dolores should be a Wild and Scenic River, and the existing project just above Bedrock is out of place in an otherwise beloved river canyon.

I am aware of the damage the Dolores/ Agricultural salinity overload has downstream in the Colorado River basin. The salinity mitigation project would fit better in the zone just above the Colorado River, downstream of the WSA, by Dewey Bridge, or elsewhere in Paradox valley.

193.01

Alternative B1, would have an adverse impact on the Dolores River. This is the only and worst industrial facility on the entire Dolores. Any further work, including decommissioning, at this facility should include a boat ramp to reduce overcrowding at the existing boat ramp downstream. A project expansion at this location would significantly impact the recreational, wild and scenic, and wilderness qualities of the Dolores River.

193.02

As a Whitewater World Champion, Olympic stadium announcer, and longtime paddling instructor, I have had opportunity to see firsthand over 350 rivers in 27 different countries around the world. In fact, I have personally paddled 14 different Wild and Scenic Rivers nationally, including extensive time on the Chattooga River (SC/GA) which was one of the original W&S designations. In each case the Wild and Scenic corridor provides solid protection for these rivers, and becomes a marketing asset for their host communities. The Dolores meets the criteria of a Wild and Scenic River, and only avoids that designation due to location in rural Colorado and Utah.

The Dolores deserves protection and respect.

Thank you for the opportunity to comment.

Kent Ford

Kent Ford  
Performancevideo.com

970-259-1361 home office and cell

**FW: [EXTERNAL] Public comment on Paradox Salinity project**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 194**

Mon 2/3/2020 9:40 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Pete Davis

**Sent:** Monday, February 3, 2020 9:40:06 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Public comment on Paradox Salinity project

Bureau of Reclamation Commissioner:

From my home in Ridgway, CO. I have been an avid recreationalist, archaeologist and naturalist in and around the Paradox valley for nearly 20 years.

I hold this place very near and dear to my heart because it is such a uniquely beautiful and incredibly rare landscape for Colorado.

This place represents a new and valuable frontier for both scientific purposes and economic development in the form of untapped tourism potential with efforts already underway around local communities to facilitate this new growth after decades of economic depression.

All of the alternatives for a new salt facility in and around this area will directly and adversely impact some of the most fragile, non-renewable resources that Paradox has to offer, therefore I support Alternative A, the "No action" option.

Specifically, as a professional archaeologist, I am most concerned about several significant and UNDOCUMENTED archaeological sites I have discovered that are directly in the path of the Alternative B1 proposal to put a new well in upstream of the existing one. I led the local BLM officials to these sites several years ago and they confirmed that the sites are, as of now, still undocumented, so there is no way that BOR officials could have known of this when doing their class 1 file search to aid with this proposal.

194.01

We are working towards a full recordation of these sites in the near future. These cultural sites also have pretty good access by foot (about a mile of walking) and could be much more valuable as a tourist attraction in the budding new economic engine of the West End of Montrose County.

There are also several established and named rock climbing areas on BLM land directly to the east of the proposed path to the new well. Access to these areas will certainly be compromised for the public if Alternative B1 goes forth.

194.02

Additionally, the Alternative C is simply a non-starter. It's proximity to an already nominated National Historic District (the rock art complex) as well as it's sheer size and visual impact make it completely inappropriate for this area. What tourist would want to visit the fantastic rock art while having to

navigate through a wasteland of evaporating salt? We need to be attracting people to this area not repel them.

Lastly, I have several friends who live full time in Bedrock, some within site of the existing salt plant. They have recounted to me frightening stories of the earthquakes that have occurred directly because of the deep salt injection well, once saying that their dishes were rattled off of the shelves and shattered while their two young children were terrified in the house. This is unacceptable.

The entire concept of desalinizing the Colorado via the Dolores river needs to be fundamentally rethought and restudied before any significant action can be considered. Anything less would be simply irresponsible.

I strongly urge you to take no action on a new salt facility of any kind in this area. The Paradox valley and Dolores River canyon are rare places that hold exceptional recreational and scientific value that cannot be compromised by this proposal.

Thank you,

Pete Davis  
(970) 426-9060  
920 Moffat St. / PO Box 165  
Ridgway, CO. 81432

**FW: [EXTERNAL] Paradox Valley Unit of the Colorado River Basic Salinity Control.**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/31/2020 8:26 PM

**COMMENT LETTER 195****To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Patrice Mutchnick**Sent:** Friday, January 31, 2020 8:25:49 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley Unit of the Colorado River Basic Salinity Control.

- I urge the BOR to adopt **Alternative A**, and to carefully consider the serious and irreversible environmental, social, recreational, and cultural impacts the other alternatives would have on the unique character of the beautiful Paradox Valley.
- I would like to see a more thorough analysis done on the impacts of the Paradox Valley Salinity Unit on Colorado River desalination efforts, as well as a study of the effectiveness of the desalination program as a whole in light of over-allocation of the river, and future drought and climate change conditions in the Colorado River Basin.

**FW: [EXTERNAL] proposed injection well site**

**COMMENT LETTER 196**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/4/2020 6:29 PM

To: McCarter, Molly E <mmccarter@blm.gov>

---

**From:** paradoxeis@usbr.gov On Behalf Of Lindsay Trudeau

**Sent:** Tuesday, February 4, 2020 6:29:21 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] proposed injection well site

Dear Mr. Warner:

I own the property directly adjacent to the current injection well and am writing to express my concern with constructing a new Paradox Valley brine injection well farther upstream at Wild Steer Canyon.

Building a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel power line will have an extreme impact on the remote and wild nature of the river canyon. I purchased the land just downstream from Wild Steer Canyon because of the spectacular beauty and wildlife of the canyon upstream. Since living on the property I have seen deer, bobcat, beaver, fox and even bear in the area around Wild Steer Canyon. These animals would have their homes significantly threatened by development in the river corridor.

Additionally, the Dolores River has a reputation as one of the most remarkable wild river experiences in the country. Turning the last 1.3 miles of this trip into an industrial zone would negatively impact this reputation in a significant way. The Dolores River is identified as a wild and scenic river candidate for good reason, and construction of new roads, bridges, and powerlines will permanently mar the remarkable values for which the river was identified.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives.

-Lindsay Trudeau

**FW: [EXTERNAL] Objection to Paradox Valley brine injection well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 197**

Mon 2/3/2020 3:05 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Chris Wilkins**Sent:** Monday, February 3, 2020 3:04:02 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Objection to Paradox Valley brine injection well

Dear Ed Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

I am a longtime resident of SW Colorado, and have boated on the Dolores River and hiked and biked in the Dolores River Canyon area for many years. I consider it to be one of the greatest river trips in the country, and the proposed actions would further erode the wild character that makes the Dolores so special.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a Wild and Scenic River candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives.

The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,  
Chris Wilkins  
408 Cortez Pl  
Santa Fe, NM 87501

**FW: [EXTERNAL] Paradox Valley Unit EIS Comments**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Mon 2/3/2020 8:18 PM

**COMMENT LETTER 198**

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Mimi Trudeau**Sent:** Monday, February 3, 2020 8:17:39 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley Unit EIS Comments

Ed Warner

Area Manager

Bureau of Reclamation

445 West Gunnison Ave., Suite 221

Grand Junction, CO 81501

Dear Mr. Warner:

I am a resident of Moab, Utah and my family owns property in Bedrock on the Dolores River. I frequently enjoy the recreational aspects of the river canyon for hiking, boating, camping and enjoying nature.

I strongly oppose the Bureau of Reclamation's Alternative B1 involving the construction of a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. The Dolores River is one of the most spectacular and cherished wild river experiences in the United States. Building a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. Turning the last 1.3 miles of this float into an industrial zone is unacceptable.

This alternative would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek. The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley, impacting both wildlife and plant habitat, should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon.

When you consider that estimates suggest humans are responsible for more than half of all the salt ending up in the Colorado, it seems that we should take a look at human practices effecting water quality rather than devastating this rare and spectacular place in order to remove naturally occurring salt. While I recognize the political and economic imperative of finding a way to control salinity in the Colorado river basin, I agree with an increasingly large number of future thinking people who think that our community, country, and planet as a whole need to start thinking much more critically about how we use (and abuse) water, in light of our changing climate.

Sincerely,  
Mimi Trudeau

**FW: Paradox Valley Salinity Project - comment**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 199**

Mon 1/20/2020 9:43 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Ken Novak**Sent:** Monday, January 20, 2020 9:42:08 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley Salinity Project - comment

Dear Mr. Warner,

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified. Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Mr. Warner, while you may have seen the above letter already, I do hold and support its sentiment. I raft this river every spring with my family, its unique beauty is something we look forward to and discuss throughout the year. I strongly support leaving this canyon untouched.

Ken Novak  
96 County Road 1016  
Silverthorne, CO 80498

**FW: [EXTERNAL] The Dolores River**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 200**

Sun 1/19/2020 3:08 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Allie McGrath**Sent:** Sunday, January 19, 2020 3:07:02 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] The Dolores River

Dear Mr. Warner:

My name is Allie McGrath. I live in Missoula, Montana and I am an outdoor enthusiast, from hiking and camping, to rafting and biking. As lovers of the outdoors, it is our responsibility to protect and preserve these special, wild places for ourselves and future generations to appreciate and enjoy.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and

environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

I hope you listen to the people who value this special place, and do not continue with the proposal to harm The Dolores River.

Thank you,

Allie McGrath

**FW: [EXTERNAL] Paradox Valley Salinity Proekt**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 201**

Sun 1/19/2020 5:33 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jaime Becktel**Sent:** Sunday, January 19, 2020 5:31:37 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley Salinity Proekt

Dear Mr. Warner:

My name is Jaime Becktel and I am a resident of Mancos, CO and an avid kayaker. One of my favorite stretches of river is the lower Dolores, where every year that there is enough water my friends and I spend as much time as possible kayaking from the dam down to Bedrock. **The Paradox Valley and the entire Dolores River corridor is precious to me, to my community and is the lifeblood of a delicate ecosystem.**

I am writing you today to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified. **I cannot overstate the preciousness of this natural landscape.**

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be flatly rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of

Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you for your time and for hearing my concerns.

**Jaime Becketl**

Copy | Content | Brand | Writer at Carve Deeper Content

Phone: 949.315.0123

Email: [jaime@carvedeepercontent.com](mailto:jaime@carvedeepercontent.com)

[Website](#) | [Twitter](#) | [Facebook](#) | [Instagram](#) | [LinkedIn](#)

**FW: Paradox Valley Salinity Project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 202**

Sat 1/18/2020 12:10 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of T. Wheeler**Sent:** Saturday, January 18, 2020 12:09:45 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley Salinity Project

Ed Warner

Area Manager

Bureau of Reclamation

445 West Gunnison Ave., Suite 221

Grand Junction, CO 81501

I live in Durango, Colorado and have been floating, recreating, and enjoying the Dolores River and Dolores canyons since 1977. I recently learned that the BLM needs to relocate the salt brine injection wells and is considering relocating them upstream in a roadless area that would require significant industrial infrastructure and new roads and bridges.

As a result I am writing to express my **strong opposition** to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. **The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon.** The Bureau of Reclamation should also consider the future

prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thanks,  
Tim Wheeler  
189 Verde Lane  
Durango, CO 81301

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**FW: [EXTERNAL] Please protect the Dolores River**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sat 1/18/2020 5:17 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 203**

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**From:** paradoxeis@usbr.gov On Behalf Of Sarah Hammond**Sent:** Saturday, January 18, 2020 5:16:53 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Please protect the Dolores River

Dear Mr. Warner:

I am a river outfitter and personal river and outdoor enthusiast. I have rafted 27 rivers and countless sections of these rivers over the last 20 years, accumulating nearly 17,000 miles traveled via raft. The Dolores River reigns for me as one of the very best of the best. The last pure wild places in this great country deserve protection - there's no bringing them back once they're gone.

As such, I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

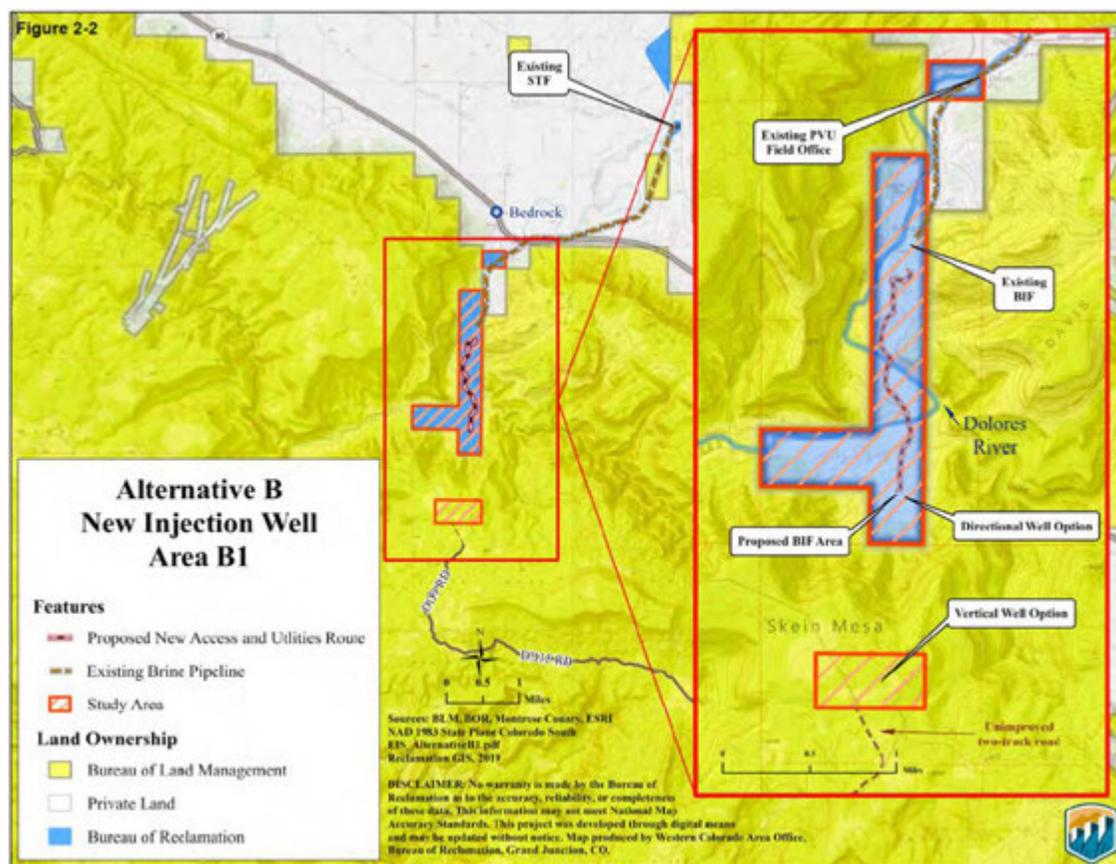
Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.



Sarah A Hammond  
[sarah.a.hammond@gmail.com](mailto:sarah.a.hammond@gmail.com)  
 302-528-5966



**FW: Dolores River - leave it as it is**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 1/17/2020 6:24 AM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 204**

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**From:** 'Gini Granholm' via BOR WCAO DL Paradox EIS

**Sent:** Friday, January 17, 2020 6:20:29 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** Dolores River - leave it as it is

Dear Mr. Warner:

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently

impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Are you familiar with the words of Teddy Roosevelt?

“Here is your country. ***Cherish these natural wonders***, cherish the natural resources, cherish the history and romance as a sacred heritage, for your children and your children's children. Do not let selfish men or greedy interests skin your country of its beauty, its riches or its romance.”

– Theodore Roosevelt

Do the right thing.

Gini Granholm  
9423 Brentwood St  
Westminster, CO 80021  
303-241-7722

**FW: [EXTERNAL] Opposition to the Paradox Valley Salinity Project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 9:37 AM

**COMMENT LETTER 205****To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Jeff Dobronyi**Sent:** Friday, January 17, 2020 9:35:16 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Opposition to the Paradox Valley Salinity Project

Dear Mr. Warner,

I am writing to express my opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon. This project will further degrade the wild and scenic qualities of the Dolores River Canyon and impede upon the abilities of visitors to enjoy their public lands.

In this instance, reclamation of the land means to protect the natural resources, not to develop them and potentially cause more problems further into the future. I strongly urge you to be conservative in this matter, as you can always build another project in the future, but once a project has been built, it impacts the land forever. Erring on the side of caution and preservation is the wise move.

Thanks,

Jeff Dobronyi  
Ridgway, Colorado

**FW: [EXTERNAL] I oppose the Paradox Valley Salinity Project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 206**

Thu 1/16/2020 10:47 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Griffin Williams**Sent:** Thursday, January 16, 2020 10:46:15 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] I oppose the Paradox Valley Salinity Project

Dear Mr. Warner:

I am writing to urge you against the construction of a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

I am a lifelong resident of Dolores, and our town depends on the wild nature of the Dolores River as both a source of recreation for own citizens and as a tourist attraction to boost our (already small) local economy. Building a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote river canyon.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

Any other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,

Griffin Williams

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**FW: [EXTERNAL] Delores river**

**COMMENT LETTER 207**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 1/16/2020 10:37 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Ryan Throop

**Sent:** Thursday, January 16, 2020 10:36:52 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Delores river

Mr. Warner:

I live in Durango, CO. This land in the Southwest is precious, and the Delores river is a piece of it which I love. I have helped build homes on this river, fished, rafted, and hunted next to this river. It already has enough human influence.

I am writing to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the

salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank You,

Ryan Throop

**FW: Opposition to Alternative B New Injection Well Area B1 in Paradox Valley**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 12:45 PM

**COMMENT LETTER 208**

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** McWhirter, Lesley A.**Sent:** Thursday, January 16, 2020 12:45:49 PM (UTC-07:00) Mountain Time (US & Canada)**To:** Andreason, Ameer A; Liff, Justyn M**Cc:** BOR UCR DL Public Affairs Office; BOR WCAO DL Paradox EIS**Subject:** Re: Opposition to Alternative B New Injection Well Area B1 in Paradox Valley

Thank you, Ameer. I'm copying the official email address for commenting on the DEIS, and this will be included as a comment received on the Draft EIS.

**Lesley McWhirter**

Environmental & Planning Group Chief  
Western Colorado Area Office, Upper Colorado Region  
Bureau of Reclamation  
445 W. Gunnison Avenue, Suite 221  
Grand Junction, CO 81501  
Office: 970-248-0608  
Mobile: 970-250-1909

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**From:** Andreason, Ameer A <aandreason@usbr.gov>**Sent:** Thursday, January 16, 2020 12:35 PM**To:** Liff, Justyn M <JLiff@usbr.gov>; McWhirter, Lesley A. <lmcwhirter@usbr.gov>**Cc:** BOR UCR DL Public Affairs Office <ucpao@usbr.gov>**Subject:** Fw: Opposition to Alternative B New Injection Well Area B1 in Paradox Valley

Hi, please see the comment below that came in through the Contact Us page on our website.

Ameer Andreason  
Bureau of Reclamation  
Public Affairs  
801-524-3769

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**From:** 'Elizabeth Manus' via BOR UCR DL Public Affairs Office <ucpao@usbr.gov>**Sent:** Thursday, January 16, 2020 12:33 PM**To:** BOR UCR DL Public Affairs Office <ucpao@usbr.gov>**Subject:** Opposition to Alternative B New Injection Well Area B1 in Paradox Valley

Thursday, January 16th, 2020

Dear Ed Warner:

I am writing to express my dismay and strong opposition to the potential construction of a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline would devastate the recreational experience of this remote and wild river canyon.

The Bureau of Reclamation's Alternative B1 would not only impact the river corridor below Wild Steer Canyon physically, it would significantly change the character of the experience farther upstream for boaters floating down from La Sal Creek, past the dinosaur tracks and petroglyphs. Instead of a serene natural horizon before them, boaters would see a hodgepodge of criss-crossed powerlines, roadways, bridges, chain link fences, storage tanks, buildings, lights, and traffic. Turning the last 1.3 miles of this float into an industrial zone is unacceptable.

The singularity of this canyon and ancient river should not be underestimated. They represent tourist destinations that bring real money and genuine appreciation to the State of Colorado. An unforgettable day I personally spent in this canyon in the late 1990s contributed mightily to my decision to relocate almost 20 years later to Durango, Colorado — the experience had touched me that deeply.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected out of hand.

As the Bureau reasons out its salinity reduction alternatives, I encourage it to more carefully consider the lasting impacts upon irreplaceable environmental resources, and recreation and social values.

The Dolores River has a well-deserved reputation as one of the most spectacular and cherished wild rivers in the United States. Let's keep it that way.

I would like the Bureau of Reclamation to identify and evaluate potential brine injection well sites to replace the destructive Alternative B1 at Wild Steer Canyon. (The Bureau would also do well to consider the future prospects of the salinity removal effort with an eye toward the new climatic realities of decreasing snow pack and runoff.)

Thank you for your hard work.

Regards,

Elizabeth Manus

1177 Race St., Apt. 206  
Denver, CO 80206  
(303) 718-7728

**FW: [EXTERNAL] Comment on the Proposed Paradox Valley Brine Injection Well at Wild Steer Canyon****COMMENT LETTER 209**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Thu 1/16/2020 9:48 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Katherine Kelly**Sent:** Thursday, January 16, 2020 9:47:58 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Comment on the Proposed Paradox Valley Brine Injection Well at Wild Steer Canyon

Dear Mr. Warner:

My name is Katherine Kelly, I am a local of Dolores, CO and am currently attending Colorado State University in Fort Collins, CO; I am preparing to graduate with a degree in Archaeology this summer. I grew up recreating on the various public lands in Southwest Colorado and the West Slope where I learned the importance of water in the west. It is due to this upbringing that I am writing to you with extreme concern and opposition to the potential construction of the Paradox Valley Brine Injection Well at Wild Steer Canyon.

The invasiveness of a new road 1.3 miles up the Dolores River Canyon, multiple bridges crossing the river, and a parallel powerline would be a devastating blow to the unique recreational experience of the canyon. The Dolores River is a world renowned experience for many outdoors-people and holds a significance in the community, the Southwest and West Slope, and boaters throughout the world. The proposal to inject industrial works into this canyon is grossly invasive and unacceptable.

As an Archaeology student, boater, and rural citizen I am appalled by this proposal and the potential impact it would hold. Aside from the importance that the river and the canyon hold for recreationalists, there is a significant history of people and the deep past of the Dolores River Canyon that has historically been ignored for the progression of industry. The continuation of such ignorance to the past and the relationship that people hold to the land in terms of the deep past, recent past, and present is inappropriate and frankly beyond invasive and inconsiderate.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by power lines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across

hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Thank you for reviewing and considering the comments regarding this proposal. I hope that there is great consideration given the history of rural people, their relations to water and land, the history of industrialization, and the greater environmental impact on this region.

Best,  
Katherine Kelly

--

**Kit Kelly**  
Colorado State University  
970-799-5757  
[kbk@rams.colostate.edu](mailto:kbk@rams.colostate.edu)

**FW: [EXTERNAL] Paradox Valley Salinity Project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 1/17/2020 12:11 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**COMMENT LETTER 210**

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**From:** paradoxeis@usbr.gov On Behalf Of Ty Johnson**Sent:** Friday, January 17, 2020 12:09:47 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Paradox Valley Salinity Project

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

Dear Ed,

My name is Ty Johnson and I'm a Montrose County resident. I routinely pass through paradox valley to visit land that I own in San Juan County, UT. The undeveloped and natural character of paradox valley leaves me in awe every time I pass through. I have made a habit of stopping in Bedrock and hiking along the Dolores River right through the proposed new facility would be located. Any development in this corridor would greatly diminish the character of the area and degrade the recreational experiences that exist in the area. I'm a boater and some of most memorable moments on the river have been just upstream of this section where the Alternative B1 is proposed.

As a professional urban planner on the west slope, I'm intimately familiar with west slope economies and their past and projected trends. Montrose County has worked hard to highlight recreational opportunities and promote tourism in this area. A long history of boom and bust mineral extraction in this area has left local communities longing for a more sustainable economy that will leave less of an impact on the land and surrounding residents. The Alternative B1 will greatly jeopardize economic opportunities for locals in the recreation and tourism industry, and should not be pursued.

I want to express my dismay and opposition to the potential to construct a new Paradox Valley brine injection well farther upstream of Bedrock, at Wild Steer Canyon.

Punching a new road 1.3 miles up the Dolores River Canyon, with two bridges crossing the Dolores River, and a parallel powerline will devastate the recreational experience of this remote and wild river canyon. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. Turning the last 1.3 miles of this float into an industrial zone is utterly unacceptable.

The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor

below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek, past the dinosaur tracks and petroglyphs, but now with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights.

The Dolores River is deservedly identified as a wild and scenic river candidate, and construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified.

Other alternatives that similarly degrade the remarkable character of Paradox Valley should be dismissed as well. The alternative of digging enormous salt evaporation pits extending across hundreds of acres immediately adjacent to some of the most spectacular petroglyphs on the Colorado Plateau should be rejected.

I encourage the Bureau of Reclamation to more carefully consider the lasting impacts to recreation and social values, and to irreplaceable environmental resources, in its choice of salinity reduction alternatives. The Bureau of Reclamation needs to expand the evaluation of alternative potential brine injection well sites to locations that are not as socially and environmentally destructive as Alternative B1 at Wild Steer Canyon. The Bureau of Reclamation should also consider the future prospects of the salinity removal effort in the whole in the context of climate change and ever decreasing snowpack and runoff.

Sincerely,

Ty Johnson

**FW: [EXTERNAL] Alternative A with regard to the Dolores River**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 1/22/2020 9:21 PM

**COMMENT LETTER 211**

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**From:** paradoxeis@usbr.gov On Behalf Of Rebecca Wildbear**Sent:** Wednesday, January 22, 2020 9:20:35 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Alternative A with regard to the Dolores River

To: Ed Warner

Area Manager

Bureau of Reclamation

445 West Gunnison Ave, Ste 221

Grand Junction, CO 81501

[paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

(970) 248 – 0600

Dear Ed Warner and the Bureau of Reclamation,

I am writing to ask you to consider Alternative A with regard to the Dolores River salinity control project scheduled for approval in the spring. I am a recreational user of this area and enjoy the natural environment of Slick Rock canyon near Bedrock, Colorado. In addition to being an outdoor enthusiast, I am a local resident of Colorado. This special place is my home, and I urge you to abandon any further disturbance to our local area for a few reasons listed here.

1) Wilderness Study Areas (WSAs) are identified by BLM as suitable for designation as wilderness and are recommended for such designation through Congress. The Dolores WSA has been determined to possess wilderness area characteristics: minimum roadless size, apparent naturalness, outstanding opportunities for solitude or primitive and unconfined recreation, and supplemental values. There is no need for a new deep injection well and underground pipeline directly in the Dolores River bed, ruining the most beautiful aspect of this watershed and adversely affecting WSA preservation. Please do no more harm, and instead continue to maintain our wilderness to the highest standards possible.

211.01

2) The primary recreational activities on BLM-administered lands in the vicinity of the Paradox Valley are hunting, river-related uses, such as fishing, rafting, and canoeing, off-highway vehicle use, hiking, rock climbing, mountain biking, backpacking, and camping. Recreational opportunities based on solitude and natural setting near the study area would be affected by noise and construction impacts such as the construction of two bridges and facilities that would

211.02

be visible from Reclamation land to rafters and hikers, this change to the characteristic landscape would be visible, and so would the scar created by the installation of an underground pipeline which is not ideal.

211.02

3) There is no need for excess roads and infrastructure in this pristine natural area. Alternative B1 has severe impact and is not a good option because accessing the top of Skein Mesa for the Vertical Injection Well would require widening sections of County Roads and a 1/2-mile access road would need to be constructed to the new well head location. Construction of the facility would require numerous pieces of heavy equipment, such as a drilling rig, pile driver, dozers, excavators, motor graders, compactors, dump trucks, backhoes, pipe layers, and forklifts. All of which will adversely alter the natural environmental beauty of this special area.

211.03

4) Emissions of air pollutants (including GHGs), the release of H2S in reportable quantities, and odor potential are not favorable. Alternative A is the best option for the least Emissions and would have no further effect on the airshed at Arches National Park.

211.04

5) The geologic potential of increased ground shaking and changes in the frequency, magnitude, and spatial distribution of earthquakes, compared with existing and historical trends is the primary identified hazard for the project - involving loss of human life, as well as economic and environmental impacts.

211.05

6) The most affordable option is to plug the current well and abandon it. Other options are expensive and would have impacts like increased traffic, increased air emissions and noise, wildlife habitat and vegetation loss, small mammal and reptile mortality, and localized impacts on land. Gunnison sage-grouse and big horn sheep are of concern.

211.06

Why has compliance with the US-Mexico Water Treaty, in addition to compliance with the Salinity Control Act become the standard? Is the salinity coming from the Dolores River in Paradox basin toxic or natural? Let us consider that the ecosystem is more valuable than money, then we can work to change previous agreements in an effort to protect this natural resource without further disturbances.

211.07

Please hear the collective voice of ours that wishes to protect our wild places, and withdraw your proposal to the U.S. Secretary of the Interior. Honor your very own goals and objectives to avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in this regional environment. Be in the best interest of the public, including considerations of health and safety and the local community's desired future conditions.

In this case, we desire to keep our beautiful Dolores river watershed pristine. Thank you for your time and consideration on this issue.

Sincerely, Rebecca Wildbear

## FW: Colorado River Basin Salinity Control

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

**COMMENT LETTER 212**

Wed 1/29/2020 3:26 PM

To: McCarter, Molly E <mmccarter@blm.gov>

📎 1 attachments (961 KB)

Jan29\_2020ColoradoRiverBasinSalinityControl.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Cie'na Schlaefli

**Sent:** Wednesday, January 29, 2020 3:22:50 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Selso Villegas; Marquez, Lawrence R; Jerry Carlyle; Sandi Alvarez; Sally Pablo; Gabriel Vega; Jamie Ekholm; j.tsosie@sanxavierallottee.org; Austin Nunez

**Subject:** [EXTERNAL] Colorado River Basin Salinity Control

Good Afternoon Mr. Warner,

The San Xavier District of the Tohono O'odham Na on would like to submit the a ached comments regarding the BOR inves ga on of alterna ves to dispose of the brine from Paradox Valley.

Thank you,

**Cie'na Schlaefli**  
**Natural Resources Specialist**  
San Xavier District  
2018 San Xavier Road  
Tucson AZ 85746  
(520)573-4054



**SAN XAVIER DISTRICT  
OF THE  
TOHONO O'ODHAM NATION**

2018 WEST SAN XAVIER ROAD • TUCSON, ARIZONA 85746  
TELEPHONE: (520) 573-4000 • FAX: (520) 573-4089

January 29, 2020

Ed Warner,  
Area Manager, Bureau of Reclamation,  
445 West Gunnison Ave, Suite 221,  
Grand Junction, CO 81501.

Re: Colorado River Basin Salinity Control

Dear Mr. Warner

The positive impacts of water being returned from Central Arizona Project (CAP), after groundwater pumping from outside agencies devastated the cultural and agrarian lifestyle of the Wa:k O'odham, is significant. After many years of negotiations, 66,000 acre-feet per year (afy) of CAP water was allocated to the Tohono O'odham Nation (Nation) according to the Southern Arizona Water Rights Settlement Act and its amendments. Of its 50,000 afy, the San Xavier District (District) has first right of beneficial use of 35,000 afy, and 15,000 afy is available for use by the Nation for potential leasing, accrual of groundwater storage credits, or other feasible uses. The main uses of CAP water on the District are: farming, filling charcos for livestock and wildlife to drink from, mining, riparian restoration, and aquifer recharge.

We would like to submit the following comments regarding the proposed action on the salinity issues caused by drainage from Paradox Valley:

Applying CAP water over time with higher salinity content will adversely affect the land, crop yields, groundwater quality, and increase maintenance on pipeline systems on the District. It could also mean that treatment of the water will fall on the District as an end user if this issue is not addressed upstream.

212.01

We are aware that the following alternatives are being considered for addressing the salinity increase caused by Paradox Valley:

- *Alternative A – No Action (no salinity control in the Paradox Valley)*
- *Alternative B – New Injection Well*
- *Alternative C – Evaporation Ponds*
- *Alternative D – Zero Liquid Discharge Technology*

*Alternative A - No Action* is not an option, as there are already salinity issues that arise from CAP water applications, and the financial and environmental implications of these additional salts in our systems would be culturally and financially devastating in the years to come. The District also takes the view that



*Alternative B – New Injection Well* could be significant environmental and cultural hazards as the current injection system has been causing increased frequency and magnitude of seismicity in the region.

The District would like to express these concerns regarding the impacts this project has on the surrounding environment, and to the users of CAP water down the line. The CAP water is of great importance to the community's way of life, and should be of a quality that will not burden the Tohono O'odham in the future.

212.02

Thank you for your consideration.

Sincerely,

Austin Nunez  
Chairman

Cc: Lawrence Marquez, Native American Affairs Program Manager, Bureau of Reclamation  
Jerry Carlyle, Vice Chairman, San Xavier District  
Sandi Alvarez, Director of Administration, San Xavier District  
Sally Pablo, Natural Resources Director, San Xavier District  
Selso Villegas, Water Resources Director, Tohono O'odham Nation  
Gabriel Vega, Farm Manager, San Xavier Cooperative Association  
Jefferson Tsosie, Executive Director, San Xavier Allottee Association  
Jamie Ekholm, Environmental Engineer, ASARCO Mission Mine

## FW: [EXTERNAL] Paradox Valley Unit Draft EIS comments

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/4/2020 6:13 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 213**

📎 1 attachments (288 KB)

BHA Paradox Valley Unit comments.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Jesse Dudley

**Sent:** Tuesday, February 4, 2020 6:12:46 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox Valley Unit Draft EIS comments

To Ed Warner or whom it may concern:

Attached are comments on the Paradox Valley Unit Draft EIS that I am submitting on behalf of the Colorado chapter of Backcountry Hunters & Anglers, a non-profit group. We thank you for the opportunity to comment on the project.

Best,

Jesse Dudley



**BACKCOUNTRY  
HUNTERS & ANGLERS**  
COLORADO

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

February 1, 2020

**Comments on Paradox Valley Unit of the Colorado River Basin Salinity Control Program  
– Draft Environmental Impact Statement**

Thank you for the opportunity to comment on the Paradox Valley Unit Draft EIS. I am a resident of Norwood, Colorado, and hunt, fish, raft, hike, work, and otherwise explore along the Dolores River and Paradox Valley often and consider it my back yard. I care greatly for the future of the people, wildlife, landscapes, and waterways of this area. The Slickrock to Bedrock section of the Dolores River is my favorite stretch of river anywhere in the United States, and the hike from Bedrock upstream to the petroglyphs and dinosaur tracks across the river from Wild Steer Canyon is my favorite local desert hike where my wife and I bring most all of our out of town visitors.

I am submitting my comments on behalf of the Colorado Chapter of Backcountry Hunters & Anglers, where I voluntarily serve as an Assistant Regional Director for the Central West Slope. The Colorado Chapter of Backcountry Hunters & Anglers (BHA) is one of 47 Chapters in the United States and Canada. The Colorado Chapter currently includes 2,800 members.

BHA is a grass roots organization of sportsmen and women who strongly believe in the principles of the North American Wildlife Conservation Model and the value of our public lands for fish and wildlife habitat and the traditional fishing and hunting opportunities that are available to all sportsmen. As a group of sportsmen, we advocate for the conservation of wild lands and wildlife habitats on our public lands to support the fish and wildlife and the opportunity for traditional methods of hunting and fishing that challenge us physically and mentally and emphasize the principles of fair chase.

Our membership can also be characterized as families who enjoy undisturbed backcountry for reasons other than hunting and fishing. We cherish the opportunity to venture into areas free of the noise and activity of vehicles to enjoy the peace and solitude of the outdoors with our friends and family on river trips, day hikes, backpacking trips, and horse pack trips. We also strongly feel that these opportunities should not only be available to us now but to our future generations as well.

In light of these values, we are strongly opposed to Alternative B1 of this plan for the effects it will have on the Dolores River Canyon's recreational value, solitude, and wildlife, as well as its encroachment on the wilderness character of the Dolores River Canyon WSA. The draft EIS acknowledges that "Scenic outstandingly remarkable values (ORVs) for river segments, with preliminary classification of recreational and wild, [are] negatively affected by construction of proposed facilities" under Alternative B1. It also acknowledges the effect on wilderness character of the WSA: "Implementing Alternative B in Area B1 would result in a

213.01



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[COLORADO@BACKCOUNTRYHUNTERS.ORG](mailto:COLORADO@BACKCOUNTRYHUNTERS.ORG)

minor noise impact on the Dolores River Canyon WSA during construction, and a permanent indirect impact due to human imprints (new facilities or surface disturbance) within and observable from the WSA. There would be minor impacts on the scenic, recreational, and vegetation ORVs on segments of the Dolores River that have been determined eligible for inclusion in the National Wild and Scenic River System.” The area affected by Alternative B1 also includes a large portion of the Dolores Canyon that has such great recreation value that it has been proposed as a Special Recreation Management Area in the PRMP. This Alternative would detract greatly from that recreational value by greeting boaters 1.3 miles further upstream than the current facility with two bridges, power lines, pump noise, and other industrial facilities and equipment. A calm section of river, boaters flock to the Slickrock to Bedrock section for its peace and solitude, and Alternative B1 would permanently shorten that unique experience by over a mile, contrary to the intent of the PRMP.

213.01

Alternative B1 would also encroach on bighorn sheep habitat, as the draft EIS states: “The Dolores River canyon is mapped as a BLM-sensitive desert bighorn sheep (*Ovis canadensis*) production area, water source, and winter and summer range”. Desert bighorns are an additional draw to hikers and boaters who come to experience the Dolores Canyon and support local economies and the preservation of quality habitat is of the utmost importance.

Alternative B2 encroaches on “designated critical habitat for the Federally threatened Gunnison sage-grouse” as stated in the draft EIS. It also states that

The entire Paradox Valley and surrounding areas are mapped as severe winter range for elk and mule deer, with the exception of the Dolores River canyon for elk. Elk and mule deer winter concentration areas are mapped along the Paradox Valley floor, and both species have resident populations mapped around the agricultural fields in the northwest portion of Paradox Valley (see Appendix I, Maps 3 and 5). The elk population is stable and CPW is managing for a reduced population level to maintain an adequate forage base. The mule deer population is experiencing declines due to habitat availability and condition. Deer winter range is limited and is affected by human disturbance from rural development and recreation, overgrazing, and drought.

The Colorado Chapter of BHA is extremely concerned about the pattern of big game winter range destruction and disturbance in this state, and the Paradox Valley and Monogram Mesa are locally known to be well-used by elk and deer in the winter. While the permanent impacts of B2 are less than the other alternatives, we cannot support a plan that permanently takes valuable and dwindling winter range out of inventory for our local elk herd, especially in light of significant and (as of yet) scientifically unexplained drop in calf recruitment over the last decade. The position that the elk herds are stable is becoming untenable. The draft EIS recognizes the importance of habitat in maintaining populations, saying “Winter range is recognized by state wildlife agencies as the limiting factor in maintaining sustainable big game populations (Austin 2010). Overcrowding of species, such as mule deer in winter ranges, could cause density-dependent effects, such as increased fawn mortality (Sawyer et al. 2006).”

213.02

The destruction of Gunnison sage grouse habitat, whether occupied or not, is of special concern to us as well. Gunnison sage grouse now exist in such low numbers because of habitat destruction, as stated in the draft EIS: “Habitat loss and fragmentation are attributed as the primary causes for Gunnison sage-grouse decline in abundance and distribution (FWS 2014a).” If there is to

213.03



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[COLORADO@BACKCOUNTRYHUNTERS.ORG](mailto:COLORADO@BACKCOUNTRYHUNTERS.ORG)

be hope for their recovery, we cannot destroy more habitat, especially in those areas that are designated critical. In addition, the destruction of habitat on Monogram Mesa is counterproductive to previous efforts and money spent towards sage grouse recovery, as the draft EIS states: “The BLM has conducted several habitat improvement projects to benefit Gunnison sage-grouse on Monogram Mesa.” The compromise of these previous projects is wasteful and makes it inconsistent with the wildlife recovery goals of the BLM.

As stated in the draft EIS, Alternative C has the “potential cause major wildlife mortality”, as well as significant degradation of visual resources. The draft EIS admits that it conflicts with the stated objectives of the EIS from the beginning by being inconsistent with the existing RMP:

The evaporation ponds and salt landfill would negatively affect the visual landscape of the Paradox Valley. This would not be in conformance with the UFO RMP, so an RMP amendment would be required. Alternative C would have the greatest indirect impacts of all the action alternatives on cultural resources, due to the potential visual impacts on cultural resources whose landscape, setting, and feeling are part of their importance. Alternative C would also have the greatest impact of all the action alternatives on wildlife, particularly migratory birds.

213.04

Due to the significant impacts on elk and deer winter range alone, as well as migratory birds, we cannot support this alternative. There seems to be some uncertainty as well about the effectiveness of the mitigations planned for migratory birds and the health effects on birds that is an unacceptable risk.

Alternative D, while disturbing less winter range and lower risk to migratory birds, still involves significant and permanent visual disturbance (a 115 foot-high landfill) and still poses a significant risk to big game winter range. The draft EIS acknowledges that any project’s effects are larger than its physical footprint: “Although habitats next to the site would remain intact, some species might make less use of these areas; this is primarily because of disturbance (e.g., noise, human presence) that would occur in the study areas (Sawyer et al. 2006).” This is well documented in the wildlife biology literature, and this alternative poses a significant threat beyond its footprint, as it is surrounded by winter range. While outside of our group’s stated mission, Alternative D also requires an unreasonable amount of energy compared to the other alternatives, which should be given due consideration in light of climate change and likely emissions reductions targets in the future.

In closing, Alternative B1 is absolutely unacceptable to us due to its effects on the above-cited values of the Dolores River Canyon, a highly unique and already ecologically compromised resource that is valued highly by many Americans. The least offensive action proposed, other than no action, is Alternative B2 due to its use of mostly previously disturbed ground and smaller footprint than C or D. However, we still have significant concerns with Alternative B2 and recommend that the Bureau choose Alternative A and in the future present a greater range of Alternatives than is currently being considered, with the priority of protecting locally valued visual and natural resources. If our community is to host this project to meet the US Government’s obligations, we deserve the lowest impact project possible. While not in the scope of this EIS, we encourage the Bureau to adopt a long term approach that relies less on 50 year engineering fixes and considers the possibilities of spending that money to keep more water in the river, thereby reducing salt concentrations downstream. The Dolores River flows have been too low and inconsistent to support a naturally functioning ecosystem for many years now, and any actions affecting the river should have the restoration of this ecosystem in mind.



Thank you,

Jesse Dudley  
Assistant Regional Director, Central West Slope  
Colorado Chapter, Backcountry Hunters & Anglers



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[COLORADO@BACKCOUNTRYHUNTERS.ORG](mailto:COLORADO@BACKCOUNTRYHUNTERS.ORG)



— BUREAU OF —  
RECLAMATION

**PARADOX VALLEY UNIT OF THE COLORADO RIVER BASIN SALINITY CONTROL PROGRAM  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Meeting Location: Paradox, CO

Meeting Date: \_\_\_\_\_

Name: Jessi Cooper

Organization (if applicable): ranch

Mailing Address (optional): Box 65

City/State/Zip (optional): Nuclea CO 81424

Email (optional): rooztemarie@yahoo.com

If you wish to provide written comments, please write your comments below. Written comments may be submitted using this card, via the project email address, by mail to Reclamation, or any other permitted written format within the comment period (see specific information at the bottom of this page).

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**Please submit tonight or by February 4, 2020**  
Comments can also be submitted by email to [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov) or to Ed Warner, Area Manager, Bureau of Reclamation, 445 West Gunnison Ave, Suite 221, Grand Junction, CO 81501. **Comments must be received by February 4, 2020 to be considered.**

This is Jessi Cooper. I am a permittee on the Paradox Common grazing allotment that would be affected by Option C. There are 5 permittees that graze on 16,255 acres of BLM for approximately 75 days each year. If Option C is chosen the 1530 acres needed for the study area would reduce our total AUMs by 362 or 150 head. The permanent reduction of 29% of the total AUMs would be a significant impact on our winter grazing as we would have to find alternative pasture or buy hay for those cattle. We purchased the permit with the current AUMs so if we lose AUMs our permit would be devalued by 29%.

214.01

Option C also impacts road BB16. This road is the only access to a large portion of BLM land. It is the road we use to haul water to 2 tank locations for 30 days of our grazing period. We also use the road to put out salt and supplement for cattle that is also utilized by wildlife. If the road is destroyed, another one would need to be built for access for the permittees as well as recreationalists and the general public.

214.02

Option C also impacts a pond known as the Rock Pond because it has a rock bank built by the CC workers in the 1930's. In addition to its historical significance, it is one of only 2 ponds on the BLM permit that catches and stores water for cattle and other wildlife. If the pond is ruined, a valuable water source will no longer be available for use by the multiple animal species.

214.03

I am submitting these comments hoping that you will take into consideration the impact Option C will have on the Paradox Common grazing allotment.

Thank you,  
Jessi Cooper

WCAO - GRAND JUNCTION  
FEB 3 '20 PM3:07



— BUREAU OF —  
RECLAMATION

**PARADOX VALLEY UNIT OF THE COLORADO RIVER BASIN SALINITY CONTROL PROGRAM  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Meeting Location: Paradox Valley school

Meeting Date: 1-14-20

Name: Rick Dimick

Organization (if applicable): \_\_\_\_\_

Mailing Address (optional): Box 31

City/State/Zip (optional): Bevada Co 81411

Email (optional): \_\_\_\_\_

If you wish to provide written comments, please write your comments below. Written comments may be submitted using this card, via the project email address, by mail to Reclamation, or any other permitted written format within the comment period (see specific information at the bottom of this page).

I purchased my property in 2004 with intent to live out semi retirement. I lived in my tent + Barn while readying for home const. I am doing mostly finish work now. I worked at 'Natural Bridges' NP in mid 80's and love the red rock country. The sun shine on the red cliffs makes morning coffee a pleasure. Accompanied by absolute quiet and peacefulness makes me smile. Deer or elk are often close by. Dust Devils and windstorms sometimes interfere with construction. All that and the magic of a cold night winters walk on a clear sky night. Stars on a night sky will cast shadows in the starlight. As I travel I realize there are many people that don't get to see such sights. Here I have to say that Alternative 'C' could ruin my ability to live here. Too much impact from machine noise, to lighting, land fills and ponds with roads, trucks etc. Alternative 'B' 2 seems like the best option. Pumping to Monogram mesa or Fawn Springs Bench would mean most impacts would be temporary. Special attention should be paid to lighting - heading and Hermod switches. Seismic activity should decrease in the Paradox Valley.

Please submit tonight or by February 4, 2020

Comments can also be submitted by email to paradoxeis@usbr.gov or to Ed Warner, Area Manager, Bureau of Reclamation, 445 West Gunnison Ave, Suite 221, Grand Junction, CO 81501. Comments must be received by February 4, 2020 to be considered.

**FW: Montrose County Comments on PVU DEIS****COMMENT LETTER 216**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 2/5/2020 11:32 AM

**To:** McCarter, Molly E <mmccarter@blm.gov> 1 attachments (1 MB)

Montrose County Paradox DEIS Comment Letter January 2020.pdf;

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**From:** McWhirter, Lesley A.**Sent:** Wednesday, February 5, 2020 11:32:18 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** Fw: Montrose County Comments on PVU DEIS

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**From:** Jon Waschbusch <jwaschbusch@montrosecounty.net>**Sent:** Wednesday, February 5, 2020 10:44 AM**To:** McWhirter, Lesley A.**Cc:** Larson, Gregory P**Subject:** [EXTERNAL] Montrose County Comments on PVU DEIS

Hi Leslie,

Please see attached comment letter from the Montrose County Board of County Commissioners. Thank you.

--

Jon Waschbusch  
Deputy County Manager  
Montrose County, Colorado  
317 S 2nd Street  
Montrose, CO 81401  
(970)252-4549



**MONTROSE COUNTY**  
**BOARD OF COUNTY COMMISSIONERS**  
317 South 2nd Street  
Montrose, CO 81401  
Phone: 970-249-7755  
Fax: 970-249-7761

January 30, 2020

Ms. Lesley McWhirter  
Bureau of Reclamation, Upper Colorado Region Western Colorado Area Office  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

RE: Montrose County Comments on Paradox Valley Unit of the Colorado River Basin Salinity Control Program –Draft Environmental Impact Statement (December 2019 Release Date)

Ms. McWhirter:

The Montrose County Board of County Commissioners is hereby providing comments on the above referenced action.

**Alternative B – New Deep Well Injection**

The Board hereby states our opposition to Alternative B.

Protection of the health and safety of Montrose County citizens is one of the primary charges of this Board. Accordingly, we are unable to support an alternative that BOR anticipates will cause ongoing seismic activity centered on a new injection facility (Section 3.3.2.2, DEIS). As noted in the DEIS, the existing well has been a cause of ongoing seismic activity since the beginning of operations. Some of the recorded events have exceeded 3.5 magnitude (Section 3.3.1.2, DEIS). Ground shaking has been observed by residents during these events. Ground shaking from induced seismic events has the potential to cause significant damage to structures and could pose a threat to the safety of impacted residents.

We appreciate the analysis that BOR has put into this alternative during the development of the DEIS. As BOR has noted, there are numerous unknowns when injecting to the depth necessary to reach the Leadville Formation. The uncertainty of future seismic activity creates a risk to

216.01

216.01

Montrose County residents that is unacceptable to this Board. In addition to above ground structures, we are concerned that continued induced seismicity could result in the collapse of underground mines and associated works that are common in the Paradox Valley and surrounding region.

216.02

In addition to the safety risks associated with this alternative, we also have concerns about the efficiency of this option. It is an extremely expensive proposition to drill an additional well. The actual feasibility of the well will remain unknown until drilling is well underway. It is reasonably foreseeable that BOR could invest millions of dollars into drilling the new well only to discover that a location is not feasible. This creates a risky expenditure for BOR in terms of time and expense as the agency may be put into the position of revisiting prior alternatives in the event a well drilling does not prove possible. Furthermore, BOR estimates that the total tonnage of salt removed through this alternative is significantly less than that anticipated through other alternatives considered in the DEIS.

Finally, the drilling, pipelines and pump stations necessary to implement this alternative will be highly difficult to undertake from a construction and regulatory standpoint. Twenty-two miles of buried pipeline in the Paradox Valley would be a massive undertaking given the terrain and geology. Similarly, drilling under the Dolores River Canyon Wilderness Study Area may be difficult to permit and could lead to a lengthy and uncertain outcome for BOR.

**Alternative C – Evaporation Ponds**

The Board hereby states our opposition to Alternative C.

216.03

The Paradox Valley is an incredibly beautiful and unique landscape. The visual impact of the evaporation ponds would significantly diminish the aesthetic resources of the area. As this region continues to diversify the local economy through tourism and recreation, it is more critical than ever to protect the scenic values of the area. The proposed 600 acres of surface disturbance associated with this alternative would be visible for miles in every direction as well as from Highway 90. For the region to suffer this level of visual blight in order to address a salinity issue for lower basin states is not a reasonable socioeconomic tradeoff.

216.04

As noted in the DEIS, this alternative is, “Not in conformance with the interim visual resource management objectives of the UFO RMP.” (Section ES7.3, DEIS). Montrose County has been a cooperating agency and active participant in the development of the Uncompahgre Field Office Resource Management Plan for the past decade. We are confident that the final RMP will contain measures to protect visual resources in the Paradox Valley. The fact that Alternative C is not consistent with the current, interim or draft RMP should be reason enough to remove this alternative from further consideration. BLM will play an integral role in the implementation of any alternative and to disregard the plans of that agency with regard to this proposed action would be short sighted.

We are also concerned with the impact that Alternative C would have on wildlife. As stated in the DEIS, "Alternative C has the potential to cause major wildlife mortality. The evaporation ponds would create 380 acres of nuisance habitat." (Section 3.9.2.4, DEIS). The DEIS contains extensive information stating the specific threats that this alternative would pose to wildlife. We will forgo restating those issues. Simply stated, we concur with the concerns identified and urge BOR to discontinue further consideration of Alternative C.

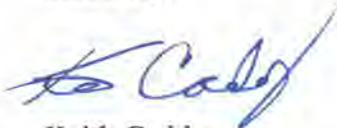
### **Alternative D – Zero Liquid Discharge Technology**

The Board hereby states our support for Alternative D with a request that BOR work collaboratively with the BLM, Montrose County and local communities in order to select the least intrusive site for the required 60-acre landfill.

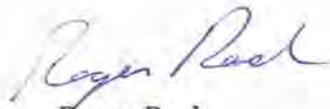
Alternative D is the only proposed action alternative that does not have a fatal flaw. While energy intensive, Alternative D allows for the maximum removal of salt. The public safety concerns, adverse impacts to environment/wildlife and visual resource damage identified in the other alternatives are not present under Alternative D.

Alternative D offers other unique advantages. The ability to return the produced freshwater from the facility to the river is desirable in a basin where seasonal flows are frequently low. Based on community input, we feel that the installation of the required gas line into the valley would be a benefit for area residents. Having this line installed in association with this project provides at least some offset to the burden placed on the Paradox Valley by a multistate project. For these reasons, we find Alternative D to be in the best interest of the public and the local community's desired future conditions.

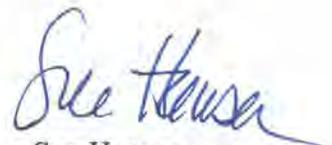
Sincerely,



Keith Caddy  
Chairman



Roger Rash  
Vice Chairman



Sue Hansen  
Commissioner

**Molly McCarter**

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**Sent:**  
**To:**  
**Cc:**  
**Subject:**  
**Attachments:**

The attached comment letter was sent to my email address. Please enter it in the coded comments and comment matrix.

Thanks,  
Lesley

**From:** Carla Reams <c.reams@choosewestend.org>  
**Sent:** Tuesday, February 4, 2020 11:00 AM  
**To:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>  
**Cc:** Roger Rash <rrash@montrosecounty.net>  
**Subject:** [EXTERNAL] Paradox Valley Unit- Salinity Project

Ms. McWhirter-

Please find the attached letter in response to the proposed alternatives for the new brine control and disposal facility to protect and enhance the quality of water available in the Colorado River for use in the United States and the Republic of Mexico.

I have lived in the West End of Montrose County since 1986. I have spoken with several community members, including employees who work at the current salinity project. I believe this letter represents the desires of the majority of the people in this area.

Thank you,  
Carla Reams

*Carla Reams*



**Skillful-West End**  
P.O. Box 645  
Naturita, CO 81422  
970.428.7271  
[c.reams@choosewestend.org](mailto:c.reams@choosewestend.org)

February 4, 2020

Ms. Lesley McWhirter  
Bureau of Reclamation  
Western Colorado Area Office  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

RE: Paradox Valley Unit of the Colorado River Basin Salinity Control Program

To Whom It May Concern:

I am a resident of Nucla, Colorado and was contracted a little over a year ago to help with re-skilling or upskilling employees, who would be losing their jobs due to closure of the Nucla power plant and coal mine, in order to help them qualify for other local jobs that might be available. Because of the geographical location of our communities (Nucla, Naturita, Paradox), our area is very restricted on job availability, especially jobs that afford the average family to make a living. With the closures of the mine and power plant, many people within this region have had to leave to follow work elsewhere. This creates less tax revenue for the towns, as well as less funding for our area schools, which are already in a state of disrepair. Our economy, though we do have established goals for agriculture and tourism that we are working toward, is being devastated by the closure of the local power plant.

Recently, I read through the environmental impact statement of the Paradox Valley Unit Salinity Control Program and understand that a new brine control and disposal facility is needed to protect and enhance the quality of water available in the Colorado River for use in the United States and the Republic of Mexico. In reading the proposed alternatives and the information given for each, it is my opinion that the Zero-Liquid Discharge Technology Under Alternative D, would be the best solution to not only meet the need but it would also, benefit this region in terms of job creation and even potentially, allow for an actual salt industry to occur in the future.

Although Alternative A is an alternative, taking no action does not rectify the need for salinity control. It also rids this region of more jobs. Alternative B adds the new deep injection well, which has been working, but over time would eventually lead to an end of life due to seismicity or cause of geological hazards. Alternative C, adding evaporation ponds, creates the largest footprint in the Paradox Valley. Evaporation ponds are not attractive. As I mentioned earlier, the West End Economic Development team, along with the Nucla-Naturita Chamber of Commerce, Telluride Foundation, and several other entities have been working very hard on the path of what our "new" economy might be, part of that goal is working on trails and ramping up the tourism throughout our area. One of the most beautiful areas in all of this region is the Paradox Valley, so housing large evaporation ponds, which take up

hundreds of acres along that area is something we are opposed to. Alternative D—Zero-Liquid Discharge Technology, while possibly the costliest to construct, does not take up a lot of space in the valley. It also appears to have the most solid operational techniques. The environmental impact in the long-term is minimal. It will also bring jobs to this region, which would help boost the devastated economy. There is already power availability in the area, as the transmission lines run in that area, this brings additional revenue to our local power cooperative. The additional infrastructure needed, water and natural gas lines will bring revenue to local construction companies. We do have capable and competent local construction companies that need work. Long-term, the facility would provide various job opportunities, which would be welcomed in this region.

Please consider moving forward with Alternative D- the Zero Liquid Discharge Technology. I have spoken with many citizens within the area about this project and the Alternatives and have had a resounding response that the people in this area are in favor of Alternative D.

Respectfully,

Carla Reams  
P.O. Box 511  
Nucla, CO 81424  
(970) 428-7271

**FW: [EXTERNAL] Paradox EIS**

**COMMENT LETTER 218**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 2/13/2020 10:01 AM

To: McCarter, Molly E <mmccarter@blm.gov>

**From:** paradoxeis@usbr.gov On Behalf Of Jim Stover

**Sent:** Thursday, February 13, 2020 10:00:48 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox EIS

I have one additional comment on the draft EIS. T S Landfill, Inc. has a large capacity landfill located within a few miles of the study area. It is located in Township 45 North, Range 15 West, SW Corner of Section 15. If the Bureau needs landfill space ours is available.

218.01

Jim Stover, P. E.  
T S Landfill, Inc.  
2352 N 7th Street, Unit B  
Grand Junction, CO 81501  
O: 970-245-4101 M: 970-260-0802

**FW: [EXTERNAL] EIS comments****COMMENT LETTER 219**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 2/11/2020 2:24 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Jeff Gutierrez**Sent:** Tuesday, February 11, 2020 2:23:22 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] EIS comments

Hello,

I am writing in opposition to further development in the Dolores River corridor. Two new bridges and a new well facility would have a massive impact on the important riparian area as well as degrading the wilderness of this spectacular river canyon. People from all over the world are drawn to run this spectacular section of the Dolores River. Light and noise pollution would surely reach up canyon to La Sal Creek. I realize there are no really great options without impacts but people like me who are passionate about rivers are strongly against adding infrastructure in the canyon. Ideally our country would improve its agriculture practices to address salinity in the Colorado River but I realize that's not what this specific decision is about. My vote would be for the well site on the mesa. Thank you for reaching out for public comments.

Jeff Gutierrez  
PO Box 1101  
Moab, UT 84532  
435-494-8119

**FW: Paradox Valley Salinity Project****COMMENT LETTER 220**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Sun 2/9/2020 11:32 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** 'David Uhey' via BOR WCAO DL Paradox EIS**Sent:** Sunday, February 9, 2020 11:32:21 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** Paradox Valley Salinity Project

To Whom It May Concern,

I am writing to voice my concerns regarding the Paradox Valley Salinity Project. Last summer I enjoyed a spectacular river trip down the Dolores. We did our takeout in Paradox, where the old salinity plant scars the land. The canyon and the Dolores River deserve to be left wild and unspoiled.

I support **Alternative A** - No Action. Under this alternative the current injection well would be retired and there would not be a new one.

David Uhey  
7735 Red Rock Circle  
Larkspur, CO 80118  
303-210-0036  
daviduhey@icloud.com

**FW: Paradox waste**

**COMMENT LETTER 221**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/5/2020 9:10 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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From: paradoxeis@usbr.gov On Behalf Of Cody Myers

Sent: Wednesday, February 5, 2020 9:10:12 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Subject: [EXTERNAL] Paradox waste

After viewing alternative D. I can't help but wonder, why the solid sodium chloride is being sent to a land fill. After looking at the analysis of the solids, why is this not able to be sold to the state as a deicing agent for the highway. I have not found a analysis of the current salt agent the highway department uses, but I would be fairly sure it contains more and higher levels of other elements than what is in this "waste product"

221.01

Cody Myers

Sent from my iPhone

**FW: Paradox EIS**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 222**

Sat 2/8/2020 6:55 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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From: paradoxeis@usbr.gov On Behalf Of Korb, Julie  
Sent: Saturday, February 8, 2020 6:55:03 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS; Korb, Julie  
Subject: [EXTERNAL] Paradox EIS

I am writing to voice my concerns regarding the Paradox Valley Salinity Project. Over the last decade, I have researched (as a plant ecologist) the Dolores River drainage. This area is one of the last wild canyons on the Colorado Plateau. The river canyon is of special significance providing habitat for desert big-horn sheep and river otters and a healthy riparian ecosystem. This river canyon on public land should be managed for future generations.

The Paradox Valley Salinity Project threatens natural resources and the canyon ecosystem. The benefits of desalination are extremely questionable given the costs (both economically and environmentally) and the unknown damage that may be occurring under the surface.

I strongly disagree with the Bureau of Reclamation's proposals B1, B2, C, and D which are all poor alternatives that will significantly impact the ecological integrity of this area. Option B1 is particularly alarming, a 1.3 mile intrusion into the undeveloped canyon past rock art sites and along the riparian corridor. None of these options are suitable for this wilderness and recreation area.

I support the Bureau of Reclamation's proposal A, to retire the well with no replacement. Desalination is at best a band-aid solution, at worst it causes significant impacts at great taxpayer expense for little to no benefit. While the Dolores is naturally salty, the low flows from McFee dam and agricultural runoff are the reason salt levels are so excessive. The Bureau should work with up-stream farmers and ranchers to reduce the input of agricultural salts into the river and manage McFee dam for larger spring-time releases that flush the river.

Sincerely,

Dr Julie E. Korb, Fort Lewis College, Biology Department

Sent from my iPhone, please excuse any typos

Julie Korb, Ph.D.  
Professor, Biology Department  
Fort Lewis College  
Durango, Colorado 81301

2/8/2020

COMMENT LETTER 223

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

Greetings Ed and to all whom it may concern,

I am writing to express my support for Alternative A in the Environmental Impact Statement for the Paradox Valley Unit Alternatives. I have many reasons for not supporting continued salinity control efforts in the Paradox Valley. I have concerns about the seismic activity it has incurred, and am skeptical and puzzled as to why we should be concerned about the damage salt does to the agricultural industries downstream and in other states to name a few. Trumping all of the others, my main concern is that I believe the economic potential and value of Paradox Valley is and will stay at its highest if it retains, to the greatest degree possible, it's natural and cultural qualities and artifacts in an untrammled and undeveloped state. In this area, and throughout all of Colorado's Western Slope, the number one economic driver is the Outdoor Recreation Industry. One of the main reasons for that is the regions incredibly wild, natural and scenic qualities, and not having those overly mixed with the resource extraction industries whom are not nearly as significant of a contributor to the local economy these days as the Outdoor Recreation Industry. Let's keep it that way. Alternative A would be a big win for the two big E's around here, the Environment and the Economy!

A little about myself, my relationship to the area, and more specifically to Paradox Valley and the Dolores River; I am a Ouray resident and homeowner and have resided on the Western Slope for over a decade. I am the Executive Director of Ouray Ice Park, Inc. (OIPI). OIPI is the entity that funds and oversees the Ouray Ice Park which is the #1 Economic driver in the winter here in Ouray and a significant contributor to the greater local and regional economy from Durango all the way to the Grand Valley. As an organization, it is in our mission statement to help provide for the local economy. In the past two plus decades, the Ouray Ice Park has replaced the mining industry in Ouray as a much more viable economic and environmentally friendly alternative during the winter.

For one who lives in Ouray I must admit I was drawn here by the Mountains, an incredible resource that draws all kinds of people from Jeepers and Dirtbikers to Skiers, Hikers, Ice Climbers, Mountain Climbers, Rock Climbers and Geologists. But stick around here long enough and you realize that just around the corner in a hidden valley lies one of our best kept secrets, and also biggest gems, the Paradox Valley and the Dolores River. On any given day year round, planned or unplanned, I'm making my way on over to Paradox Valley from Ouray to explore and enjoy some of the best scenery, rafting, kayaking, canoeing, mountain biking, rock climbing, camping and hiking I've ever experienced in my entire life. Sometimes I go just for the day, sometimes I stay for weeks. Every day is an adventure with endless activities. I know of over 20 sites with historic and cultural artifacts in the Valley ranging from petroglyphs to an enormous scattered collection of arrowheads, ground stones and other indigenous tools to barely discovered caves and granaries and even old early 1900's cowboy camps (one in Wild Steer Canyon where Alternative B-B1 is proposed). When you travel around and discover all these magical secrets the Valley has to offer, it is fun to imagine and think about its rich history, and having read all of Howard

2/8/2020

Greager's books about the area, I know it is colorful and plentiful. But with potential projects like the PVU alternatives and others looming, the future seems scary to ponder at times.

I am strongly opposed to all of the proposed PVU Alternatives in Paradox Valley except for A. I must say though, Alternative C looks especially intrusive to me as it is located right in the center of the Valley and seems very large. It will certainly interfere with access and views of much of the best rock climbing, hiking, and biking in the area as well as access to many of the prominent and better known petroglyph panels and archeological sites.

And then there is the Dolores, and the puzzling way it leaves its mark across the Paradox Valley, probably giving it its name way back in the day. I feel a deep spiritual connection to this river. I have entered it in my solo canoe at Bradfield Bridge below the Mchphee reservoir and 8 days and 175 miles later pulled it ashore just below the Dewey Bridge on the Colorado River in Utah. I taught myself to raft on this river in an old and very used 1980 Avon. I've discovered caves full of petros and mettates along its shorelines and hiked to remote and fascinating arches, run class V rapids, sunbathed on sandy beaches, stumbled on giant petrified logs, walked in the footprints of dinosaurs and stared down bears and rattlers and always wanted more. The Dolores is a very special place, it's shores need not see further development, just continued discovery.

With the PVU alternatives in relation to the Dolores River, I am particularly opposed to Alternative B (B1 Study area in Wild Steer Canyon). This would dramatically shorten and alter one of the most popular multi-day trips on the River (Big Gypsum-Bedrock). There are also many artifacts, petroglyphs, and an old cowboy camp along the new proposed road along the Dolores and the mouth of Wild Steer Canyon within this B1 study area. I believe these need to be left in the state they are in and where they are and only accessible by foot or boat. Also, there are only a handful of bridges on the Dolores presently, this plan involves adding two more bridges on the River, a significant and unnecessary increase.

I hope that my insight has been helpful for any of you that are tasked with the difficult decisions that lay ahead as to the future of Paradox Valley and the Dolores River. I urge you to consider the value of the Valley as it is now, the value of its scenery and wilderness, of outdoor recreation potential and its ancient archeological sites, and the loss in value that will surely happen if you choose to pursue any alternative other than A. Let those that have been working very hard the last decade to bring the Outdoor Recreation Industry and the economy it will help create to the Valley continue in their efforts unimpeded by any more unnecessary developments that are not only an eyesore, but also a degradation to the Valley's environment and its access to its varied and plentiful activities and treasures.

As I stated in the beginning of my comment. Let's choose A so that we win big for the two big E's, the Environment and the Economy! Thanks very much for your time and I really hope this helps with your decision making.

Sincerely,

Dan Chehayl

**FW: [EXTERNAL] Solar option public comment**

**COMMENT LETTER 224**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Mon 2/10/2020 11:15 AM

To: McCarter, Molly E <mmccarter@blm.gov>

📎 1 attachments (22 KB)

Paradox Valley Draft EIS Comments.docx;

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**From:** paradoxeis@usbr.gov On Behalf Of Todd Larson

**Sent:** Monday, February 10, 2020 11:06:58 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Solar option public comment

Please see attached for inclusion in public comment on Paradox Valley Salinity Control Draft EIS

Todd Larson  
Larson Building Solutions  
(970) 234-0258  
[larsonbuildingsolutions@gmail.com](mailto:larsonbuildingsolutions@gmail.com)

**CONFIDENTIALITY NOTICE:** The contents of this **email** message and any attachments are intended solely for the addressee(s) and may contain **confidential** and/or privileged information and may be legally protected from disclosure.

2/9/2020

Attn: Lesley McWhirter, Frederick Busch, Ed Warner

Re: Paradox Valley Unit of the Colorado River Basin Salinity Control- Draft Environmental Impact Statement

To whom it may concern,

In response to the proposals listed for salinity control in the Paradox Valley, I would like to submit for consideration an alternative or potentially supplemental course of action, with the assumption that the purpose of this project is to remove the most salt possible, at a reasonable cost to the taxpayer, while limiting or eliminating potential unintended consequences. Let us review the pros and cons of various options outlined in the draft EIS.

Option	Pros	Cons
<b>Do Nothing</b>	Low financial cost	Poor water quality Loss of jobs and income to the Paradox Valley Violation of agreement with Mexico
<b>Injection Well</b>	No need for further steps in salt disposal or storage	Earthquake potential even in new location. Limited lifespan due to injection strata volume Loss of water from other potential uses
<b>Brine Ponds</b>	Relatively cost effective Relies on naturally abundant, environmentally sound, solar energy.	Migratory Bird and other wildlife harm Large geographic footprint Loss of water from other potential uses
<b>Natural Gas Evaporation</b>	Returns water to the river Smaller footprint Labor intensive, Job creator	Expensive, ongoing natural gas purchases Environmentally unsound fossil fuel consumption Necessity to install pipeline from existing infrastructure many miles away

As an alternative, let us consider a combination system that draws from the best of some of these options while eliminating some of the cons. Envision if you will a closed loop solar system that harnesses the potential energy of the sun and transmits it to a central location for the evaporation process. Like the natural gas option the water vapor is available for condensation

224.01

and return to the river. By concentrating the solar energy through the use of curved mirrors temperatures far in excess of those required for evaporation can be achieved. This concentration effect means that far less acreage would be required for solar collectors as compared to traditional brine pools. By eliminating the open pools the threat to birds and wildlife is also greatly reduced.

Some quick calculations of approximate system requirements

The natural gas option assumes a yearly gas and electric demand of 4,200,000 CCF and 26,700 MWh respectively.<sup>1</sup> At estimations of current market rates (.51 per CCF<sup>2</sup> and \$68.1 per MWh<sup>3</sup>) that represents an energy consumption cost of Just under \$4,000,000 annually. The cost of gas is historically low right now<sup>2</sup> so this is likely an underestimation of future yearly utility expense.

$$4,200,000 \times .51 + 26,700 \times 68.1 = 3,960,270$$

One CCF of gas contains approximately 103,600 BTU's<sup>4</sup> and One MWh contains 3,412,141 BTU's<sup>5</sup> of potential energy. If we assume 100% usage of energy for evaporation purposes we arrive at BTU demand of the natural gas evaporation option 526,224,164,700 BTU's per year

$$4,200,000 \times 103,600 + 26,700 \times 3,412,141 = 526,224,164,700$$

According to "Solar Energy - How Much Energy Comes From the Sun"<sup>6</sup> 283 BTU's x per hour x per SF of surface area is a reasonable approximation of average solar energy available at the Earth's surface. Factors such as cloud cover, altitude, and angle of incidence, all affect this number up or down. For estimation purposes let us assume a very conservative 200 BTU x per Hour x per SF. Industry standards for solar equipment in our area assume 4.75-5.25 hours of production per day<sup>7</sup>. Assuming an extra conservative 4 hours and ignoring potential shoulder production we come to 800 BTUs x per Day x per SF, or 292,000 BTU x per SF x per Year.

To totally replace energy requirements of the natural gas option with solar 1,802,137.55 SF of solar collection is needed.

$$526,224,164,700 \text{ BTU's} / 292,000 \text{ BTU's per SF} = 1,802,137.55 \text{ SF}$$

At 43,560 SF per acre this means 41.37 acres of solar collection assuming 100% coverage. Realistically 100% coverage is impossible. Assuming 50% coverage to allow for roads and other infrastructure then 82.74 acres of solar collection would eliminate the need for other energy supplies.

As you can see some up-front investment now could save greatly on ongoing utility expenses as well as being a much more environmentally sound alternative. Burning one CCF of natural gas

results in 11.7 pounds of CO<sup>2</sup> emissions.<sup>8</sup> The natural gas option as currently stated would emit over 24,000 tons of CO<sup>2</sup> per year, not including offsite electricity production emissions.

$$4,200,000 \text{ CCF} \times 11.7 \text{ pounds} / 2000 \text{ pounds per ton} = 24,570$$

The cost of installing pipeline from existing gas distribution infrastructure would also be eliminated with the solar alternative.

In conclusion, an option utilizing concentrated solar energy would create the desired outcomes while eliminating many potential negative aspects of present options.

224.02

Thank you for your time and consideration on this matter. I look forward to any questions or comments you may have.

Todd Larson  
Larson Building Solutions  
970-234-0258  
larsonbuildingsolutions@gmail.com

<sup>1</sup> U.S. Department of the Interior Bureau of Reclamation Upper Colorado Region Western Colorado Area Office Grand Junction, Colorado, Paradox Valley Unit Draft EIS page ES-9  
[https://www.usbr.gov/uc/envdocs/eis/Paradox/20191200-PVU\\_DEIS\\_Vol1\\_508.pdf](https://www.usbr.gov/uc/envdocs/eis/Paradox/20191200-PVU_DEIS_Vol1_508.pdf)

<sup>2</sup> U.S. Energy Information Administration, Colorado natural Gas Industrial Price, 1/30/2020  
<https://www.eia.gov/dnav/ng/hist/n3035co3m.htm>

<sup>3</sup> U.S. Energy Information Administration, Table 5.6.A. Average Price of Electricity to Ultimate Customers by End-Use Sector, 1/27/2020  
[https://www.eia.gov/electricity/monthly/epm\\_table\\_grapher.php?t=epmt\\_5\\_6\\_a](https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a)

<sup>4</sup> U.S. Energy Information Administration, What are Ccf, Mcf, Btu, and therms? How do I convert natural gas prices in dollars per Ccf or Mcf to dollars per Btu or therm?  
<https://www.eia.gov/tools/faqs/faq.php?id=45&t=8>

<sup>5</sup> U.S. Energy Information Administration, Appendix G Conversion factors Table G1. Heat contents <https://www.eia.gov/outlooks/aeo/pdf/appg.pdf>

<sup>6</sup> Johnson C, Solar Energy - How Much Energy Comes From the Sun, 5/24/2019  
<http://mb-soft.com/public2/energyso.html>

<sup>7</sup> US Annual Solar GH, 2/22/2018 <https://www.nrel.gov/gis/assets/images/solar-annual-ghi-2018-usa-scale-01.jpg>

<sup>8</sup> U.S. Energy Information Administration, Carbon Dioxide Emissions Coefficients, 2/2/2016 [https://www.eia.gov/environment/emissions/co2\\_vol\\_mass.php](https://www.eia.gov/environment/emissions/co2_vol_mass.php)

**FW: [EXTERNAL] Comment submission**

**COMMENT LETTER 225**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Mon 2/10/2020 6:57 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (417 KB)

Letter to Area Director.rtf;

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**From:** paradoxeis@usbr.gov On Behalf Of frvreland.esm@gmail.com

**Sent:** Monday, February 10, 2020 6:55:22 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Comment submission

Dear Mr Warner: I would like to submit the attached comment for review by the USBR Paradox valley group.

Russell H. Vreeland

# Eastern Shore Microbes



10 February, 2020

Mr. Ed Warner,  
Area Manager, Bureau of Reclamation,  
445 West Gunnison Ave,  
Suite 221, Grand Junction, CO  
81501.

RE: Paradox Valley Salinity Control Project

Dear Mr. Warner:

I am sending you this letter to provide input into your upcoming decision regarding controlling salt pollution of the Colorado River Basin in the Paradox Valley Unit.

I urge you to seriously consider Option C Evaporation lagoons in order to establish a zero-discharge system in place of any other options. As would be clear from our website we have developed a green, sustainable microbial process that can accelerate the evaporation of nearly all types of wastewaters containing high levels of salt. There are several different processes that claim to be able to evaporate brines. However, none have the flexibility or cost effectiveness of the H.E.A.T process.

I noted that in 2012 your Department set up some test evaporation lagoons in the area. In my experience, salt concentrations as high as those present in the Paradox Valley ultimately evaporate at about 1/3 the rate of fresh water. Those same brines treated with our process can evaporate at the same rate as fresh water.

The HEAT process is safe, sustainable and does not harm the environment or the fauna. It can be applied to existing, or new lagoons without modification or any additional infrastructure. This process can make the use of evaporation lagoons a competitive control process and eliminate the need for additional deep injection wells.

If this interests you I will be happy to provide additional information.

225.01

Sincerely

Russell Vreeland

**FW: [EXTERNAL]****COMMENT LETTER 226**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 2/11/2020 9:57 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Sherri Harvey**Sent:** Tuesday, February 11, 2020 9:56:54 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL]

Dear Ed Warner and the Bureau of Reclamation,

I am writing to express my environmental concerns over the proposed new injection well in Slickrock Canyon and one 1.3 miles upstream from the current injection well.

I have spent many hours enjoying this outdoors wilderness area, and believe that this proposal is a huge mistake. After breaking free from a terrible marriage of 14 years, and starting my divorce process with 2 children aged 10 and 12 at the time, the outdoors in southwest Colorado gave me solstice I could not find anywhere else. Often I would trudge through the work week, and if I didn't have my kids I would escape to go camping and hiking in order just to breathe and sleep- and this area is one of those special places I have visited.

I don't think this proposal recognizes all the tiny micro systems and beautiful balance this micro climate has developed after many hundreds of thousands of years. To even consider something that will cross back and forth over the Dolores River accompanied by a new above ground power-line and buried pipeline is obscene in this pristine environment. Of course this would negatively impact the recreational, scenic, and wilderness qualities of this stretch of the Dolores River.

What is proposed is not something reverse able, the landscape would be altered to such an extreme that photos of what is there today would not be recognizable. In this day and age we have the information we need to support decisions to protect our environment and move forwards towards more sustainable practices.

Please stop wasting your time debating this archaic proposal and start listening to new technologies, and spend your time developing systems that keep our treasured wilderness in Slickrock Canyon preserved for future generations.

For me there was no greater church or inspiration to get through a very painful experience than to just be alone, quite and surrounded by this landscape. I urge you all before making this decision to spend a few hours or a night without a phone,

internet or distractions and to ground yourself here- to smell the smells, listen to the sounds and breathe the clean air. This is not an atomic testing ground out in the desert, this is our back yard and hopefully will be for future generations.

Thank you.

Regards,  
Sherri Harvey

--

[SHERRI-HARVEY.COM](http://SHERRI-HARVEY.COM)

PO BOX 3778

TELLURIDE 81435

[970.901.3318](tel:970.901.3318)

This message is confidential. If this email has been sent to you in error, please do not open any attachments. Notify the sender that you have erroneously received this message and delete the message and any attachments. The principal of SHARVEY ARCH LLC has been a licensed architect in the UK and has 12 years of experience in Telluride and carries Architects and Engineers Professional Liability Insurance and issues certificates upon request.

**FW: [EXTERNAL] comment on Paradox Valley Salinity Project**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 227**

Sat 2/8/2020 3:50 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Derek Uhey**Sent:** Saturday, February 8, 2020 3:49:50 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] comment on Paradox Valley Salinity Project

Hello,

I am writing to voice my concerns regarding the Paradox Valley Salinity Project. Over the last decade, I have both researched (as an entomologist) and explored extensively in the Dolores River drainage. This area is one of the last untrammled and truly wild canyons left on the Colorado Plateau. It houses endangered and endemic species found nowhere else on earth, including a rare species of cave-dwelling louse I found in 2013 (record soon to be published in the Southwestern Entomologist). The river canyon is of special significance to this area, providing desert big-horn sheep and river otters habitat, a wonderful oasis with incredible ecological value. The ancients knew, as the many archaeological sites will attest to. The same forces now draw recreationists to the area, which cherish the opportunity for solitude and the experience of intact wilderness. It is for these reasons that I believe this river canyon on public land should be managed with the utmost care to conserve this astounding resource for future generations.

The Paradox Valley Salinity Project has long been a problem project for the area, threatening natural resources and the canyon ecosystem. The impact on habitat and river ecology has been bad enough, let alone the unknown geological factors of pumping salt 15,000ft underground. The benefits of this desalination are extremely questionable given the costs (both economically and environmentally) and the unknown damage that may be occurring under the surface. Now that this well has reached capacity, I fear the same mistakes will be made again with potentially worse consequences for this pristine canyon ecosystem and at further costs to taxpayers.

I strongly disagree with the Bureau of Reclamation's proposals B1, B2, C, and D which are all poor alternatives that will significantly impact this areas ecology, and in some cases archeological sites. These options all have enormous impacts in the worst areas: boarding the Wilderness Study Area and along the river in the canyon. Dozens of threatened species including desert big-horn sheep, gunnison sage-grouse, and river otters would have habitat ruined or cut by roads. Option B1 is particularly alarming, a 1.3 mile intrusion into the undeveloped canyon past rock art sites and along the riparian corridor. None of these options are suitable for this wilderness and recreation area.

I support the Bureau of Reclamation's proposal A, to retire the well with no replacement. Desalinization is at best a band-aid solution, at worst it causes significant impacts at great taxpayer expense for little to no benefit. While the Dolores is naturally salty, the low flows from McFee dam and agricultural runoff are the reason salt levels are so excessive. The Bureau should work with up-stream farmers and ranchers to reduce the input of agricultural salts into the river and manage McFee dam for larger spring-time releases that flush the river, rather than force taxpayers to clean up the mess

downstream. This public land with it's incredible wilderness/recreational value should not bear the burden of failed management up-river.

Thank you for your consideration, please contact me with any questions or concerns,  
Derek Uhey, PhD student at Northern Arizona University

--  
Derek Uhey, M.S.,  
PhD Student, School of Forestry  
Northern Arizona University



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

1595 Wynkoop Street  
Denver, CO 80202-1129  
Phone 800-227-8917  
www.epa.gov/region8

COMMENT LETTER 228

Ref: 8ORA-N

FEB 05 2020

Ed Warner, Area Manager  
U.S. Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, Colorado 81501

Dear Mr. Warner:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Bureau of Land Management (BLM) Draft Environmental Impact Statement (DEIS) for the Paradox Valley Salinity Control Unit (CEQ No. 20190287). In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and pursuant to Section 309 of the Clean Air Act (CAA), the EPA provides the following comments on the Draft EIS.

### Project Description

The Paradox Valley Unit (PVU) is authorized by Title II, 202(a)(1) of the Colorado River Basin Salinity Control Act of 1974 (88 Stat. 266), as amended. Since 1996, the PVU has been injecting brine into the Mississippian Leadville Limestone (Leadville) Formation via a Class V deep injection well. The existing PVU deep injection well is nearing the end of its serviceable life, therefore the Bureau of Reclamation (BOR) is investigating alternatives to continue salinity removal efforts in Colorado River. The DEIS has been prepared to support the objective of analyzing the impacts of construction, operation, and maintenance of facilities to control saline groundwater in the Paradox Valley, Montrose County, Colorado.

The proposed alternatives for the PVU include:

- Alternative A – No Action, the injection well would not be replaced. Salt removal via the PVU will not be continued.
- Alternative B – New Injection Well, two new siting options are proposed for drilling of a new Underground Injection Control (UIC) well to continue to be utilized for salt removal from the Delores River.
- Alternative C – Evaporation Ponds, brine would be collected and piped to a series of evaporation ponds with solids transferred to an onsite salt landfill.
- Alternative D – Zero Liquid Discharge Technology, brine would be collected, piped to a centralized treatment plant, crystallized with solids transferred to an onsite salt landfill.

The EPA appreciates the coordination done by the BOR with federal agencies, and the additional information that has been provided in the DEIS to address several of the EPA's comments submitted during the project scoping process. Our remaining comments and recommendations for the Final EIS are provided in the attached enclosure. We offer recommendations for clarifying the geomechanical modeling, air quality and project description sections of the document.

The EPA appreciates the opportunity to participate in the review of this Draft EIS. If you have any questions or comments, please feel free to contact me at (303) 312-6704, or VelRey Lozano of my staff at (303) 312-6128 or [lozano.velrey@epa.gov](mailto:lozano.velrey@epa.gov).

Sincerely,



Philip S. Strobel  
Director, NEPA Branch  
Office of the Regional Administrator

Enclosure

**Paradox Valley Unit (PVU)  
EPA's Draft EIS comments**

**Seismicity Comments**

In general, the geomechanical modeling described in Appendix F appears to adequately represent the major features of the subsurface and is well-calibrated to wellhead pressure data for the existing well. The modeling effort also does a good job of testing alternative conceptual models to verify that the subsurface system is reasonably represented, and it uses results appropriately to qualitatively rank the suitability of proposed locations with respect to seismicity. As a 3D seismic survey will be completed prior to final selection of a new wellhead site and additional site-specific NEPA analysis will be required (DEIS p. 2-7, section 2.4.2.1), the stated modeling objective to conduct an appraisal-level analysis of multiple potential disposal well sites (Appendix F p. 1, section 1.2) appears to have been achieved.

Specific comments are as follows:

- 1) Table ES-1 on p. ES-8 of the DEIS indicates that induced seismicity is anticipated to occur at a lower rate for injection at Area B1 than for injection at the existing well and that induced seismicity rates are expected to be lower for injection at Area B2 than for injection at Area B1. To be consistent with the modeling results presented in Appendix F (p. 20-23), it would be more accurate to state that the risk of induced seismicity would be lower for injection at Area B1 than for injection at the existing well and the risk of induced seismicity is expected to be lower for injection at Area B2 than for injection at Area B1. Recommend revising the DEIS text to be consistent with the modeling report in Appendix F. 228.01
- 2) Page 2-6 of the DEIS (section 2.4.1) states that "Seismic reflection data, well log data, aeromagnetic survey data, gravity data, and induced seismicity data show that the Leadville Formation ... should have sufficient permeability and porosity to accept the injected brine at a continuous rate of 200 gpm, while keeping wellhead pressures below 5,000 pounds per square inch over 50 years." To be consistent with the results of modeling presented in Appendix F (p. 18, Table 2), it would be more accurate to state that seismic reflection data, well log data, aeromagnetic survey data, gravity data, and numerical (or geomechanical) modeling indicate that the Leadville Formation (in the vicinity of Area B2) should have sufficient permeability and porosity to accept the injected brine at a continuous rate of 240 gpm (0.0151 m<sup>3</sup>/sec), while keeping wellhead pressures below 5,000 pounds per square inch over 50 years. Recommend revising the DEIS text to be consistent with the modeling report. 228.02
- 3) Although the geomechanical model generally appears to be well-calibrated to wellhead pressures at the existing well (Appendix F, p. 15), the results of simulated slip potential after 25.4 years (Appendix F, p. 22, Figure 18) appear to have discrepancies with the extent of recently-observed seismic events. The DEIS (p. 3-15, section 3.3.1.2) states that earthquakes related to PVU fluid injection now have been observed at a distance of up to 12 miles from the injection well. Similarly, recent maps of earthquakes<sup>1</sup> 2013-2016 and 2017 (Figures 2-9) show earthquakes occurring up to about 11 miles southeast and about 15 miles northwest of the current PVU-1 injection site. However, DEIS model results (Appendix F, p. 22, Figure 18) show that the potential for slip occurs only up to about 2.7 miles southeast and about 4.2 miles northwest after 25.24 years (i.e. in 2016) of injection at PVU-1. This discrepancy 228.03

<sup>1</sup> Bureau of Reclamation Technical Memorandum TM-85-833000-2018-08 2017 Annual Report Paradox Valley Seismic Network Paradox Valley Unit, Colorado

underscores the need for more detailed analysis, such as the 3D seismic survey described in section 2.4.2.1 of the DEIS (p. 2-7). The EPA also recommends conducting additional geomechanical modeling using updated information from the 3D survey and calibrating the model to observed seismicity to provide for better estimation of the risk of induced seismicity at the selected injection site.

228.03

- 4) Although modeling results in Appendix F (p. 26, Figure 21) indicate that Area B2 would have a lower risk of induced seismicity (far-field slip) than Area B1, Area B2 is located substantially nearer to the population centers of Naturita and Nucla. It is recommended that the proximity of these population centers be considered when evaluating the suitability of Areas B1 and B2 with respect to seismicity.

228.04

### Air Controls

During scoping the EPA was able to share our recommendations with the Bureau regarding the emission inventory and those recommendations have been incorporated in the current analysis. We have also discussed several other issues with the Bureau which we have agreed will be important to air quality moving forward. In particular, the DEIS identifies the need to minimize the release of hydrogen sulfide (H<sub>2</sub>S) and chlorine gas. Should the BOR select Alternative C or D, the EPA recommends that the design include contingencies for the installation of scrubbers or other controls to limit gas releases. We are supportive of the BOR's plans to use automated alarms to alert operators of H<sub>2</sub>S or chlorine gas releases so that brine transfer may be temporarily halted until the release can be curtailed or limited.

228.05

In addition, it will be important to keep wind-blown dust to a minimum due to the arid climate and the acreage that would be disturbed to construct and operate any of the alternatives. If dust from truck traffic on unpaved roads associated with long-term facility operation and maintenance proves to be a concern for the local or regional population, it may be appropriate to consider paving roads or implementing other dust control measures.

228.06

### Project Description

In Section ES.2 Project Description the DEIS provides background on the salinity removal attributed to the PVU stating that "the PVU is the largest single contributor to the Colorado River Basin Salinity Control Program (Colorado River Basin Salinity Control Forum 2017)." Table 1 in the *2017 Review - Water Quality Standards for Salinity Colorado River System* lists the control measures in place through 2017. In Table 1, the PVU appears to be smaller than four of the agricultural basin control projects and smaller than BLM's measures. We therefore recommend clarifying this statement in the Final EIS.

228.07

The DEIS notes that "under Alternative A, any downstream segments of the Colorado River which are on state 303(d) lists for TDS or salinity would be further impacted due to salinity at Paradox no longer being controlled." We recommend identifying these specific 303(d) listed segments in Section 3.6.2 *Water Quality*, and identify the magnitude of impact or benefit to those segments under each alternative.

228.08

**FW: American Rivers' Comments on BoR's PVU DEIS****COMMENT LETTER 229**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Fri 2/14/2020 9:30 AM

**To:** McCarter, Molly E <mmccarter@blm.gov> 1 attachments (129 KB)

BoR PVU Salinity Project DEIS Comments\_American Rivers.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Mike Fiebig**Sent:** Friday, February 14, 2020 9:29:12 AM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Cc:** UFO\_RMP, BLM\_CO; Matt Rice; David Moryc**Subject:** [EXTERNAL] American Rivers' Comments on BoR's PVU DEIS

Dear Mr. Warner,

Please find American Rivers' comments on the Bureau of Reclamation's Paradox Valley Unit Draft Environmental Impact Statement. We strongly support Alternative A, the "No Action" alternative, due to proposed impacts to the Wild and Scenic eligible and suitable Dolores River corridor, the surrounding Dolores River Canyon WSA, and the rural character of the Paradox Valley.

We also urge the BLM Uncompahgre Field Office to oppose Alternative B in particular, due to the proposed impacts BLM-managed protected areas outlined above. Impacts from Alternative B would run contrary to the agency's non-degradation responsibility when managing WSAs and Wild and Scenic eligible and suitable river corridors.

Sincerely,

Mike Fiebig

Michael Fiebig

Director, Southwest River Protection Program

406-600-4061

[mfiebig@americanrivers.org](mailto:mfiebig@americanrivers.org)

109 Oak Valley Drive

Durango, CO 81301

420 Kane Creek Blvd. #7

Moab, UT 84532

[AmericanRivers.org](http://AmericanRivers.org)[Instagram](#) | [Facebook](#) | [Twitter](#)





Bureau of Reclamation  
Attn: Ed Warner, Area Manager  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501  
[paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

February 19, 2020

Michael Fiebig  
Director, Southwest River Protection Program  
American Rivers  
1536 Wynkoop Street, Suite 321  
Denver, Colorado 80202  
406-600-4061  
[mfiebig@americanrivers.org](mailto:mfiebig@americanrivers.org)

Re: Paradox Valley Unit Draft EIS

Dear Mr. Warner,

On behalf of American Rivers and our 350,000 members, supporters and volunteers across the United States, many of whom have recreated on the Dolores River at some time during their lives, we are submitting the following comments regarding the Bureau of Reclamation's Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit. We are particularly interested in decisions that could impact the eligibility and suitability of the Dolores River corridor under the Wild and Scenic Rivers Act, as well as the potential impacts of the project to ecological integrity, scenic character, cultural resources and recreation values in the river corridor and surrounding valley.

### **About American Rivers**

American Rivers is a leading conservation organization working to protect and restore the nation's rivers and streams. Our mission is to protect wild rivers, restore damaged rivers, and conserve clean water for people and nature. Since 1973, we have conserved more than 150,000 miles of rivers through Wild and Scenic River (WSR) designations, dam removals, on-the-ground projects, and advocacy efforts. Our Colorado River Basin Office is located in Denver, and our new Southwest River Protection Program is based in Durango. Both are actively engaged in the protection and management of the Dolores and San Miguel river systems, as well as the larger Colorado River system.

### **Analysis of Alternatives in the DEIS**

Our recommendation is that the Bureau of Reclamation (BOR) choose Alternative A, the "No Action" alternative, due to several significant deficiencies in DEIS. In particular, we oppose Alternative B because it is incompatible with the non-impairment standards required for management of Wild and Scenic eligible and suitable rivers, and adjoining BLM lands in the Dolores River Canyon Wilderness Study Area (WSA). The other alternatives, C and D, also propose significant detrimental impacts to both the surrounding ecosystem and nearby

229.01

communities. We recommend that BOR complete a holistic analysis of the costs and benefits associated with the entire Colorado River Salinity Control Program, weighing the future of the Paradox Valley Unit (PVU) against other potential new salinity control measures that could be carried out in the basin, ideally in a lower impact, more cost-effective manner.

229.01

### **Alternative A – No Action**

American Rivers' preferred alternative, chosen to protect the values of the Wild and Scenic eligible and suitable Dolores River corridor and surrounding areas as required for streams found to be either eligible or suitable for designation under the Wild and Scenic Rivers Act.<sup>1</sup> It is also the only alternative that would maintain the rural character and ecological integrity of the Paradox Valley.

### **Alternative B – New Deep Injection Well**

~~This is the worst of the four alternatives, from the perspective of impacts to river protection policy and the Dolores River Canyon itself. The potential impacts to the Dolores River corridor and surrounding mesas in this alternative would be far too great, including large seismic studies, surface facilities, new roads, two new bridges over the river in the suitable Wild and Scenic corridor, extension of powerline corridors, a new pipeline, and potentially new pump stations, depending upon which site is chosen.~~

Native American archeological sites, scenery, river-based recreation, fish, wildlife and vegetation Outstandingly Remarkable Values (ORVs) would likely be damaged, degraded or destroyed, permanently impacting the lower end of the Slickrock Canyon stretch of the Dolores River. This canyon is largely considered the most beautiful and accessible of the three main whitewater boating runs below Bradfield Bridge on the Dolores River, offering multi-day whitewater recreationists mellow rapids, incredible scenery, and a sense of solitude and timelessness.

229.03

This section of the Dolores River was also found to be both *eligible* and *suitable* for designation under the Wild and Scenic Rivers Act by the Bureau of Land Management's Uncompahgre Field Office, conferring protection on its free-flowing character and suite of ORVs for the life of the Resource Management Plan (RMP). Impacts of the project would also extend into the Dolores River Canyon WSA, in violation of the non-degradation standards required by that designation.

### **Alternative C – Evaporation Ponds**

This proposed alternative, while better preserving the river corridor, would potentially pose an outsized risk to migratory birds, wildlife and the residents of the Paradox Valley.

The massive project would include a include a “27-acre surge pond, a 39-acre concentrator pond, 290 acres of crystallizer ponds, a 24-acre bittern (remaining liquid) concentration pond, and a 10-acre-foot bittern storage pond. A hydrogen sulfide (H<sub>2</sub>S) treatment system would be included to remove H<sub>2</sub>S before brine is discharged to the evaporation ponds. Salt would be harvested from the evaporation ponds and disposed of in a 60-acre, onsite salt landfill, which would reach an ultimate vertical height of 100 feet above the ground surface,” rivalling the industrial impact of a large mining operation. The Dolores River is chronically dewatered even in wet years. American Rivers is concerned about potential water usage with this alternative as well.

229.04

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<sup>1</sup> See: Final Wild and Scenic River Suitability Report for the BLM Uncompahgre Planning Area, BLM, 2013. ([https://eplanning.blm.gov/epl-front-office/projects/lup/62103/78805/90472/WSR\\_Suitability\\_Report\\_Final\\_04272012.pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/62103/78805/90472/WSR_Suitability_Report_Final_04272012.pdf))

## **Alternative D – Zero Liquid Discharge Technology**

This alternative would essentially take much of the industrial impact of the evaporative facility in Alternative C, and move it into a massive, 150,000 square foot building, 40 feet tall, plus a series of salt drying bins each 100 feet tall. While potentially less impactful to birds and wildlife than Alternative C, Alternative D would nevertheless permanently change the rural character of the Paradox Valley to an industrial one. The Dolores River is chronically dewatered even in wet years. American Rivers is concerned about potential water usage with this alternative as well.

229.05

### **Conclusion**

Thank you for considering these comments. We urge the Bureau of Reclamation to choose Alternative A, the “No Action” alternative. While American Rivers recognizes the importance of controlling salinity in the Colorado River system, this work should not take place in areas where it would impact or supersede existing protective designations, natural resource values, ecological integrity, or cultural values.

We hope that the Bureau will take a hard look at the information that we have provided in these comments, and focus its future salinity control efforts outside of the Dolores River corridor and the Paradox Valley. We would be happy to meet in person in order to discuss any of the information that we have provided in this letter.

Sincerely,



Michael Fiebig  
Director, Southwest River Protection Program  
mfiebig@americanrivers.org  
406-600-4061

CC: BLM’s Uncompaghre Field Office

**FW: [EXTERNAL] Paradox EIS**

**COMMENT LETTER 230**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/18/2020 2:28 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

 2 attachments (34 KB)

JM comments Paradox Valley Unit Draft EIS.pdf; ATT00001.htm;

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**From:** paradoxeis@usbr.gov On Behalf Of Joan May

**Sent:** Tuesday, February 18, 2020 2:26:23 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox EIS

**FW: [EXTERNAL] Comments on salinity control project changes**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 2/18/2020 1:00 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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**From:** paradoxeis@usbr.gov On Behalf Of Jay Loschert**Sent:** Tuesday, February 18, 2020 12:58:55 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Comments on salinity control project changes

I am writing to voice my concern about proposed changes to BOR's salinity control project near Bedrock, Colorado. After reviewing the proposed alternatives, I have to say none of them sit well with me. I ask that alternative A, "No Action," be adopted. The other alternatives will have significant impacts to the recreation experience, wildlife, and other "outstandingly remarkable values" identified in the Wild and Scenic designation study. Alternative B1 is especially troubling, as it will have significant impacts on the whitewater boating experience for the over 40,000 people who float that section of river.

I've been a resident of southwestern Colorado for over twenty years and have come to love the Dolores River for its remote canyons, wilderness characteristics, and fun whitewater. I cut my river teeth in the Ponderosa Gorge section and have floated every stretch of that river. Since working for American Whitewater in 2010-2011 as their Stewardship Assistant for the Dolores River, I've devoted countless hours defending this river from destructive management. In 2012 I helped to found Dolores River Boating Advocates, a group of local whitewater boaters and activists, who share my passion for this beleaguered river. I worked as the first Program Coordinator for the group until 2013, and now serve on the board of directors. I'm proud of what we've accomplished in the years since our humble beginnings. But I'm submitting these comments not as a board member and activist, but rather as a father.

I've introduced my children to boating on that river, and they love it as much as I do. This letter is submitted on their behalf as well. My 8 year old son recently joined me on a trip through the Slickrock Canyon WSA section that is threatened by this proposal. After a great trip with friends, full of laughter, side hikes, and time away from electronics we approached the take-out and began seeing the signs of civilization. Like all the adults who knew the take-out was near, my son soon realized the character of the trip was changing. Human impacts dramatically alter the experience and indicate the end of the wilderness stretch. Tears flowed as we neared the take-out, and I told him that all the adults felt the same way he did: heart-broken that the trip was ending and secretly hoping we would somehow miss the take-out and need to keep going all the way to the confluence.

The changes to the salinity control project need to be sent back to the drawing board. The proposed alternatives will only shorten the wilderness experience for boaters who come from all over to enjoy one of the best, last multi-day river trips in the West. I strongly urge the BOR to explore other options for removing salinity from the water. In the meantime, NO ACTION is the only sane option. Thanks for your consideration. I will be tracking the bureau's response closely.

--

Jay Loschert  
19760 Road W  
Lewis CO 81327  
970-799-1475

**COMMENT LETTER 232**

**FW: PVEIS Comment Letter - Town of Nucla**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/18/2020 1:56 PM

To: McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (1,016 KB)

Paradox Valley EIS Comment - Town of Nucla.pdf;

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**From:** McWhirter, Lesley A.

**Sent:** Tuesday, February 18, 2020 1:56:16 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** Fw: PVEIS Comment Letter - Town of Nucla

See attached comment letter received by mail today.

**From:** Logan, Audrey P <alogan@usbr.gov>

**Sent:** Tuesday, February 18, 2020 1:19 PM

**To:** McWhirter, Lesley A. <lmcwhirter@usbr.gov>; Warner, Louis (Ed) <LWarner@usbr.gov>; Liff, Justyn M <JLiff@usbr.gov>

**Subject:** PVEIS Comment Letter - Town of Nucla

Audrey (Pat) Logan  
Admin Clerk, BOR  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501  
(970)248-0605

WCAO - GRAND JUNCTION  
FEB 18 '20 PM 1:14

320 Main Street  
PO Box 219  
Nucla, CO 81424-0219



TOWN COUNCIL  
Mark Jones, Mayor Pro Tem  
Paula Brown, TRUSTEE  
Antoinette (Toni) Carter, TRUSTEE  
Penni Philbrick, TRUSTEE  
Gayland Thompson, TRUSTEE  
Lucas Johnson, TRUSTEE

February 12, 2020

Ms. Lesley McWhirter  
Bureau of Reclamation  
Western Colorado Area Office  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

320 Main Street

PO Box 219

RE: Paradox Valley Unit of the Colorado River Basin Salinity Control Program

TOWN COUNCIL  
Mark Jones, Mayor Pro Tem  
Paula Brown, TRUSTEE  
Antoinette (Toni) Carter, TRUSTEE  
Penni Philbrick, TRUSTEE  
Gayland Thompson, TRUSTEE  
Lucas Johnson, TRUSTEE

To Whom It May Concern:

The Board of Trustees of the Town of Nucla has reviewed the environmental impact statement for the Paradox Valley Unit Salinity Control Program and understand that a new brine control and disposal facility is needed to protect and enhance the quality of water available in the Colorado River for use in the United States and Mexico.

It is our opinion that Alternative D Zero-Liquid Discharge Technology would be the best solution to not only meet the need, but it would also benefit this region in terms of job creation and potentially allow for an actual salt industry to occur in the future. In addition, it appears that this option will have minimal environmental impact.

To conclude we would prefer Alternative D, Zero- Liquid Discharge option above all other options, however our second choice would be for the new injection well.

Sincerely,

  
Richard A. Craig  
Mayor  
The Town of Nucla Board of Trustees

**FW: Test****COMMENT LETTER 233**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 2/18/2020 9:39 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

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**From:** Liff, Justyn M**Sent:** Tuesday, February 18, 2020 9:39:43 AM (UTC-07:00) Mountain Time (US & Canada)**To:** Craig Fanshier (Independent Contractor); BOR WCAO DL Paradox EIS**Cc:** Chad Harris**Subject:** Re: Test

Hello - I received your "test" email message.

Justyn

---

**From:** paradoxeis@usbr.gov <paradoxeis@usbr.gov> on behalf of Craig Fanshier (Independent Contractor) <craig.fanshier@intrepidpotash.com>**Sent:** Tuesday, February 18, 2020 9:33 AM**To:** BOR WCAO DL Paradox EIS <ParadoxEIS@usbr.gov>**Cc:** Chad Harris <chad.harris@intrepidpotash.com>**Subject:** [EXTERNAL] Test**Craig D. Fanshier, R.G.**

Senior Program Manager/Senior Hydrogeologist

Mobile phone: 503-333-8503

**FW: [EXTERNAL] Paradox Valley Unit Draft EIS Comments**

**COMMENT LETTER 234**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/18/2020 11:45 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

 2 attachments (326 KB)

DRBA\_Paradox Valley Unit Draft EIS Comments\_20200218.pdf; ATT00001.htm;

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**From:** paradoxeis@usbr.gov On Behalf Of Amber Clark

**Sent:** Tuesday, February 18, 2020 11:41:26 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox Valley Unit Draft EIS Comments

Dear Mr. Warner,

Comments regarding the Paradox Valley Unit Draft EIS submitted on behalf of Dolores River Boating Advocates are attached. We appreciate the opportunity to comment.

Sincerely,  
Amber Clark



**Dolores River Boating Advocates**

[www.doloresriverboating.org](http://www.doloresriverboating.org)

PO Box 1173

Dolores, CO 81323

970-799-8704

[info@doloresriverboating.org](mailto:info@doloresriverboating.org)

*Dolores River Boating Advocates promotes responsible recreational use and balanced flow management of the Dolores River, while working to protect the watershed for the health of the natural environment and the livelihood of future generations.*

February 18, 2020

Bureau of Reclamation

Attn: Ed Warner, Area Manager

445 West Gunnison Ave, Suite 221

Grand Junction, CO 81501

Sent via email: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

**Re: Paradox Valley Unit Draft EIS**

Dear Mr. Warner:

Thank you for the opportunity to comment on the Paradox Valley Unit Draft EIS. Please accept these comments submitted on behalf of Dolores River Boating Advocates (DRBA). DRBA is a local non-profit organization based in Dolores, Colorado. We are focused on the Dolores River watershed from both recreational and ecological perspectives.

After considering all of the alternatives presented by BOR in the Paradox Valley EIS, the only one that can reasonably be supported is Alternative A – No Action. We recommend that BOR adopt Alternative A given the existing level of analysis. We also recommend that BOR develop a broader analysis that considers other options that are not so detrimental to local communities, recreation, the natural environment, wildlife, and cultural resources.

We are especially concerned about Alternative B. It would have significant impacts to recreation in the river corridor, including boating and hiking. This alternative it is also incompatible with the non-impairment standard required for management of the adjoining BLM lands in the Dolores River Canyon Wilderness Study Area and is in violation of the Wild and Scenic Rivers Act's requirement to retain the outstandingly remarkable values of segments of river that have been found 'eligible.' Alternatives C and D come at too high a cost to local communities, cultural resources, and wildlife.

## **SIGNIFICANT UNACCEPTABLE NEGATIVE IMPACTS OF ALTERNATIVE B**

### **Recreation**

Alternative B1 would have a massive and irreversible impact to recreation in the Dolores River corridor. The construction of 1.3 miles of access roads, 2 new bridges over the Dolores River, surface facilities, a power line, and a pipeline along with drilling and operating an new injection well can only be considered a major impact.

BLM's Tres Rios Field Office estimates that 5,300 people utilized the Gypsum Valley boat launch in 2019. That is the last boat launch before entering the Dolores River Canyon Wilderness Study Area and the stretch of river that Alternative B1 would significantly impact. While that is already a large number it does not represent the total use since there are other put ins upstream. So that number does not include float throughs and dispersed use not directly associated with that boat launch. Tres Rios estimates that an additional 6,700 people launched from the Dove Creek Pump Station and 12,500 people launched from Bradfield Bridge. It is common to float from Bradfield or the Pump Station all the way to the Bedrock take out. Launches were also occurring at Slick Rock from private property so those numbers were not recorded by the BLM. Based on their Recreation Management Information System, the BLM Uncompahgre Field Office estimates that there were up to 49,400 visitors to the area and that 8,098 visitors used the staging areas just before entering the Dolores River Canyon WSA.

While the BLM extrapolates these numbers to some extent because not all recreational users sign in a launch sites, these numbers make it clear without a doubt that the recreational use of the stretch of river between Big Gypsum Valley and Bedrock is very high. From a whitewater boating perspective, the Dolores River is one of the most cherished floats in the West, and this particular section is one of the crown jewel sections of the entire river.

The DEIS does not adequately recognize the level of recreation taking place where B1 is being proposed and the analysis is not complete. The area is managed as a primitive recreation opportunity setting by the BLM. This means it offers opportunities for solitude, natural quiet, and unconfined recreation for non-motorized and non-mechanized travel year-round. Changing from a primitive recreation setting to a roaded natural setting is a significant change

and will have a huge negative impact to river runners as well as to hikers and horseback riders on the trail adjacent to the river.

The analysis does not adequately address this change and is incorrect in its conclusion that impacts to recreation would be minimal.

### **Dolores River Canyon Wilderness Study Area Impairment**

The Federal Land Policy and Management Act of 1976 (FLPMA) directed BLM to analyze wilderness qualities on BLM lands and to designate Wilderness Study Areas (WSAs) where those values were found. Following that direction, Dolores River Canyon WSA was designated by the BLM in 1980 and the WSA was subsequently recommended for Wilderness designation by the Department of Interior to Congress in 1991. BLM must manage and protect WSAs in a way that preserves the wilderness characteristics they possess in a manner that does not impair their suitability for designation by Congress as Wilderness. BLM's obligation to manage WSAs to protect the wilderness characteristics is undermined by Alternative B.

The non-impairment standard for WSAs has two-part test when there are proposed actions such as the proposed new injection well site. The standard assesses if the action will be temporary and if it would create surface disturbance. Though subsurface, Alternative B1 would create a permanent action within the WSA, so it fails the non-impairment standard test. Further, the proposed project does not qualify as an exception to the non-impairment rule and there are other alternatives that can be considered that do not impact the WSA.

Alternative B1 violates FLPMA and should be rejected from further consideration.

### **Impacts to Wild and Scenic ORVs**

Alternative B1 would have significant negative impacts to Outstandingly Remarkable Values (ORVs) associated with Wild and Scenic River eligibility. As determined by the BLM, the area is considered to be eligible based on numerous ORVs. These include recreation and scenery (specifically rafting), fish and wildlife (native fish), geology, ecology, and archaeology.

The DEIS does acknowledge that there would be negative impacts. The DEIS state that, "Under Alternative B in Area B1, the scenic and recreational ORVs for eligible river segments, with a preliminary classification of recreational and wild, would be negatively affected. There would be direct effects to the recreational segment and indirect effects to the wild segment."

On the same page, however, the DEIS inaccurately concludes that, "Impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river" (3-59). This is inaccurate for several reasons. Bridges have a significant impact from water or land and Alternative B1 proposes two of them. Bridges significantly modify the recreational experience of boaters floating on the river. There is also a trail from the Bedrock take out along the Dolores River in the area that would be disturbed and impacted in Alternative B1. The trail provides for hiking

and horseback riding. Boaters also stop and hike as well. The DEIS analysis of impacts to ORVs and impacts to recreation and scenery falls considerably short. To assume that recreationists won't see the impacts, thus making the impact to their experience minimal, is a completely false conclusion.

Alternative B1 would require a right-of-way across BLM land. The proposed ROW is not compatible with the protection and enhancement of identified ORVs, and BLM should deny application for this alternative in conformance with its own policy direction and the Wild and Scenic Rivers Act.

**Conclusion:** Alternative B1 must be rejected based on significant long-term impacts to recreation, impairment of wilderness values which violated FLPMA, and the degradation of wild and scenic values.

## PURPOSE AND NEED AND PROJECT GOALS

### Purpose and Need

The DEIS identifies that the purpose identified for this project is to "control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin." The need is established based on the fact that the existing well is reaching capacity and will not be able to be used for much longer. Given that the purpose is to reduce salinity and that there has been an existing injection well in operation since 1996, the BOR needs to be able to prove that this program is actually having the desired impact in order for the public to gauge if the purpose and need would be met. The DEIS does not, however, clearly identify the actual impact of the existing well since it began being used in 1996. In fact, it leaves a great deal of ambiguity around what impact the well has actually had and if it is indeed having a large impact. The DEIS states that, "no complete models of salt control in the Paradox Valley exist with which to determine the salinity control effect of PVU operations; therefore, based on best available scientific information, **Reclamation is continuing to estimate salt control in the Paradox Valley** based on its historical determination."

Alternative B, C, and D in this DEIS have an incredibly high price tag both monetarily and in impacts to natural, cultural, wildlife, recreational, and socioeconomic resources of the study area. Such negative impacts should not be inflicted, especially without demonstrating a clear

impact on the overall salinity issues in the Colorado Basin. Further, this action needs to be considered in the context of all possible actions that could be taken to reduce salinity more broadly. Would it be more cost effective to look at other sources of salinity introduction to the Colorado River in other locations? The public needs to be assured that anything approved in the Paradox Valley is the highest and best use of funding and public land resources and will have the greatest possible impact within the bigger picture.

**Project Goals**

Alternatives B, C, and D fail to meet several of the project goals identified in the DEIS. In particular, none of the action alternatives meet the following goals identified in the DEIS: “Avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in the affected environment”; and “Be in the best interest of the public, including considerations of health and safety and the local community’s desired future conditions.” Further, some action alternatives do not meet the following goal: “Be consistent with existing BLM resource management plans (RMPs), where applicable.”

**Conclusion:** None of the action alternatives should be selected unless it can be demonstrated that they meet the purpose and need and fit within the project goals.

**RANGE OF ALTERNATIVES**

The Draft Environmental Impact Statement does not present a reasonable range of alternative as is required by the National Environmental Policy Act. As noted above, deciding to implement Alternatives B, C, or D as considered in this DEIS would inflict major inarguably negative impacts to natural, cultural, wildlife, recreational, and socioeconomic resources of the study area.

234.04

Alternative B includes serious impacts to the Dolores River and its canyons including significantly impacting recreation, impairment to the wilderness study area and suitability for wild and scenic river designation, destruction of habitat for desert bighorn sheep and the Gunnison sage grouse, and potentially creating additional earthquakes in the region. Alternative C includes evaporation ponds that could harm migratory birds and would damage the scenic and rural nature of the Paradox Valley. Alternative D includes more industrial development that would damage the scenic and rural nature of the Paradox Valley and burning fossil fuels to power the crystallizers would require a pipeline to bring natural gas as well as create a new source of greenhouse gas use contributing to climate change. The impacts from all of these action alternatives are unacceptable and not in the best interest of the public.

At the same time, the DEIS did not consider other possible alternatives such as other potential injection well locations, addressing other salinity inputs instead, or adding more fresh water to the system. The DEIS should describe all other alternative injection well locations that have been evaluated, including why they were discarded.

234.05

**Conclusion:** the BOR needs to develop a more reasonable range of alternatives to present to the public, including alternatives that have less harmful impacts to local communities and to natural, cultural, wildlife, recreational, and socioeconomic resources.

**IMPACTS TO WILDLIFE**

The three action alternatives presented in the DEIS all have unacceptable impacts to wildlife and their habitat. Alternative B1 would impact bighorn sheep habitat and lambing areas. The sheep are of interest to wildlife managers and also add to the recreational experience of the area. B2 would impact potential Gunnison sage grouse habitat. Both B1 and B2 would reduce critical elk winter range. Alternative C poses significant threats to birds and bats and destroys 1500 acres of critical elk winter range. Alternative D eliminates critical elk winter range and returning water to the river at a different (warmer) temperature could have impacts to river habitat and species.

**Conclusion:** All three action alternatives in the DEIS include significant negative impacts to wildlife that are unacceptable.

---

All of the action alternatives presented in the DEIS have significant issues associated with them that are not in the best interest of the public and the No Action alternative is the only reasonable choice presented. Alternative B1 obviously poses a significant negative impact to boating, but we still cannot recommend any of the other action alternatives because the impacts they would create come at too high a price for public lands, recreation, wildlife, cultural resources, and local communities.

Again, thank for the opportunity to provide comments on the Paradox Valley Unit Draft EIS.

Sincerely,  
Amber Clark



Executive Director  
amber@doloresriverboating.org

**FW: [EXTERNAL] Paradox Valley draft EIS comments****COMMENT LETTER 235**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Tue 2/18/2020 1:11 PM

**To:** McCarter, Molly E <mmccarter@blm.gov> 1 attachments (36 KB)

Paradox Salinity comments .pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Jeremy Christensen  
**Sent:** Tuesday, February 18, 2020 1:10:21 PM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Subject:** [EXTERNAL] Paradox Valley draft EIS comments

Comments attached, and copied below.

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501  
Via email: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Mr. Warner,

Thank you for the extended time and opportunity to submit comments on the proposed Paradox Valley EIS. I am writing to advocate for the NO ACTION alternative. I have studied the proposed alternatives and see deep flaws in each of the proposed actions. Alternative B seems especially problematic given the likely severe impacts to recreational boating on the Dolores River.

I would like to see the Agency take a broader approach to considering potential impacts. The BOR needs to develop a more reasonable range of alternatives to present to the public, including alternatives that have less harmful impacts to local communities and to wildlife, recreational, and other important resources.

Sincerely,  
Jeremy Christensen  
665 Riverside Ave  
Mancos, CO 81328  
(970) 403-2556  
[doryladd@gmail.com](mailto:doryladd@gmail.com)

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501  
Via email: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Mr. Warner,

Thank you for the extended time and opportunity to submit comments on the proposed Paradox Valley EIS. I am writing to advocate for the NO ACTION alternative. I have studied the proposed alternatives and see deep flaws in each of the proposed actions. Alternative B seems especially problematic given the likely severe impacts to recreational boating on the Dolores River.

I would like to see the Agency take a broader approach to considering potential impacts. The BOR needs to develop a more reasonable range of alternatives to present to the public, including alternatives that have less harmful impacts to local communities and to wildlife, recreational, and other important resources.

Sincerely,  
Jeremy Christensen  
665 Riverside Ave  
Mancos, CO 81328  
(970) 403-2556  
[doryladd@gmail.com](mailto:doryladd@gmail.com)

**FW: [EXTERNAL] No Action (Alternative A) for PVU Injection Well**

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

**COMMENT LETTER 236**

Mon 2/17/2020 9:57 AM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

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From: tmm@everyactioncustom.com On Behalf Of Taylor Maggert  
Sent: Monday, February 17, 2020 9:55:45 AM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] No Action (Alternative A) for PVU Injection Well

Dear Area Manager Ed Warner,

As someone who spends as much time as possible outdoors and using various public lands, I urge the USBR to Bureau of Reclamation select the No Action Alternative A or develop additional alternatives when it comes to the Paradox Valley Unit. None of the alternatives, other than No Action, achieves the project goal to "avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in the affected environment."

I also believe that the Colorado River Basin Salinity Control Program needs to be revised so those who desire less salinity or are increasing the salinity are responsible for their own impacts. The proposal stated that it is the naturally occurring salinity that is being removed from the river. After researching this more, it seems as though consumptive users are the ones who prefer less salinity. I highly disagree with chaining our natural ecosystems for end users. If a farm or power producer would like less salinity (than is natural) in the water they are pulling from the river, they should be removing it at their site. They should also be restoring salinity (proportional) removed to keep the river in its natural state.

More research leads me to believe Alternative B1 would be devastating to the recreational and scenic qualities of the Dolores River Canyon. The alternative violates the Wild and Scenic Rivers Act's requirement to retain the outstandingly remarkable values of eligible river segments. Other alternatives are incompatible with existing management plan direction, pose nonredeemable conflicts with high value recreation activities, and create insurmountable impacts to wildlife, cultural resources, social values of the Paradox Valley.

The Dolores River was deservedly found eligible to be a wild and scenic river. This new construction would permanently impair the outstandingly remarkable values for which the river was originally identified.

Sincerely,  
Mr. Taylor Maggert  
7655 W 48th Ave Wheat Ridge, CO 80033-3228  
tmm@maggerts.com



**FW: [EXTERNAL] Comments: PVU Salinity Control EIS**

**COMMENT LETTER 237**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Mon 2/17/2020 9:14 AM

**To:** McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (22 KB)

Paradox Valley Unit, Salinity Control EIS.docx;

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**From:** paradoxeis@usbr.gov On Behalf Of Dan Huisjen

**Sent:** Monday, February 17, 2020 9:12:29 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Comments: PVU Salinity Control EIS

Attached are comments regarding the PVU Salinity Control EIS. Thank you for the opportunity to comment and I hope these comments are taken to heart in the development and selection of an appropriate long-term alternative.

Dan Huisjen

February 17, 2020

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

Dear Mr. Warner:

First of all, I would like to thank all of the specialists and writers of the EIS! I spent 28 years working for the BLM and USFS as a Forester, Fire Ecologist, and Fuels Specialist (now retired!) and have invested innumerable hours, days, and months as a specialist or interdisciplinary team lead on EAs and EISs and understand the commitment and effort required to stay focused and finalize a draft or final NEPA document.

My interest in this project stems primarily from my outdoor recreation in this area, specifically as a rafter who has floated the Dolores River through the Dolores Canyon WSA numerous times. I hope to float this beautiful, remote, and relatively pristine river many more times in the upcoming decades.

I will start my comments with those that are broadest and work down to more 'alternative specific' comments.

Comment 1: I am curious why directional drilling from the current facility near Bedrock was not considered as one of the analyzed or dismissed Alternatives. If directional drilling is possible from the existing injection well site it would eliminate both the impacts of any of the Alternatives analyzed as well as the costs associated with constructing new infrastructure to access a new portion of the Leadville Limestone. There appears to be directional drilling associated with both Alternatives B1 and B2 from new surface locations so it is clearly a cost effective option, at least in those locations. From the diagrams and discussions it appears to me as a layperson that this might be a very reasonable option, particularly with the advances in directional drilling technology over the past few decades. It would be interesting to bring in an additional expert or two in directional drilling to see if they think it could be done and if they are up to the challenge!

237.01

Comment 2: Alternative C has a tremendous footprint in an environment that has a large number of archeological resources and high potential for sensitive species that would both be negatively impacted. In addition, it would be a tremendous visual intrusion in a very important scenic and geologic viewshed. Also, both the construction and O&M costs are high. Finally, the disposal of the precipitated salts in a 'landfill' is a very short-term solution when considered against long-term (100s to 1000s of years) maintenance of a landfill and local erosional processes. Alternative C does not seem to be an efficient option and has significant environmental impacts over a large footprint.

Comment 3: Alternative D requires a tremendous input of energy, tripling or quadrupling the O&M costs of any other Alternative. In this era of climate change and tremendous green house gas emissions it is irresponsible to commit to that kind of energy use in the name of environmental (primarily agricultural?) protection. Additionally, the disposal of the precipitated salts in a 'landfill' is a very short-term solution when considered against long-term (100s to 1000s of years) maintenance of a landfill and local erosional processes. Alternative D does not appear to be cost effective.

Comment 4: Alternative B1 has the higher potential of the two 'B Alternatives' to negatively impact Dolores River Wild and Scenic River eligibility and character, the Dolores Canyon Wilderness Study Area, valuable riparian habitat, and the recreational experiences of hundreds and thousands of rafters, kayakers, and canoers, who are all concentrated in the river corridor adjacent to the proposed facilities in that alternative.

Comment 4A: Wild and Scenic River Character and Eligibility: The document clearly states that there would be negative indirect effects from Alternative B1 to the eligible wild section of the river and negative direct effects to the recreational eligible section. From an 'experiential' standpoint the river users 'wild' experience would come to a dramatic and disappointing end as the new pumping facility, bridges, powerline, road, potential road use, and the operational noise assault the boater after spending 2-5 days in a remote river canyon with 'wild' river eligibility. It is already disappointing to hear and see the current facility, which is located approximately 1.5 miles further downstream from the 'wild' boundary and much closer to the end of the river trip at the Bedrock Take-Out than the proposed B1 facility would be; the experience changes from one of solitude, self-reliance, and valuable time in a natural landscape to being affronted by human impacts, technology, and serious environmental issues. Pushing those 'social' impacts further upstream, closer to the 'wild' eligible section of the river and deeper into the 'recreational' eligible section of the river, is inappropriate. There are fewer and fewer pristine areas in which humans can find solitude and a 'oneness' with nature. The Dolores River Canyon is one of the last remaining outstanding 'wild' river canyon locations in the Four Corners Region and is highly valued by river runners of all ages. Continuing to nibble away at the edges of this eligibility, both wild and recreational, will result in a significant loss to our society over time. Compromising the end of this section of canyon, the mouth of this canyon at Bedrock, should be avoided for the long-term benefit and appreciation of untold future generations of river lovers and river runners!

Comment 4B: Dolores River Canyon Wilderness Study Area: Though the impacts to the WSA would primarily be temporary or consist of a permanent visual/auditory 'intrusion' that could be sensed from the WSA, these are significant negative impacts to the visitor's experience. In particular, having the injection well facilities and new road constructed further into the Canyon and closer to/adjacent to the WSA boundary, along with the O&M of those facilities will significantly degrade the wilderness experience of the wilderness user. Many of the comments included under Comment 4A above regarding the experience of the recreational user apply to this comment as well.

Comment 4C: Though the direct impact to riparian vegetation is small with Alternative B1 the indirect impact to riparian functionality from bridges, 1.5 miles of road, buried pipelines, and above ground powerlines could be quite significant. For example, connectivity of the upland and riparian systems for a variety of species will be fractured by the construction, use, and existence of these facilities in and adjacent to this valuable riparian ecosystem. Riparian ecosystems are essential for a large number of upland faunal species who depend on the riparian area for a portion of their life cycle or for seasonal or daily movement and resources.

Comment 5: Alternative B2 may be the best alternative because the majority of surface disturbance occurs in existing ROWs and other previously disturbed locations along existing roads and the impact to the primary recreational experience in the vicinity (floating the river) is minimized or eliminated. Only 0.2 to 0.4 miles of new road would need to be constructed along with the disturbance at the injection site for only 7 acres of new disturbance, and this would be away from any riparian or high use

recreational areas. From an environmental standpoint Alternative B2 appears to have the least impact because impacts would primarily occur within previously disturbed areas that are utilized regularly as transportation corridors and those impacts are not in a riparian area. From a recreational standpoint Alternative B2 would impact tremendously fewer recreationists due to a lack of recreational trails in the proposed area, and distance from the river. Additionally, the relatively few recreationists it would impact would not typically be utilizing the Wilderness Study Area or Wild and Scenic eligible river corridor, where the expectations are for more pristine experiences. Though the costs of Alternative B2 are somewhat higher than those of Alternative B1 the elimination of both environmental and recreational impacts along the Dolores River Canyon Corridor (WSA and Wild and Scenic Eligible Stretches) should make this the preferred alternative.

Comment 6 (Seismic Survey): Much of the land that the seismic survey for Alternative B1 and B2 would be implemented on are within the Wilderness Study Area. Though the impact of potential explosions to solitude (the wilderness experience) are briefly discussed the long-term impacts to wilderness character from the seismic survey are not discussed. How many explosions will take place within the WSA? How impactful will these explosions be to the soil, vegetation, and long-term wilderness characteristics?

237.02

Comment 7 (Vegetation): Total impacts to vegetation from Alternative B2 compared to B1 are 7 acres vs 16 acres respectively, and .25 acres of riparian vs 6 acres of riparian respectively; that is a reduction in disturbance of 50% to overall vegetation and 96% to valuable riparian vegetation (along with the associated habitat for a myriad of species) by selecting Alternative B2.

Comment 8 (Visual): There are literally hundreds, if not thousands, of river rafters floating through the Dolores River Canyon during years when the water level is adequate for floating. Each of these individuals will be visually impacted by the injection well buildings, powerlines, bridges, and road associated with Alternative B1. Though this visual intrusion may be considered 'minor' it will change the experience of untold numbers of visitors over the coming decades. This permanent intrusion into the experience should be avoided through selection of another Alternative (I recommend Alternative B2).

Comment 9 (WSA and Wild and Scenic Eligibility): The BLM has the responsibility to manage the WSA to a non-impairment standard. Authorizing pipelines and the construction of those pipelines beneath the surface of the WSA (Alternative B1) should be avoided. Additionally, surface facilities adjacent to, or near, the WSA should be avoided due to their visual and auditory impact to the visitor's experience. The BLM should manage the WSA and adjacent lands for non-impairment and to maintain maximum eligibility for Wild and/or Recreational river status.

Comment 10 (Noise): Operational and Maintenance pump noise impacting the river and the visitor's experience should be considered as unacceptable, particularly near the end of a river trip through a potential Wilderness Area and Wild River. Currently this noise is located very close to the Bedrock Take Out at the existing injection well site, and though disturbing to the experience, the river trip is essentially over at that point. Moving that noise impact 1.5 miles further up the river is violating 20-30 minutes of every floaters experience.

Comment 11 (Cumulative Impacts):

Comment 11A (Riparian Impacts): Riparian/Wetlands are the least abundant vegetation type in this area (0.8%). We should not be impacting this rare and highly valuable resource used by birds and a

myriad of other fauna in an otherwise 'dry and waterless' place. There are enough impacts within the riparian system already with invasive species, grazing, etc., without further impacting this rare ecosystem. Particularly impactful to riparian areas is Alternative B1.

Comment 11 B (Areas of Special Designation - Wild and Scenic River): Though the BLM manages these segments to maintain their wild and scenic suitability the proposed 'minor' impacts to the river corridor, viewshed, and visitor experience, when combined with other previous actions (eg. construction of McPhee Dam and the resulting impacts to a natural, or even adequate, flow regime), may well have an impact on that suitability. The BLM should not allow any degradation to the suitability of the wild and recreational eligible segments.

Comment 11C (Areas of Special Designation - Wilderness Study Area): Again, though the BLM manages this area for 'non-impairment', the document does state elsewhere that the BLM can compromise that strict standard of management to achieve other legal requirements of the government. This potential for legalized impairment, when combined with other previous, and potential future actions, could further impair the Dolores Canyon WSA and compromise its potential to be designated as Wilderness in the future.

237.03

Comment 12 - Specific to Alternative B1 (Bridges): In the unfortunate event that Alternative B1 is selected it is imperative that the following mitigations be applied:

Mitigation 1): Bridges must attempt to blend in with the natural landscape (color, style). (Regardless of any attempt to 'blend in' these two bridges, 100s and 1000s of boaters would have to float under them for decades to come; the bridges would be an affront to this beautiful, natural landscape, and to the visitor experience.)

Mitigation 2): Bridges must be constructed so that they are high enough above the highest possible river flows (consider huge snowmelt years coupled with maximum releases from McPhee Reservoir and maximum potential spring downpours: think climate change), so that boaters can safely float beneath them. If bridges are not constructed to these types of standards and events the BOR and US Government might become involved in litigation if negative impacts occur to river users from poorly designed bridges. Additionally, if bridges are not constructed high enough it might further preclude use of a river that is already limited in use due to low flows from McPhee Dam; it would be ironic to preclude use at adequate/high flows due to another poorly designed man-made intrusion.

Mitigation 3): Powerlines should be buried beside/with the low pressure pipeline so that the poles and wires are not an additional, and significant, intrusion on the recreational experience.

Mitigation 4): Noise dampening construction design should be utilized at any pumping or injection station to minimize the noise impacts to the numerous river users who float by the facilities.

237.04

### Concluding Comments

The Dolores River Canyon is an incredibly special place in both Southwestern Colorado and the larger Four Corners region. This is indicated by the existence of the Dolores River Canyon Wilderness Study Area, the potential of these stretches of the Dolores River to be designated as Wild and Recreational, and by the number of recreationists who float the river when precipitation and subsequent releases from McPhee Reservoir allow the opportunity. Additionally, the Paradox Valley is a geologic wonder,

partially due to its remoteness and lack of development as compared with similar valleys nearby (ie, Spanish Valley with the Moab conglomeration sprawling throughout it) and should be kept in as pristine a visual condition as possible. The experience the recreationists have floating this sandstone walled canyon starting in the ponderosa pine and ending with tight meanders entering the Paradox Valley is truly unique. Significant work is currently being done by the Dolores River Boating Advocates, the Dolores Water Conservancy District, and other entities to maintain and enhance this recreational experience while meeting the needs of all users. It is imperative that this BOR proposal will consider those efforts and not degrade the experience and ecosystem that others are working diligently to enhance.

I would like the Bureau of Reclamation to consider directional drilling into the desired portion of the Leadville Limestone from the existing facilities near Bedrock. This would eliminate new surface disturbance and reduce the overall cost of any of the alternatives by utilizing existing facilities and infrastructure to a large degree (realizing that upgrades in dated technology would be necessary).

If directional drilling is infeasible, then any Bureau of Reclamation/Bureau of Land Management decision concerning this landscape need to consider the high value of this ecosystem and the associated recreational opportunities enjoyed by 100s and 1000s of users. Any selected alternative must be designed to mitigate impacts to this amazing landscape. After careful study or the Draft EIS I believe the integrity of this landscape and the special designation areas, as well as the experience of the river runner, can best be maintained at their highest levels through selection of Alternative B2, which focuses impacts on previously disturbed areas away from the river to the greatest degree of any of the alternatives.

Alternative B1 has a great deal of a negative impact on the recreational experience along the river, has negative impacts on the rare riparian ecosystem, and compromises the integrity of both the Wilderness Study Area and Wild and Scenic River eligibility.

Alternative C has a massive footprint in an area within and adjacent to some of the outstanding features of the Paradox Valley, namely, the archeological sites nearby and the special status species that are found in the area. Additionally, it would have a significant negative visual impact for those wishing to observe the fascinating geology of the area.

Alternative D is very costly and has an unconscionable amount of energy use in this era of climate change.

Both Alternatives C and D also 'kick the can down the road' by placing the salt in above ground landfills that will be subject to erosion and lose of storage integrity over time to the point that our descendants, or another society or culture, will have to deal with it in the future.

Thank you for the opportunity to comment on this proposal. I hope that the values and integrity of this special ecosystem and the recreational opportunities it provides rank high in the decisions that are made regarding the capture and disposal of salt in this area.

Sincerely,

Dan Huisjen, Dolores River Rafter and Retired BLM/USFS Fire Ecologist/Fuels Specialist

20566 Tulip Circle Montrose, CO 81403

## FW: [EXTERNAL] Irvine Ranch Water District Comment Letter-Support for Salinity Control in the Paradox Valley in Western Colorado

COMMENT LETTER 238

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 2/14/2020 3:21 PM

To: McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (85 KB)

2.14.20 Reclamation IRWD Comment Letter Salinity Control-Paradox Valley.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Barbara Mourant

**Sent:** Friday, February 14, 2020 3:12:48 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Paul Cook; Paul Weghorst

**Subject:** [EXTERNAL] Irvine Ranch Water District Comment Letter-Support for Salinity Control in the Paradox Valley in Western Colorado

Mr. Warner,

Attached is a comment letter from IRWD regarding Support for Salinity Control in the Paradox Valley in Western Colorado.

Please let me know if you have any questions.

Thank you,

Barbara Mourant  
General Manager's Office



February 14, 2020

Mr. Ed Warner  
Area Manager  
U.S. Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

Re: Support for Salinity Control in the Paradox Valley in Western Colorado

Mr. Warner:

Irvine Ranch Water District (IRWD) submits this letter in response to the U.S. Bureau of Reclamation's Draft Environmental Impact Statement (EIS) for the Paradox Valley Unit of the Colorado River Basin Title II Salinity Control Program.

Reclamation has made great efforts to evaluate the environmental effects of salinity control alternatives in Paradox Valley. We appreciate the opportunity to provide our support during the Draft EIS comment period and look forward to receiving the Final EIS and Record of Decision that identify an alternative to ensure the long-term protection of the Colorado River and its tributaries.

As one of the largest retail water agencies in California, IRWD relies on the Metropolitan Water District of Southern California for a portion of our drinking water, some of which comes to us from the Colorado River. As a retail provider, we are keenly aware of high salinity and the impact it has on our customers. Increased scaling potential and the reduction in the marketability and usability of recycled water are just two of our concerns. Protecting the Colorado River's water quality is very important to Metropolitan and IRWD's customers. With that in mind, we do not support Alternative A – No Action. **We strongly support any cost-considerate long-term feasible alternative that continues or further reduces salinity in the Colorado River from sources in the Paradox Valley.**

Historically, the Paradox Valley Unit has represented approximately 7% of salinity control in the Upper Colorado River Basin and has been the largest single point source control project for this Salinity Control Program. As operation of the existing Paradox Valley Unit well faces challenges and its future operation is uncertain, we support planning for a long-term replacement. Modeling indicated that the Paradox Valley Unit reduces salinity-related economic damages to water customers by more than \$20 million annually.

Reclamation has demonstrated a strong commitment to reducing salinity levels in Colorado River and collaborating with stakeholders who depend on the Colorado River as a source of drinking water. We thank you for your support of these efforts and appreciate your consideration to provide the resources to continue managing salinity in the Paradox Valley.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Paul A. Cook", is enclosed within a red rectangular box.

Paul A. Cook, P.E.  
General Manager

**FW: DEIS comments**

**COMMENT LETTER 239**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Mon 2/17/2020 4:11 PM

**To:** McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (75 KB)

PVUDEIS 20200217 final.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Leslie James

**Sent:** Monday, February 17, 2020 4:11:05 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** creda@creda.cc

**Subject:** [EXTERNAL] DEIS comments

Please see attached comments, and acknowledge receipt. Thank you, Leslie James CREDA

Sent from [Mail](#) for Windows 10



**CREDA**  
**Colorado River Energy Distributors Association**

**ARIZONA**  
 Arizona Municipal Power Users Association

Arizona Power Authority  
 Arizona Power Pooling Association

Irrigation and Electrical Districts  
 Association

Navajo Tribal Utility Authority  
 (also New Mexico, Utah)

Salt River Project

**COLORADO**  
 Colorado Springs Utilities

Holy Cross Energy  
 Intermountain Rural Electric Association

Platte River Power Authority

Tri-State Generation & Transmission  
 Association, Inc.  
 (also Nebraska, Wyoming, New Mexico)

Yampa Valley Electric  
 Association, Inc.

**NEBRASKA**  
 Municipal Energy Agency of Nebraska  
 (also Colorado, Wyoming)

**NEVADA**  
 Colorado River Commission  
 of Nevada

Silver State Energy Association

**NEW MEXICO**  
 Farmington Electric Utility System

Los Alamos County

**UTAH**  
 City of Provo

City of St. George

South Utah Valley Electric Service District

Utah Associated Municipal Power Systems

Utah Municipal Power Agency

**WYOMING**  
 Wyoming Municipal Power Agency

**Leslie James**  
 Executive Director  
 CREDA  
 10429 S. 51<sup>st</sup> St., Suite 230  
 Phoenix, Arizona 85044

Phone: 480-477-8646  
 Fax: 480-477-8647  
 Cellular: 602-469-4046  
 Email: [creda@creda.cc](mailto:creda@creda.cc)  
 Website: [www.credanet.org](http://www.credanet.org)

February 17, 2020

Mr. Ed Warner  
 Bureau of Reclamation  
 Grand Junction, Colorado

Via Email: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Subject: Comments on the Paradox Valley Unit (PVU) of the Colorado River  
 Salinity Control Program Draft Environmental Impact Statement  
 (PVDEIS)

Dear Mr. Warner:

The Colorado River Energy Distributors Association (CREDA) has reviewed the PVDEIS and offers the following comments. CREDA represents Colorado River Storage Project (CRSP) firm electric service customers, non-profit entities who collectively serve over 4 million customers in the States of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming. As stated in the PVDEIS, CRSP power revenues are a statutorily mandated funding source of the Salinity Control Program. CREDA and its members therefore have a direct and unique interest and perspective on the alternatives analyzed in the DEIS, and CRSP customers will be directly impacted by Reclamation's decisions in this process. CREDA appreciates the additional time provided for public comment.

At this time, CREDA recommends Reclamation adopt a restated No Action Alternative (Alternative A) in a final EIS and Record of Decision (ROD); alternatively, CREDA recommends Reclamation develop and analyze a "least cost" alternative, including an associated monetary and non-monetary cost/benefit analysis, and supplement this NEPA process appropriately. By "restated" Alternative A, we mean that the PVU would continue operating (albeit at an appropriately reduced level), as opposed to completely shutting down. 239.01

Through mid-2019, CRSP power revenues have contributed over \$46 million<sup>1</sup> in operation and maintenance funding to this non-power program, included in CRSP rates. As described in section 2.7.3, the costs of the alternatives that have to be repaid (25% of total costs) from the upper and lower basin funds can be significant and the upper basin share (15% of the 25%) will be repaid from CRSP power revenues and may impact CRSP firm electric service rates. The impacts assessment (section 3.15) and table of impacts (section 2.10) lack any financial or economic impact analysis on the CRSP firm electric service customers, many of whom reside in some of the poorest counties in the Nation. Due to uncertain costs and benefits associated with the alternatives described in the PVDEIS, and the dearth of information on impacts to the upper Colorado River Basin Fund, CREDA cannot support any of the action alternatives at this time. 239.02

Further, as salinity o&m costs are included in the processes associated with the 1992 Work Plan Agreement process,<sup>2</sup> CREDA should be included in any future discussion of alternatives, funding sources and cost sharing for Salinity Control Program. 239.03

Thank you for the opportunity to comment on the PVDEIS. We look forward to further discussions. Please let us know if you have any questions.

Sincerely,

*Leslie James*

Executive Director  
 Cc: CREDA Board

<sup>1</sup> COLORADO RIVER BASIN SALINITY CONTROL PROGRAM TITLE II Upper Colorado River Basin Fund, Tab 11, WAPA Salt Lake City Area Integrated Rates customer meeting materials, June 2019.  
<sup>2</sup>Letter Agreement No. 92-SLC-0208 dated September 24, 1992.

# FW: [EXTERNAL] Support for Salinity Control in the Paradox Valley in Western Colorado

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Fri 2/14/2020 11:08 AM

**COMMENT LETTER 240**

To: McCarter, Molly E <mmccarter@blm.gov>

 1 attachments (153 KB)

PVU DEIS SCWC SUPPORT02142020.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Southern California Water Coalition (SCWC)  
**Sent:** Friday, February 14, 2020 11:06:44 AM (UTC-07:00) Mountain Time (US & Canada)  
**To:** BOR WCAO DL Paradox EIS  
**Cc:** Charles Wilson  
**Subject:** [EXTERNAL] Support for Salinity Control in the Paradox Valley in Western Colorado

Dear Mr. Warner,

Please accept this transmittal of the Southern California Water Coalition's letter in support of salinity control in the Paradox Valley in Western Colorado, signed by SCWC Executive Director Charles Wilson.

Sincerely,  
Lynn Lipinski  
Southern California Water Coalition



February 14, 2020

Mr. Ed Warner  
Area Manager  
U.S. Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, CO 81501  
VIA EMAIL TO PARADOXEIS@USBR.GOV

Re: Support for Salinity Control in the Paradox Valley in Western Colorado

Dear Mr. Warner:

We submit this letter in response to the U.S. Bureau of Reclamation's Draft Environmental Impact Statement for the Paradox Valley Unit (PVU) of the Colorado River Basin Title II Salinity Control Program.

On behalf of the 175 members of the Southern California Water Coalition, I want to express our support for efforts to reduce salinity in the water delivered to all those who rely upon the Colorado River Basin for supplies as our region does. Our member organizations include leaders from business, regional and local government, agricultural groups, labor unions, environmental organizations, water agencies and the general public.

High salinity impacts water users by increasing scaling potential on water-using devices, reducing agricultural crop yields, limiting groundwater recharge efforts, and reducing the usability of reclaimed water, among other impacts. Protecting the Colorado River's water quality is important to us and we support USBR's commitment to explore long-term alternatives to reduce salinity in the Colorado River from sources in the Paradox Valley.

For the past 45 years, the Colorado River Basin Salinity Control Forum has worked with federal agencies to implement beneficial salinity control measures. Salinity control measures have included improved irrigation practices, rangeland management for non-point source control, and deep-well brine injection through the PVU.

In the upper Colorado River Basin, the PVU historically has played a substantial role in salinity control. No other single project or group of projects with equivalent salinity reduction benefits (i.e., removal of 100,000 tons of salt annually) is ready for implementation. Therefore, as operation of the existing PVU well faces challenges and its future operation is uncertain, we support planning for the long-term replacement necessary to avoid significant basin-wide economic damages that some estimate could reach more than \$20 million annually. Continued salinity control in the Paradox Valley is critical to reducing salinity levels in the Colorado River, and we support a long-term replacement alternative that continues or exceeds the salinity reduction achieved by the existing project.

We recognize the considerable efforts taken by USBR to evaluate the environmental effects of salinity control alternatives in Paradox Valley. We appreciate the opportunity to provide our support during the DEIS comment period and look forward to receiving the Final EIS and Record of Decision that identify an alternative ensuring the long-term protection of the Colorado River and its tributaries.





USBR has demonstrated a strong commitment to reducing salinity levels in the Colorado River and collaborated with stakeholders who depend on the Colorado River as a source of drinking water. We thank you for your support of these efforts and appreciate your consideration to provide the resources necessary to continue managing salinity in the Paradox Valley. It is important to Southern Californians.

Best,

A handwritten signature in black ink, appearing to read "Charley Wilson", is displayed on a light beige rectangular background.

Charley Wilson  
Executive Director

FW: [EXTERNAL] DWCD Comments on PVU of the Colorado River Basin Salinity Control Program Draft EIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/18/2020 6:33 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 241**

1 attachments (140 KB)

DWCD Comments on PVU DEIS 2-18-20.pdf

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**From:** paradoxeis@usbr.gov On Behalf Of Ken Curtis

**Sent:** Tuesday, February 18, 2020 6:30:56 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Warner, Louis (Ed)

**Subject:** [EXTERNAL] DWCD Comments on PVU of the Colorado River Basin Salinity Control Program Draft EIS

Ed & Team,

Please see attached letter.

Ken Curtis

DWCD

O (970) 565-7562

M (970) 749-7099



# Dolores Water Conservancy District

60 S. Cactus St. • P.O. Box 1150 • Cortez, CO 81321

Phone: 970-565-7562 • Fax: 970-565-0870

Email: [dwcd@frontier.net](mailto:dwcd@frontier.net)

February 18, 2020

Ed Warner  
Area Manager, Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, Colorado 81501

Re: Dolores Water Conservancy Comments Concerning the Paradox Valley Unit Draft Environmental Impact Statement

Dear Mr. Warner:

I appreciate the chance to comment on the U.S. Bureau of Reclamation's (Reclamation) Draft Environmental Impact Statement (DEIS) dated December 6, 2019, for the Paradox Valley Unit (PVU) of the Colorado River Basin Salinity Control Program. Dolores Water Conservancy District (DWCD) remains a working partner with Reclamation on the Dolores Project that provides augmentation for PVU depletions. We appreciate Reclamation's many years operating the PVU to benefit the whole Colorado River Basin.

Geologic anomalies of Paradox Valley provide a unique opportunity to intercept the most concentrated single point source of salinity to the Colorado River. As the source of 7% of the system salinity, Reclamation can remove over 100,000 tons from the system annually from a single facility, which is unlikely from another single project.

The fundamental obligation of the Colorado River Basin Salinity Control Program is to achieve basin-wide salinity control that is important to all Colorado River water users to avoid the negative impacts from excessive salinity. DWCD supports Reclamation's continuation of activity in the Paradox Valley to gain the larger Basin system benefits. Failure to implement an action alternative (i.e., the continued removal of nearly 100,000 tons of salt annually) would cause salinity concentrations to increase in the Colorado River running counter to the mandate of the Colorado River Basin Salinity Control Act. Therefore, DWCD does not support the "No Action" Alternative A and further believes implementing an action alternative that continues salinity control by the PVU is necessary to avoid significant basin-wide economic damages.

Alternative B involves a new injection well similar to the existing facility that could face geologic unknowns that pose risks during construction, could limit its overall effectiveness to remove salt or shorten its projected life. Any unidentified risk would negatively affect the projected alternative's economics. The concern over additional local earthquakes also remains a concern. DWCD does not support Alternative B.

Alternative D, the zero liquid discharge operation, provides some positives that are outweighed by process complexity that poses risks to construction, performance and longevity that could all negatively affect the downstream Basin salinity and/or project economics. It is also subject to unpredictable future long-term power costs which could increase project operating costs. DWCD does not support Alternative D.

Based on the extensive Reclamation work to date, we support the Alternative C evaporative ponds as the best option to meet the purpose and need with the greatest certainty of achieving the EIS goals and objectives

- Has least unknown risks.
- Evaporation pond operations will require less energy than other alternatives thereby leading to a predictably lower carbon footprint and operating cost.
- Evaporation ponds create no seismic risk.
- Evaporation ponds provide the most certain design life span.
- The technology associated with the construction and operation of evaporation ponds is well established which will produce successful functioning as designed.

The evaporation pond alternative provides the clearest reliable cost-effective option for salinity control in the Paradox Valley with the greatest certainty in fulfilling the PVU mission to cost-effectively improve the water quality in the Colorado River System.

DWCD also supports continued operation of the existing PVU injection well to protect existing water quality until the Preferred Action Alternative is implemented. The existing well should also be considered for operation beyond a new implementation alternative as a supplement to any final action.

DWCD also backs the Colorado River Basin Salinity Control Forum's (Forum) efforts in support of salinity control projects throughout the Basin. The Forum acts as a common voice for the states on salinity matters and we look for their continued efforts to successfully extend the valued PVU operations with Reclamation.

In closing, DWCD appreciates working with Reclamation on the Dolores Project and Reclamation's significant effort expended in evaluating potential replacement alternatives for brine disposal at its PVU facility. We look forward to working with Reclamation on continuance of existing regimes that provide replacement water for PVU operations.

Sincerely,



Kenneth W. Curtis III  
General Manager, Dolores Water Conservancy District

FW: [EXTERNAL] Living Rivers et al. PVU Comments

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Tue 2/18/2020 8:59 PM

To: McCarter, Molly E <mmccarter@blm.gov>

2 attachments (8 MB)

PVU CommentsLivingRivers\_final.pdf; PVU\_Comments\_LivingRivers\_References.zip;

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**From:** paradoxeis@usbr.gov On Behalf Of Rica Fulton

**Sent:** Tuesday, February 18, 2020 8:53:28 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS; John Weisheit; Sarah Stock

**Subject:** [EXTERNAL] Living Rivers et al. PVU Comments

Dear Mr. Warner,

Please find our comments from Living Rivers & Colorado Riverkeeper, Upper Green River Network, Green River Action Network, Law Vegas Water Defender, and Canyonlands Watershed Council regarding the Bureau of Reclamation Paradox Valley Unit Draft Environmental Impact Statement. You will also find PDF versions of our references in a separate compressed folder for your records.

Thank you very much for the opportunity to comment on this important project, and please reach out with any questions or additional information.

I would appreciate if you would confirm your reception of this email and attachments.

Best regards,

Rica Fulton  
Program Director  
Upper Green River Network & Living Rivers



PO Box 466 • Moab, UT 84532 • 435-259-1063

February 19, 2020

Ed Warner, Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Sent via eMail: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Re: Comments on Draft Environmental Impact Statement for the Salinity Control Program at Paradox Valley, Colorado

Dear Mr. Warner,

## 1. Introduction

The following non-profit organizations present this letter to you and your colleagues in regards to the Paradox Valley Unit of the Colorado River Basin Salinity Control Program Draft Environmental Impact Statement (PVU DEIS): Living Rivers & Colorado Riverkeeper, Upper Green River Network, Green River Action Network, Las Vegas Water Defender and Canyonlands Watershed Council. Collectively, we are stakeholders of the Colorado River Basin. Most of our organizations are linked by a mutual affiliation to the Waterkeeper Alliance, an international movement of water activists.

Living Rivers is based in the community of Moab, Utah. We live, work and play above the salty rock layer known as the Paradox Formation. It is understood that we have experienced earthquakes resultant to the operations of a deep-injection well at the location of the Paradox

Valley Salinity Control Program near the Utah/Colorado state line.<sup>1</sup> We also understand the severity of the salinity problem. For example, when we do river trips in late summer, we can actually smell and taste the salt while traversing through the splash of whitewater waves, above and below the mouth of the Dolores River. We also acknowledge that this is a problem that needs an enduring basin-wide solution.

This comment letter will have two parts: (1) background and historical perspective; (2) a specific comments on the PVU DEIS. We will provide thoughtful comments for your consideration for implementing short-term goals of the Colorado River Basin Salinity Program, and will conclude that what the Salinity Control Program actually needs is a basin-wide programmatic EIS. The basin needs this information to approach the international community for a planetary climate agreement. This information will be respected by the international community, because it is a well-known fact that the Colorado River Basin is the ultimate, international case study for the present maladies that afflict every water management paradigm on six continents. This study should be independent of the current review process for 2007 Interim Guidelines, which will begin in early 2020 with a deadline of December 2025, as announced by Secretary Bernhardt on the 13th of December, 2019.<sup>2</sup> The appropriate first-step in developing a basin-wide programmatic EIS should be to reach out to the National Academy of Sciences for help in developing the outline for this study, and to assist in the peer-review of the first and final drafts.

## 2. Background

As written, the Salinity Control Act ([Public Law 93-320](#)) will not solve this basin-wide salinity problem in our lifetime.<sup>3</sup> Moreover, the threat of litigation that this law is designed to avert, will eventually occur. The litigation will likely come from a sovereign state, a sovereign nation, a county, a municipality, or even from rural and urban citizens, such as ourselves.

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<sup>1</sup> News feature by *Moab Sun News*: <http://www.livingrivers.org/pdfs/Press/AgingInfrastructureAffectingDoloresRiverCausingQuakesThreatsToWater.pdf>

<sup>2</sup> U.S. Department of the Interior. Dec. 13, 2019. Press Release. Following Year of Historic Progress in Colorado River Basin Interior Secretary Bernhardt Encourages Continued Cooperation to Protect Water Users and Environment. Available at: <https://www.doi.gov/pressreleases/following-year-historic-progress-colorado-river-basin-interior-secretary-bernhardt>

<sup>3</sup> The Salinity Control Act (1974). Available at: <http://www.onthecolorado.com/Resources/LawOfTheRiver/SalinityControl1974.pdf>

The present constructs of this program will never be sufficient to mediate this problem long-term. This is because human consumption has surpassed the natural supply of the Colorado River and because the trend of rising atmospheric and oceanic temperatures has been persistent. Consequently, the ability to store four-years of water in the “system” has been reduced to two-years. Today, the river water that plunges into Lakes Powell and Mead nearly equals the flow that leaves the reservoirs. In the last 100-years, the system’s annual average yield dropped 3 million acre-feet, despite the wetter episodes of the 1980s and 1990s. The temporary gift of increased flows and dilution during that extraordinarily wet time is what actually relieved the pressing salinity problem that occurred in the 1970s, even before the injection well at Paradox Valley became operational and before the completion of the Yuma Desalination Plant.

The deep, underground injection of briny groundwater near Bedrock, Colorado, is a program that had an effective lifespan of only 20-years, and a potentially dangerous geophysical outcome. This is not comforting when considering the increasing vulnerabilities that await 40 million people and countless sensitive species of the basin’s aquatic and riparian habitats. The preceding trend of losing 30,000 acre-feet per year due to increased temperatures will not relent in the 21st century—it will likely double to 60,000 acre-feet per year.<sup>4</sup> The model run of Colorado River Simulation System for [Trace 21](#) published in Final Environmental Impact Statement of the 2007 Interim Guidelines indicates that hydropower production in the basin will likely cease for long episodes.<sup>5,6</sup> Trace 21 was also simulated as an exercise in a [planning scenario](#) for the 2012 Basin Study.<sup>7</sup> These scenario planning simulations are important because it is hydropower revenues that pay the expenses for the Salinity Control Program and the programs for the recovery of endangered species.

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<sup>4</sup> Udall and Overpeck, 2017. The 21st Century Colorado River Hot Drought and Implications for the Future. Available at: <http://www.riversimulator.org/Resources/ClimateDocs/21CenturyColoradoRiverHotDroughtImplicationsForFuture2017Udall.pdf>

<sup>5</sup> Graphs of Trace 21. Mead Powell 2007 FEIS. Chapter 4. Available at: <http://www.riversimulator.org/Resources/Graphs/TracesNo.1.21.48MeadPowell2007FEISChap4.pdf>

<sup>6</sup> Barnett and Pierce, 2008. When will Lake Mead go dry? Available at <http://www.riversimulator.org/Resources/ClimateDocs/2008BarnettPierce.pdf>

<sup>7</sup> Bureau of Reclamation. 2010. Colorado River Water Supply & Demand Study Draft. Available at: <http://www.riversimulator.org/Resources/USBR/BasinStudy/Trace21/Trace21CPSscenarioV2.pdf>

The other lesson learned from the freshets that occurred in the 1980s is that the basin's flood control policy is wholly inadequate. The five-month snow melt volume of 1983 was about 15 million acre-feet. The conversations that occurred during the Basin Study of 2012 informed us that snow melt volumes of 50 million acre-feet may occur in the future.<sup>8</sup> Paleoflood hydrology research in the Colorado River Basin (CRB), and the Salton Through, tell us that high magnitude floods happened during the Medieval Warming Period, during the Little Ice Age Period, and even when ocean temperatures were stable. This indicates that the basin's water infrastructure is not prepared for any climate regime. The [paleoflood hydrology study](#) performed in the watershed of the Dolores River in 2010 informs us that flood control protocols at McPhee Dam will someday be seriously challenged, much like the incident of Oroville Dam in February of 2017.<sup>9</sup> Events of this magnitude could compromise Reclamation's infrastructure on the floodplain of the Dolores River at the Paradox Valley facilities for salinity control.

The performance of the El Niño Southern Oscillation has been seriously compromised in the CRB since 1997. This dysfunction in global circulation patterns is attributed to increasing temperatures of the oceans and the atmosphere, over time. Solving the salinity problem in the CRB includes solving the problem of global circulation patterns, which means reducing greenhouse gas emissions, as quickly as possible.<sup>10</sup> Thus, this is an international problem and not a regional problem. The states of the CRB and the federal government are not responsive toward developing an international movement to reduce greenhouse gas emissions at a planetary scale. This critical proactive consideration is also lacking at every level in the Cabinet of the United States.

### **3. The missteps that lead to our current problems with salinity in the Colorado River Basin**

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<sup>8</sup> Colorado River Commission of Nevada: <http://www.riversimulator.org/Resources/Testimony/Seegerblom/2017/ColoradoRiverCommissionNevadaHarkin2017.pdf>

<sup>9</sup>Cline, M.L. (2010). Extreme Flooding in the Dolores River Basin, Colorado and Utah: Insights from Paleofloods, Geochronology and Hydroclimatic Analysis. The University of Arizona. Available at:<http://www.riversimulator.org/Resources/Hydrology/DoloresRiverPaleofloodStudy2010Cline.pdf>

<sup>10</sup> Stationarity is Dead: Whither water management; Milly et al., 2008. <http://www.riversimulator.org/Resources/ClimateDocs/MillyBetancourt2008.pdf>

The salinity problem is a systemic failure of an inherited planning process beginning in 1902 with Congressional passage of the Reclamation Act. The way we understand the Salinity Control Program is best expressed by a quote from Professor Donald Worster:

“As the irrigation system approaches maximum efficiency, as rivers get moved around with more and more thorough, consummate skill, the system begins to grow increasingly vulnerable, subject to a thousand ills that eventually bring about its decline. Despite all efforts to save the system, it breaks down here, then there, then everywhere.”<sup>11</sup>

The decision to allow trans-basin diversions of pristine water at the stony headwaters of the Colorado River and its tributaries was the first misstep in the CRB planning process for water resource management. In this case, a trans-basin diversion means Colorado River water is intentionally diverted into the watersheds of the Mississippi River and the Rio Grande. This pristine water is better served downstream to dilute the salt and heavy metal pollution that occurs once the main stem and tributaries of the Colorado River encounter the marine, sedimentary rock layers of the Colorado Plateau Province. Additional trans-basin diversions continue from the middle and lower reaches of the Colorado River, and are intentionally diverted into the Great Basin Province and the coastal plain of Southern California. All these diversions serve to aggravate the salinity problem in the basin.

The second misstep was allowing irrigation waste water in the Basin and Range Province to fill an artificial, terminal lake below sea level at the Salton Through. Not only did this sump, also known as the Salton Sea, create a false habitat of ever-increasing salt, heavy metals and toxic industrial chemicals for wildlife to ingest, it has also created a serious air pollution problem for nearby residents that breathe the fugitive dust, which emanates from the margins of this stagnant sump during the windy days.<sup>12</sup>

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<sup>11</sup> Worster, D. (1993). *The wealth of nature: Environmental history and the ecological imagination*. New York: Oxford University Press.

<sup>12</sup> Desert Sun news feature: <https://www.desertsun.com/story/news/environment/2019/10/22/imperial-county-declares-salton-sea-emergency-demands-california-take-action/4064788002/>

Additionally, in the case of the nearby Welton-Mohawk Irrigation and Drainage District, the salty wastewater sump is the closed aquifer beneath the fields. Like the Paradox Valley Unit, this groundwater is captured by electric pumps and transferred to a conveyance system that terminates in Mexico, which incidentally created a wetland habitat for sensitive wildlife that includes threatened and endangered species. The intended treatment of this saline water is a desalination plant in the floodplain near the Gila/Colorado confluence, which was built to complete and then quickly damaged by floodwaters. This facility is largely non-operational for reasons of insufficient funding. A choice to make this desalination plant fully operational means the artificial wetland, now helpful to a wildlife community, would be sacrificed.<sup>13</sup>

The third misstep was overbuilding the CRB's storage capacity with facilities located in the hottest deserts of North America. Approximately 11 million acre-feet of flow per year has been stalled in these reservoirs for a time-period of about four-years, which then evaporates about 1.5 to 2 million acre-feet each year, which cumulatively increases salinity levels in the water column of each reservoir. That four years of stall is now two-years and soon it will be one-year, and eventually the system will operate as it did before the fulfillment of the Boulder Canyon Project Act. We then will have moved to a flow regime known as "run of the river." When that situation arrives the flowing river will remobilize all the stored sediment contained in the reservoirs, which includes elements that will damage water quality for dependent wildlife and people. Northcutt Ely, Walter B. Langbein and Luna B. Leopold are a few of the individuals who alerted the states and Reclamation to the problem of building redundant reservoir infrastructure.<sup>14,15,16</sup> They warned of escalating evaporation and diminishing return on investment.

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<sup>13</sup> Cronkite News feature: <https://cronkitenews.azpbs.org/2018/05/02/yuma-plant-meant-to- conserve-water-will-cost-millions-to-update/>

<sup>14</sup> Light on the Mexican Water Treaty. <http://www.riversimulator.org/Resources/LawOfTheRiver/ LightMexicanTreatyElyCRWUA1946.pdf>

<sup>15</sup> Water Yield and Reservoir Storage in the United States. <http://www.riversimulator.org/Resources/ Hydrology/WaterYieldAndReservoirStorageUSA1959Langbein.pdf>

<sup>16</sup> Probability Analysis Applied to a Water-Supply Problem. <http://www.riversimulator.org/Resources/ USGS/Leopold1959.pdf>

Permining the Dolores River Project, a large scale inter-basin water transfer, that facilitates irrigation of the saline soils of the San Juan River Basin, was the fourth misstep. Permining this project was counter to mitigating salt inputs at the Paradox Valley Unit. It must also be appreciated that saline springs are not isolated to just the Dolores River. They are abundant and scattered wherever the river and tributaries have contact with the Paradox Formation.

The fifth misstep was full enforcement of maximizing human consumption for the sole-purpose of dominating the natural wealth of Colorado River Basin, which is an impossible mandate to achieve because the overarching goal of nature is to share and optimize that wealth with all living communities. The current water management scheme works against laws of nature and, in time, will be forcefully corrected. There is no question that this “[Cadillac Desert](#)” is headed to the junkyard and there is no time to waste.<sup>17</sup> Reclamation must accept the need and purpose to conduct a basin-wide programmatic Environmental Impact Statement that carries a theme of self-correcting all the system imbalances. This proposed effort should be a time-scaled, multi-generational process beginning immediately to avoid an assured and terminal situation. We think Reclamation already knows what to do and we want you to please consider that this process is the only way to truly honor the values of the three C’s: collaborate, communicate and cooperate.

#### **4. Additional water should be released from McPhee Dam to mitigate salinity**

Reducing the volume of the inter-basin diversion from the Dolores River to the San Juan Basin, and increasing the quantity of water released downstream, would supplement Reclamation’s action towards reducing salt loads in Paradox Valley. Reduced flows lead to higher concentrations of salinity in all river systems, which has especially compounded the salinity issue for the Dolores River. Since the construction of the Dolores Project, the magnitude, frequency, and duration of spring peak flows have decreased by 30% before McPhee Dam was

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<sup>17</sup> Sabo, J.L. et al. (2010). Reclaiming Freshwater Stability in the Cadillac Desert. PNAS. Available at: <http://www.riversimulator.org/Resources/ClimateDocs/ReclaimingFreshwaterSustainabilityInTheCadillacDesertSabo2010.pdf>

constructed to 69% aVer McPhee was built and in operaHon.<sup>18</sup> In many ways the Dolores River can be seen as a microcosm of the Colorado River, in that they both have a high-volume of trans- and intra-basin diversions, over-allocated water rights, intense natural variability, presence of NaHve Americans, and high-quality recreaHonal opportuniHes.

We understand releasing more water downstream to miHgate salinity is challenging in the over-allocated system, as currently, only 700 acre-feet a year is allocated specifically for the Paradox Valley Unit (PVU). However, ReclamaHon, as the primary owner and operator of the Dolores Project alongside the Dolores Water Conservancy District (DWCD), has a responsibility to manage the river downstream of McPhee Dam, as well as to the larger Colorado River. We suggest that the efficiency of water used by Dolores Project Full-Service Farmers and Montezuma Valley IrrigaHon Company (MVIC) be studied by the ReclamaHon in order to understand how private and federal water systems are funcHoning. Outcomes from such an exercise may lead to installaHon of more water-efficient delivery systems (parHcularly on out-dated MVIC infrastructure) with “saved” water allocated downstream in a manner consistent with a more natural flow regime.

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## 5. Comments on Alterna+ve A: No Ac+on

We prefer AlternaHve A over B1, B2 and C. No acHon is be] er than destroying wild and criHcal landscapes for short-term salinity miHgaHon. Project money could be used instead in the Lower Colorado River Basin and in Mexico to improve farming prachces and exisHng salinity control faciliHes. Improving criHcal habitat for wildlife is a high-value goal that should never be sacrificed by any alternaHve.

## 6. Comments on Alterna+ve B: New Deep Injec+on Well

We strongly oppose every aspect of AlternaHve B1 and B2. First, we oppose the construcHon of the B1 well site within the Dolores River Canyon Wilderness Study Area (WSA) near Wild Steer

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<sup>18</sup> Core Science Report for the Dolores River Dialogue, 2005. Available at: <http://ocs.fortlewis.edu/drd/pdf/coreScienceReport.pdf>

Canyon. The wilderness qualities of this area are unmatched and need to be protected at all costs, which explicitly includes not allowing machinery or development occur. Benefits of this area include world-class rafting recreational opportunities, wildlife and fish habitat, and myriad cultural sites. Secondly, the construction of roads and bridges would also decrease water quality by increasing sedimentation and other chemicals, and disturb high-quality animal habitat such as bighorn sheep. Page 3-34 of the draft EIS states that: "the Dolores River, Wild Steer Canyon, La Sal Creek, West Paradox Creek, along with the associated riparian corridors and agricultural fields, offer the most suitable habitat for waterfowl and shorebirds in the area." As the EIS postulates, it is important to maintain the integrity of the riverside area along the Dolores and the stated tributaries for bird habitat. Thirdly, deep-injection wells have clearly shown to cause seismic activity, which may cause immense damage to the river corridor, wildlife, and local residents. We understand that another well, even in a different layer, would subsequently cause earthquake activities in years to come.

## **7. Comments on Alternative C: Evaporation Ponds**

We are concerned about impacts to birds, elk, mule deer, water resources, and landowners stemming from actions in Alternative C. Given the entire project area is 600-acres, actions would impair critical habitat for elk and mule deer habitat, which would be disturbed with increased activity and the presence of evaporation ponds. The study area sits on top of the ephemeral East Paradox Creek, prone to flashy and unpredictable conditions. The currently-inactive USGS gage has records of floods of almost 400 cfs<sup>19</sup> times, which could potentially flood the site and carry salt directly into the Dolores River. Finally, landowners in the area may find issue with the aesthetics of the ponds, as well as their impacts to big game, in which many landowners rely on private hunting tags to supplement income.

## **8. Comments on Alternative D: Zero Liquid Discharge Technology**

We are open to considering Alternative D, as it would discharge filtered water into the river, create much needed jobs in the region, especially with the shutdown of Nucla Power Plant. We

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<sup>19</sup> [https://nwis.waterdata.usgs.gov/usa/nwis/peak/?site\\_no=09169800](https://nwis.waterdata.usgs.gov/usa/nwis/peak/?site_no=09169800)

do reiterate the importance of conducting a more in-depth EIS if Alternative D is chosen. Some aspects may need to be improved, however. Constructing solar panels at suitable locations in order to meet high energy requirements is suggested to mitigate any need to develop additional power lines. New natural gas pipelines should not cross the floodplain of the Dolores River in case a flood, leak or spill were ever to occur, in particular with the frequency of seismic activity in the region. Further, it is important that water being discharged into the Dolores River be filtered to an appropriate extent by current WOTUS (Waters of the United States) standards that include ephemeral water bodies and wetlands.

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## 9. Conclusion

We would like to thank the Bureau of Reclamation for conducting public information sessions and providing the opportunity to comment on this important project. We also appreciated that the comment period was extended from February 4 to February 19. We hope Reclamation will consider our request for a programmatic basin-wide EIS, as well as direct comments towards the proposed PVU in Paradox Valley and adopt the no-action Alternative A.

Sincerely yours,

John Weisheit, Co-founder  
Living Rivers & Colorado Riverkeeper

Rica Fulton, Program Director  
Upper Green River Network

Sarah Stock, Program Director  
Living Rivers & Colorado Riverkeeper

Lauren Wood, Program Director  
Green River Action Network

Tick Segerblom, Program Director  
Las Vegas Water Defender

Dave Erley, President  
Canyonlands Watershed Council

FW: [EXTERNAL] San Juan Citizens Alliance Comments Paradox Valley DEIS

**COMMENT LETTER 243**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 9:01 AM

To: McCarter, Molly E <mmccarter@blm.gov>

2 attachments (1 MB)

SJCA DEIS Comments 02.17.2020.pdf; ATT00001.htm;

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**From:** paradoxeis@usbr.gov On Behalf Of Mark - SJCA

**Sent:** Wednesday, February 19, 2020 8:58:10 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Larson, Gregory P; Ben-Horin, Dan

**Subject:** [EXTERNAL] San Juan Citizens Alliance Comments Paradox Valley DEIS

Please find our comments attached. Thank you.

Mark Pearson



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February 17, 2020

Bureau of Reclamation  
Attn: Ed Warner, Area Manager  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Letter sent via email to: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Re: Paradox Valley Unit Draft EIS

Dear Mr. Warner:

We are providing these comments on the Paradox Valley Unit Draft EIS. San Juan Citizens Alliance has a long history of interest in the Dolores River Canyon, and previously submitted scoping comments in 2012. We have grave concerns about many aspects of the identified alternatives. We are particularly concerned by Alternative B1 which would significantly impair the wilderness character of the Dolores River Canyon Wilderness Study Area (WSA) and the outstandingly remarkable values of the eligible Dolores wild and scenic river.

Alternative B1 is unlawful and violates the Federal Land Policy and Management Act's unambiguous mandate to maintain the Dolores River Canyon WSA in an unimpaired condition, and violates the Wild and Scenic Rivers Act's requirement to retain the outstandingly remarkable values of eligible river segments.

The toxic evaporation ponds of Alternative C would cause significant mortality to birds and violate the Migratory Bird Treaty Act, which prohibits agencies from intentional and incidental take of migratory birds.

Other alternatives are incompatible with existing management plan direction, pose unredeemable conflicts with high value recreation activities, and create insurmountable impacts to wildlife.

We recommend that the Bureau of Reclamation select the No Action Alternative A at this point, or instead pursue development of additional alternatives that minimize impacts to wildlands, wild rivers, scenic resources, archeological sites, wildlife, areas of critical environmental concern, and recreation – all of which are negatively impacted to an unacceptable degree in the current configuration of alternatives. None of the alternatives,

other than No Action, achieves the project goal to “avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in the affected environment.” The DEIS does not provide evidence the alternatives other than No Action achieve the stated goals.

Additional alternatives should be developed and evaluated. These could include non-structural options like modification of Dolores River flows, or alternative structural options with less impactful locations or approaches.

### **PURPOSE AND NEED**

The DEIS identifies the project’s purpose as the reduction of salinity levels in the lower Colorado River Basin. It would be most advantageous to reviewers for the DEIS to provide a baseline assessment of the benefit of the past 30 years of operation of the Paradox Valley Unit of the Colorado River Basin Salinity Control program. The program has removed apparently several million tons of salt. Has there been a corresponding observed reduction in salinity a thousand miles downstream at Imperial Dam?

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Specifically, the brine injection facility has been off-line for much of the past year. What has been the observed impact to salinity levels at Imperial Dam as a consequence of the Paradox Valley Unit’s cessation? Is there a measurable impact of brine injection at the point of salinity level measurement at Imperial Dam?

Has there been a cost-benefit analysis of devoting additional resources to other known major source contributors, like the agricultural operations in the Uncompahgre Valley and the Grand Valley, that might suggest more bang for the buck in amplifying efforts there instead of the Paradox Valley Unit?

### **PROJECT GOALS**

The DEIS evaluates alternatives against project goals that include:

- Remove approximately 100,000 or more tons of salt per year that would otherwise enter the Dolores River and the downstream Colorado River.
- Optimize the annual cost per ton of salt removed.
- Avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in the affected environment.
- Minimize the use of nonrenewable resources, including land and energy
- Be consistent with existing BLM resource management plans (RMPs), where applicable.
- Be in the best interest of the public, including considerations of health and safety and the local community’s desired future conditions

Unfortunately, it appears none of the analyzed alternatives come close to satisfying these goals. As is described in our comments that follow, while perhaps the goal of removing salt might be achieved by some of the action alternatives, these alternatives other than No Action bring significant adverse impacts, conflict with existing BLM management plans and policies, violate the law, and are not in the public's best interest.

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### **IMPAIRMENT OF DOLORES RIVER CANYON WSA VIOLATES FLPMA**

Following the direction of the Federal Land Policy and Management Act of 1976 (FLPMA), the Dolores River Canyon WSA was designated by the BLM in 1980. The Department of Interior subsequently recommended to Congress in 1991 that the area be added to the National Wilderness Preservation System.

Alternative B1 as described in the DEIS entails the construction of a brine injection well 1.3 miles south of the current injection well. Alternative B1 requires directionally drilling from this site at the confluence of Wild Steer Canyon underneath the WSA in order to get southwest of a defining fault block, and/or running a pipeline beneath the cliff to a vertical injection well site on Skein Mesa above the rim.

The BLM's 1991 wilderness recommendation includes lands adjacent to and surrounding the proposed site of the brine injection well in Alternative B1, and also designates as wilderness the location of the proposed pipeline from the Dolores River Canyon to Skein Mesa.

Legislation is now pending in Congress to act on this recommendation. H.R. 2546, the Colorado Wilderness Act of 2019, incorporates the BLM's wilderness recommendation and would designate as wilderness the lands under which the Bureau of Reclamation intends to drill a pipeline.

The DEIS summarizes the wilderness character of the WSA: "It offers outstanding natural scenery, ecological diversity, and opportunities for solitude and primitive, unconfined recreation." (DEIS at 3-58) FLPMA affirmatively directs the BLM to maintain this wilderness character of Dolores River Canyon WSA in an unimpaired condition:

Sec. 603(c) During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness...

BLM has converted this legislative requirement into policy articulated in BLM Manual 6330, Management of BLM Wilderness Study Areas.

For a proposal to be consistent with the non-impairment standard, it has to be both temporary and not create surface disturbance. The Wilderness Study Area includes all surface and subsurface features. As the DEIS notes, Alternative B1 creates permanent impairment because of the permanent nature of the proposed pipeline through the WSA.

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The directional injection well and high-pressure transmission pipeline connecting the BIF to the well head on Skein Mesa would result in permanent placement of subsurface facilities in the WSA. This would not meet the BLM non-impairment standard. (DEIS at 3-60)

Thus, Alternative B1 fails to meet this standard because it is not temporary.

**In brief, Alternative B1 violates FLMPA's requirement to maintain the wilderness character in an unimpaired condition. Alternative B1 is not a lawful alternative, and for that reason alone must be rejected.**

The DEIS attempts to override the WSA management policy by referring to an exception that generically describes other legal obligations, and cites the Colorado River Basin Salinity Control Act as such an obligation. This citation to the Colorado River Basin Salinity Control Act as overriding BLM's FLPMA requirements to maintain unimpaired the WSA's wilderness characteristics fails on multiple counts.

First, BLM's WSA management policy states that BLM should pursue other options to implement the project outside the WSA:

"If an impairing proposed project—even one that meets an exception—can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that the project is implemented outside the WSA." (BLM Manual 6330 - 1.6.C.2)

The DEIS details various other options that can be implemented outside of the Dolores River Canyon WSA that can accomplish the salinity reduction objectives of the Paradox Valley Unit. The DEIS details these alternatives as B2, C and D, all of which are entirely located outside of the WSA. BLM has no justification to except the WSA management policy for Alternative B1, given these other viable and reasonable alternatives outside the WSA as detailed in the DEIS.

Second, the policy states explicitly that BLM should carry out any activities necessary to meet other obligations in the least impairing manner possible:

"Activities required to meet obligations imposed by other laws are allowed even though they may violate the non-impairment standard. Such activities should, however, be carried out in the least impairing manner practicable." (BLM Manual 6330 - 1.6.C.2.g)

Again, given the viability of other alternative activities as documented in the DEIS to meet obligations under the Colorado River Basin Salinity Control Act, BLM should not authorize impairment under Alternative B1.

Third, the Colorado River Basin Salinity Control Act does specify locations or require construction of a particular facility or any facility whatsoever on the Dolores River

upstream of Bedrock. The Act just generally describes a Paradox Valley Unit in Montrose County, Colorado. It does not provide an obligation to site an injection well at the location of Alternative B1.

“SEC. 202. The Secretary is authorized to construct, operate, and maintain the following salinity control units as the initial stage of the Colorado River Basin salinity control program. (1) The Paradox Valley unit, Montrose County, Colorado, consisting of facilities for collection and disposition of saline ground water of Paradox Valley, including wells, pumps, pipelines, solar evaporation ponds, and all necessary appurtenant and associated works such as roads, fences, dikes, power transmission facilities, and permanent operating facilities.” (Public Law 93-320)

Lastly, the Colorado River Basin Salinity Control Act does not override other federal laws, and nothing in the legislation directs the Department of Interior to ignore FLPMA or the legislative mandate to protect WSA’s unimpaired until Congress acts. The Department of Interior is still required to comply with all federal laws, including FLPMA, in implementing the Colorado River Basin Salinity Control Act. Sec. 207 of the Salinity Control Act explicitly notes that nothing in the Act “shall be construed to alter, amend, repeal, modify, interpret, or be in conflict with the provisions of” a whole set of other federal laws, including specifically NEPA and the Federal Water Pollution Control Act, among others. There is no rationale to surmise that for some reason FLPMA (enacted in 1976) is altered, amended, repealed or modified since none of the other relevant federal laws in place in 1974 were affected by the Salinity Control Act.

To summarize, since there are other alternatives outside the WSA that would satisfy implementation of the Paradox Valley Unit of the Colorado River Basin Salinity Control Act, it is incorrect to say an exception to non-impairment has been met. As well, FLPMA says BLM “shall” not allow impairment; this does not provide for BLM to authorize discretionary activities like salinity reduction facilities. The Salinity Control Act does not require specific action in the WSA, and does not override FLPMA.

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In conclusion, there is no defensible justification for BLM to ignore the plain requirements of FLPMA to protect the wilderness character of Dolores River Canyon WSA.

## **IMPACTS TO WILD AND SCENIC OUTSTANDINGLY REMARKABLE VALUES**

### **Alternative B1 poses direct, significant impacts to the identified Outstandingly Remarkable Value of the eligible Wild and Scenic River.**

The DEIS describes Alternative B1:

The access road to the new BIF would extend 1.3 miles past the existing BIF and would require two new bridge crossings of the Dolores River. A buried low-pressure pipeline and aboveground electric distribution lines would be constructed from the existing BIF to the new proposed BIF location. (DEIS at 2-8)

These proposed facilities are located in a river corridor that received at least 5,300 visitors in 2019 according to estimates provided by BLM’s Tres Rios Field Office. This is an

undeveloped section of river canyon, presently lacking any roads, bridges, powerlines, pipelines, lights, or other type of intrusion. BLM has identified resources summarized as Outstanding Remarkable Values in its evaluation of eligibility for protection under the Wild and Scenic Rivers Act. These Outstanding Remarkable Values (ORVs) documented by BLM consist of the following, as detailed in the Tres Rios Field Office Resource Management Plan and Record of Decision, Appendix D.

- Recreation and Scenery: one of the most popular and beautiful rafting areas in southwest Colorado.
- Fish and Wildlife: This segment contains occupied roundtail chub (*Gila robusta*), flannelmouth sucker (*Catostomus latipinnis*), and bluehead sucker (*C. discobolus yarrowi*) habitat.
- Geology: There are dramatic Cretaceous sandstone cliffs throughout the canyon, and in some areas the geology has confined the canyon to a uniquely persistent linear and angular form.
- Ecology: The segment contains the New Mexico privet (*Forestiera neomexicana*), which is extremely rare or imperiled globally, and Eastwood's monkeyflower (*Mimulus eastwoodiae*), which is extremely rare or imperiled within the state and rare globally.
- Archeology: Archeological sites evidence at least 11,000 years of inextricable connection between the Dolores River and the area's human inhabitants.

The DEIS analyzes the anticipated impacts to the outstandingly remarkable values of these eligible Wild and Scenic River segments:

Under Alternative B in Area B1, the scenic and recreational ORVs for eligible river segments, with a preliminary classification of recreational and wild, would be negatively affected. There would be direct effects to the recreational segment and indirect effects to the wild segment. (DEIS at 3-59)

The DEIS describes the impacts to scenery caused by construction of roads, bridges, and associated facilities:

For river segments with a preliminary classification of wild, the scenery would be altered due to the new injection well facilities, which include two new bridges over the Dolores River, overhead power lines, a new access road, and associated infrastructure constructed on Reclamation land (see Section 3.12). Impacts on scenic ORVs would be minor since the topographic features—the canyon walls and hills—and dense riparian vegetation along the banks screen views from the river. (DEIS at 3-59)

The DEIS appropriately notes the impacts to scenic ORVs, However, the DEIS makes unsubstantiated claims to the impacts perceived from views at the river level. Bridges obviously create a substantially noticeable new impact, as does a powerline, for starters. These cannot be dismissed as minor.

The DEIS also fails to account for other forms of visitation to the river corridor and impacts on the scenic ORVs. For example, the Dolores River Trail (as detailed by the West End

243.05

Trails Alliance (<https://www.westendtrails.org/dolores-river-trail/>) traverses the river corridor from Bedrock boat launch upstream to the confluence with La Sal Creek. The trail's "best feature" is described as "great views from inside the Dolores River Canyon." The new injection well facilities, access road, two bridges and powerline would be immediately adjacent to the Dolores River Trail and will dramatically degrade the outstandingly remarkable scenic values of the river corridor for recreational trail users.

BLM policy requires protection of outstandingly remarkable values of identified rivers. (BLM Manual 6400, Chapter 3.5) In this case, given the degradation of outstandingly remarkable scenic values, BLM policy directs the agency to use its discretion to deny issuance of rights-of-way.

For BLM-identified eligible and suitable rivers, the BLM should consider exercising its discretion to deny applications for right-of-way grants if the BLM determines through appropriate environmental analysis that the right-of-way proposal is not compatible with the river's classification and the protection and enhancement of river values. (BLM Manual 6400, Chapter 3.6 C)

The right-of-way required by Alternative B1 is not compatible with the protection and enhancement of identified outstandingly remarkable scenic values, and BLM should deny application for this alternative, in conformance with its policy direction and with purpose of the Wild and Scenic Rivers Act.

The DEIS also describes adverse impacts to the outstandingly remarkable values of the recreational segment. These also can be discretionally avoided if BLM denies the right-of-way application.

For river segments with a preliminary classification of recreational, the vegetation ORV and free-flowing condition would be adversely affected. (DEIS at 3-59)

It is also worth highlighting here that the recreational classification of river as it traverses the Bureau of Reclamation parcel is inappropriate. The river corridor here is free of any impoundments or flow modifications, is roadless, and is entirely undeveloped in precisely the same fashion as the adjacent wild segment on BLM lands. The appropriate river classification, according to the interagency National Wild and Scenic Rivers System website, is "wild river." Wild Rivers are "Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted." This exactly describes the Dolores River through the segment that Bureau of Reclamation intends to construct a new road, bridges, and injection well facilities. The river from the BLM/Bureau of Reclamation boundary downstream to the current injection well is free of impoundments and inaccessible except by trail. In contrast, Recreational Rivers are "Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past." This description appropriately describes the segment farther downstream starting at the current brine injection facility, but is clearly inaccurate when applied to the undeveloped section of river canyon. ([www.rivers.gov](http://www.rivers.gov))

In summary, BLM cannot approve issuance of a right-of-way for Alternative B1 in compliance with its policy direction and guidance for managing wild and scenic river candidates.

### **THE ALTERNATIVES CONFLICT WITH BLM MANAGEMENT PLANS**

Several of the DEIS alternatives could substantially impair the purpose for proposed areas of critical environmental concern (ACEC) recommended for designation in BLM's Uncompahgre Field Office Proposed Resource Management Plan.

BLM's proposed Paradox Rock Art ACEC is adjacent to the large salt evaporation ponds proposed in Alternative C. These would greatly diminish the setting of the Paradox Rock Art ACEC

The nominated Paradox Rock Art ACEC is located in the eastern part of Paradox Valley. It contains important rock art and archaeological sites, including several outstanding examples of Ancestral Puebloan style petroglyphs, Formative period and earlier occupations, features and isolates, and settled village sites dating more than five hundred to a thousand years old. The site is rare for its northern extent of Anasazi rock art and occupation. (Uncompahgre Proposed RMP FEIS at 4-170).

243.06

In addition, BLM proposes that "the 1,080 acres in the Paradox Rock Art Complex would be managed as a National Register District."

For cultural resources, a significant adverse impact would be the loss of those elements that make them eligible for listing on the National Register of Historic Places due to the extent or degree to which resources are damaged, their physical integrity is lost, or the setting of the resource is damaged. Siting over a thousand-acre salt evaporation pond facility adjacent to a National Register District site would create significant adverse impacts by enormously modifying the setting of the Paradox Rock Art site.

The ACEC is to be managed to protect quiet recreation use (Uncompahgre Proposed RMP FEIS at 4-301). Constructing an industrial facility adjacent to the ACEC does not conform to the proposed RMP's direction for quiet recreation use.

The proposed RMP requires the development of a Cultural Resource Project Plan that develops site-specific management objectives and actions for all Scientific, Conservation Use, Traditional Use, and Public Use (Uncompahgre Proposed RMP FEIS at 2-43). Until this cultural resource project plan is completed, BLM cannot ascertain whether an industrial evaporation pond facility is compatible with the management objectives of the Paradox Rock Art ACEC.

The DEIS contains no specific analysis of impacts of Alternative C on the proposed Paradox Rock Art ACEC. The DEIS acknowledges the existence of BLM's proposed National Historic District (DEIS at 3-76). The DEIS also admits that "visual degradation of the setting associated with significant cultural resources, including rock art sites, could result from development. This could affect significant cultural resources for which visual integrity is a

243.07

component of their significance, such as sacred sites and landscapes and historic trails and landscapes.” (DEIS at 3-77).

**In the context of the project’s stated goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public, Alternative C fails on all counts and must be discarded.**

BLM’s proposed Biological Soil Crust ACEC is adjacent to the location of the Zero Liquid Discharge facility proposed in Alternative D. This ACEC was identified via field surveys in 2009:

The survey discovered that the soils in the inventory area are derived from the Paradox Formation, and are highly gypsiferous. These soils tend to support a higher than normal density and species diversity of biological soil crusts.

The inventory also resulted in the documentation of the occurrence of two species of biological soil crusts that are somewhat rare and typically found only on gypsiferous soils. The two species are: *Lecanora gypsicola* and *Gypsoplaca macrophylla*. The identification of these species was verified by Dr. Larry St. Clair, Lichenologist at Brigham Young University. Dr. St. Clair conveyed via e-mail to Jessie Salix that he felt the lichens were in need of protection for two reasons: 1) they occur exclusively on gypsiferous soils, a limited habitat that is commonly mined, 2) Dr. St. Clair has only observed these two species on less than half of the gypsiferous sites he has inventoried. (Uncompahgre Proposed RMP FEIS at O-30).

The ACEC is proposed specifically to protect these sensitive soils from surface disturbance. Unfortunately, the DEIS explicitly excluded from analysis impacts to biological soil crusts. (DEIS at 3-70) The DEIS contains no acknowledgement of the proximity of the ACEC to the Zero Liquid Discharge facility.

Given the intentional omission of analysis of impacts to biological soil crusts, it is not possible to ascertain whether Alternative D would achieve the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public.

243.08

## **SCENIC VALUES IMPACTS**

The Uncompahgre Proposed RMP classifies much of Paradox Valley as VRM Class II.

VRM Class II management requires a high degree of screening to ensure that man-made intrusions do not attract the attention of the casual observer. Where this degree of screening cannot be achieved, the intrusion would not be allowed. (Uncompahgre Proposed RMP FEIS at 4-268).

The salt evaporation ponds and facilities across 1500 acres envisioned in Alternative C would create unacceptable intrusions incompatible with VRM Class II designated areas of Paradox Valley. For this reason, the DEIS acknowledges that Alternative C would not be “in

conformance with the interim visual resource management objectives of the UFO RMP. An amendment to the UFO RMP would be required.” (DEIS at ES-10)

The significant visual impacts of Alternative C cannot be avoided. Again, this is further evidence that Alternative C fails to meet the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public. As a result, Alternative C should be discarded from further consideration.

### **ALTERNATIVE C POSES UNACCEPTABLE IMPACTS TO WILDLIFE**

Alternative C will likely cause major wildlife mortality, as described in detail in the DEIS and in Appendix J. As summarized in Appendix J:

Because of the very high salinity of the water that will be retained in these ponds, they will present a potentially significant hazard to wildlife that may attempt to use them for drinking, feeding, or resting. These hazards include the toxic effects from ingestion of the salts and trace elements in the water; osmotic imbalances from consuming or resting on the water; and entrapment, waterlogging, and eventual mortality due to salt encrustation. (DEIS, Appendix J at ES-2)

The evaporation ponds are particularly toxic to waterfowl and bats. Many of these are BLM sensitive species, including Allen’s (Mexican) big-eared bat (*Idionycteris phyllotis*), Spotted bat (*Euderma maculatum*), Townsend’s big-eared bat (*Corynorhinus townsendii*), Fringed myotis (*Myotis thysanodes*) as detailed in Appendix I. Many if not all of these species are covered by the Migratory Bird Treaty Act.

Alternative C will undoubtedly violate the Migratory Bird Treaty Act by causing enormous mortality to migratory birds. The DEIS Appendix I notes that the Migratory Bird Treaty Act of 1981 prohibits the take, capture, or killing of any migratory birds, and any parts, nests, or eggs of any such birds [16 U.S.C. 703 (a)]. Under Executive Order 13186, federal agencies are liable for both intentional and unintentional take of migratory birds. (DEIS at Appendix I-26)

The U.S Fish and Wildlife Service previously expressed its grave concerns about the impacts to migratory birds from evaporation ponds. These were detailed in the Service’s comments on the 2012 Paradox Evaporation Pond Pilot Study.

The Service’s concerns for impacts to migratory birds have not changed as we continue to believe that open brine evaporation has the potential to negatively impact migratory birds. The Migratory Bird Treaty Act (Act) does not have provisions to allow for take and so if birds should die in the pit, Reclamation will be held responsible for their death. The Act provides stiff penalties for actions that take migratory birds.

We have stated that to protect migratory birds the pond will most likely need to be netted and if they are not netted initially the supports will need to be installed to allow the net to be pulled over the ponds, should the brine cause adverse impacts to

migratory birds. We note that in your summary sheet you plan to try various means including active and passive deterrents to deter birds from using the ponds. While these methods may provide protection for the ponds without meeting it will be important to have staff on hand daily to visually inspect the ponds for birds that may become trapped in the brine and remove and rehabilitate them if they show adverse effects from the brine solution. (Final Scoping Report-Paradox Evaporation Pond Pilot Study, April 2012)

The Bureau of Reclamation and BLM cannot select Alternative C, thereby intentionally causing take of migratory birds, and still comply with federal law.

Alternative C also would eliminate over 1,500 acres of severe winter range for deer and elk.

Given the severe impacts to wildlife winter range and impacts to migratory birds and bats from Alternative C, this alternative not only violates federal law but also in no way meets the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public.

Desert bighorn sheep are a BLM sensitive species. Alternative B1 would impact over 400 acres of sheep habitat, with particularly significant impacts to lambing areas and to water sources. The Uncompahgre Draft RMP notes that important habitat requirements for the desert bighorn include escape terrain and areas with high visibility, with good forage sources and reliable water sources nearby. Fragmenting over a mile of prime canyon habitat incorporating reliable water sources is a substantial negative impact to desert bighorns.

#### **CONSULTATION WITH USFWS**

The DEIS defers any analysis of compliance with the Endangered Species Act until a preferred alternative is identified in the Record of Decision. (DEIS at 5-3) Since the Bureau of Reclamation does not intend to coordinate and consult with USFWS to comply with Section 7 of the Endangered Species Act until a later date, at what point will the public have the opportunity to review and comment in a meaningful way on potential impacts to threatened and endangered species?

243.09

#### **IMPACTS TO RECREATION**

The DEIS offers an incomplete analysis of impacts to recreation. The DEIS does not assess the degradation in recreational experience that would be caused by the construction of Alternative B1. The Dolores River corridor is currently a primitive recreational opportunity setting, which means it offers opportunities for solitude, natural quiet, and unconfined recreation for non-motorized and non-mechanized travel year-round. (Tres Rios Field Office Approved RMP, II-83). The segment of the river canyon incorporated within Department of Interior lands administered by the Bureau of Reclamation is similar with the corridor from the BLM WSA boundary downstream to the existing brine injection facility also meeting the description of a primitive recreational opportunity setting though Bureau of Reclamation may not apply that terminology.

243.10

The construction of a new road, bridges, and powerline will significantly modify the recreation setting of the river canyon, and will significantly degrade the recreational experience for hikers and boaters. Alternative B1 effectively converts the Dolores River corridor from the WSA boundary downstream into a Roaded Natural ROS setting rather than primitive. This is a dramatic and significant impact that should be revealed in the analysis. For boaters floating downstream the last couple of miles to the Bedrock boat ramp, and for hikers and equestrians on the Dolores River Trail, their experience will be negatively impacted to a significant degree.

243.11

The DEIS is inaccurate to state that impacts to recreational use from Alternative B1 are minimal. (DEIS at 3-75) In fact, the impacts are substantial. One cannot flip from a Primitive ROS to a Roaded Natural ROS, and describe that as a minimal impact.

### **GEOPHYSICAL RISK OF DOLORES RIVER VALLEY BRINE INJECTION WELL**

The second brine injection well contemplated in the Dolores River canyon south of the current injection well, as described by Alternative B1, is a poor choice for geophysical considerations, in addition to its impacts to the WSA, the eligible wild and scenic river, recreation and wildlife.

The Bureau of Reclamation's Consultant Review Board has described the difficulties and risks associated with the Dolores River Valley site. The Alternative B1 site requires directional drilling through the boundary fault, and results in injection near the same location as is causing the extensive earthquakes throughout the Paradox Valley.

The Dolores River Valley sites are considered higher risk because their long offsets require drilling through the boundary fault and at an angle. These sites are also geographically close to clusters of earthquakes associated with the PVU #1 well. (USBR Technical Studies and Evaluations for the Second Injection Well Alternative at the Paradox Valley Unit, September 2017, p. 1-2)

Further geophysical investigation is necessary to ascertain whether a potential second Paradox Valley Unit well (PVU #2) would be hydrologically isolated. This includes a comprehensive 3D seismic survey, drilling exploratory wells, modeling salt rheology and other technical analyses.

243.12

For the Dolores River Valley sites to be acceptable, it must be verified that the injection targets for PVU #2 and PVU #1 lie in separate reservoir compartments, i.e., that northern boundary fault of the new fault block is a sealing fault.

The Consultant Review Board was unequivocal in its technical preference for the Monogram Mesa site for PVU #2, though it was more expensive than the Dolores River Valley site. This provides yet more questions about the viability of the Dolores River Valley, Alternative B1 site. Not only does it have dubious legal justification, and serious impacts to highly valued surface resources, it also has potentially extensive concerns about its geophysical suitability.

... the CRB favors the Dolores River Valley surface sites for Alternative PVU #2 because of perceived infrastructure costs; however, in the absence of cost considerations the Monogram Mesa sites are clearly superior. (p. 2-8)

Earlier technical evaluations also raised questions about the Dolores River Valley site. A 2012 technical memorandum questioned whether the Dolores River Valley site (identified as Site A in that review) would be distinct from the existing injection well. The 2012 memorandum stated that fluid injected at the Dolores River Valley site “would almost certainly not be hydrologically isolated from the reservoirs accessed by PVU Injection Well #1.” It would be useful for the DEIS to explain the evolution of rationale from 2012 to present, and why the Dolores River Valley Alternative B1 site is now considered suitable. One can presume it is because of either attempting to directionally drill across the fault zone, or by attempting to locate a vertical well atop Skein Mesa.

The majority of the injection well site locations proposed in the 1980’s are not favorable for the location of a second PVU injection well. Sites A, D, and E lie within the northwest-southeast trending fault-bounded corridor of fluid flow from PVU Injection Well #1, as predicted by Bremkamp and Harr (1988) and corroborated by the pattern of induced seismicity (Figure 25). Hence, fluid injected into the Leadville or Precambrian formations at these locations would almost certainly not be hydrologically isolated from the reservoirs accessed by PVU Injection Well #1.” (Technical Memorandum No. 86-68330-2012-27, Review of Geologic Investigations and Injection Well Site Selection, Paradox Valley Unit, Colorado U.S. Department of the Interior, Bureau of Reclamation, Technical Service Center November 2012, p. 57)

Alternative B1 appears intended to inject brine immediately southwest of the current fault that is presumed to provide a hydrologic isolation from the existing PVU #1 injection well. Is there any concern that filling the limestone formation along the same fault zone but on the southwest side as compared with the northeast side will not simply encourage further earthquakes? Is there geophysical modeling or other information available to confirm that Alternative B1 won’t exacerbate existing earthquakes owing to its proximity to the current injection well?

243.13

#### **ADDITIONAL INJECTION WELL ALTERNATIVES EVALUATION**

The DEIS includes analysis for several alternative injection well locations in Appendix F, Geomechanical and Flow Modeling Summary Report. These apparently include the locations for Alternatives B1 and B2 (Dolores River Valley and Monogram Mesa). A third well location at Pinion Ridge was evaluated in Appendix F, but apparently not carried forward as a full alternative in the DEIS.

243.14

The DEIS should describe the Pinion Ridge location and other alternative injection well locations evaluated, and for what reasons they might have been discarded. Previous technical reviews commissioned by the Bureau of Reclamation identified a number of potential alternative locations. For example, the 2012 Technical Memorandum described one such location:

Site B, located in the center of Paradox Valley close to the Conoco Scorup No. 1 well, remains a potentially viable option. (p.57)

Other sites north of Paradox Valley have also been under consideration. A 2008 technical memorandum described a site near the north side of the valley. Perhaps this is the same site as Site B noted in 2012, but the 2008 review described one alternative thusly:

**Alternative 2: Additional Injection Well**

A second injection well was anticipated when the deep well injection plan was being developed and implemented. However, the cost of the first injection well precluded installation of the second injection well at that time. The proposed location of the second well is near the north side of the Paradox Valley near a former oil exploration well. This location will allow the second injection well to be completed in the same formation as the first well. The second well should not be hydraulically connected to the first injection well site due to faulting between the two sites. The infrastructure needed to connect a second injection well to the existing extraction system will be needed. This will include a crossing of the Dolores River since the proposed site is on the west side of the river. Approximately two miles of 10-inch HDPE pipeline is anticipated, plus a directional-drilled river crossing. (Phase 3 And 4 Technical Memoranda Evaluation of Salinity Control Alternatives Environmental and Economic Feasibility for Paradox Valley Salinity Control Unit, Franson Civil Engineers Team, 2008 p. 6)

The DEIS is almost exclusively focused on the subsurface attributes of injection well alternatives to the exclusion of surface considerations. The public's review and comment on the DEIS provides the additional information that the Alternative B1 locations do not adhere to FLPMA's mandates, as well as the substantial impacts to scenery, recreation, and other socio-economic concerns. It might have made for more efficient analysis to know these likely fatal surface resource conflicts before investing too much effort into consideration of B1.

243.15

With the added information about surface resource concerns, the Bureau of Reclamation should undertake assessment of other injection well locations that incorporate not only subsurface geophysical factors but also surface resource considerations.

It would be useful for the public and reviewers to better understand the range of alternatives contemplated if the DEIS would describe additional alternative injection well sites that might include sites along Highway 90, sites north of the Paradox Valley rim, and sites near existing infrastructure in Paradox Valley.

**ADDITIONAL ALTERNATIVES EVALUATION**

The Bureau of Reclamation should consider additional alternatives beyond the three options evaluated in the DEIS. These could include river flow modifications and agricultural land management options.

Some geophysical analysis suggests that increased freshwater flows in the Dolores River could provide a buffer against brine intrusions and suppress the brine layer. One report notes the correlation between decreased freshwater flows and greatly increased brine discharge.

When river stage was low, groundwater flowed towards the river, and brine discharge to the river increased. When the river stage was high, the gradient was reversed, and fresh surface water recharged the alluvial aquifer minimizing brine discharge. Most of the salt load to the river occurred during the winter and appeared to be enhanced by diurnal stage fluctuations. (Mast, M.A., and Terry, N., 2019, Controls on spatial and temporal variations of brine discharge to the Dolores River in the Paradox Valley, Colorado, 2016–18: U.S. Geological Survey Scientific Investigations Report 2019–5058, 25 p., <https://doi.org/10.3133/sir20195058>.)

These new and informative USGS studies assess the sensitive height variations of the fresh-water/brine interface with river streamflow (stage height), especially the observed complete cutoff of salt intrusion during high spring flows. When the height of the adjacent water table is increased (by increased thickness of so-called fresh water “lens”), it apparently drives the top of the brine layer below the riverbed and establishes conventional fresh-water aquifer recharge from the river as opposed to brine intrusion to the river.

This raises the obvious question whether there is a straight-forward non-structural alternative to reduce brine discharge into the Dolores River simply by increasing freshwater flows in the river. The DEIS should discuss the viability of such an approach.

The DEIS should also discuss and evaluate the efficacy of agricultural land management alternatives as compared with the selected alternatives for analysis. This could include modifications to agricultural practices in West Paradox Valley. It could also include the benefit of applying more resources to the mitigation projects in the Lower Gunnison or Grand Valley areas where salt loading has been significantly reduced with improved agricultural practices.

243.16

## **ADDITIONAL QUESTIONS**

### **Downstream Salinity Concentrations**

The DEIS models salinity concentrations downstream on the Colorado River, including at Imperial Dam, associated with each of the DEIS alternatives in Appendix H, Hydrologic Modeling Report and Memoranda. Not surprisingly, the model anticipates that alternatives that remove more salt at Paradox Valley result in slightly lower salinity concentrations at Imperial Dam. All alternatives result in salinity concentrations well below the relevant numeric criteria salinity concentration, including No Action.

Since the Paradox Valley Unit has ceased operation over the past year owing to earthquakes, there should be empirical evidence of the downstream consequences of the No Action Alternative. What is the observed impact to salinity concentrations at Imperial Dam over the past year without operation of the Paradox Valley Unit? Does it confirm modeling predictions?

243.17

## Brine Radioactivity

Brine fluids extracted during oil and gas operations or water processing activities are often highly radioactive owing to naturally occurring radioactive materials. The EPA defines these Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) as, "Naturally occurring radioactive materials that have been concentrated or exposed to the accessible environment as a result of human activities such as manufacturing, mineral extraction, or water processing." Furthermore,

"Technologically enhanced" means that the radiological, physical, and chemical properties of the radioactive material have been concentrated or further altered by having been processed, or beneficiated, or disturbed in a way that increases the potential for human and/or environmental exposures.

Naturally Occurring Radioactive Material (NORM) is defined as, "Materials which may contain any of the primordial radionuclides or radioactive elements as they occur in nature, such as radium, uranium, thorium, potassium, and their radioactive decay products, such as radium and radon, that are undisturbed as a result of human activities." (<https://www.epa.gov/radiation/technologically-enhanced-naturally-occurring-radioactive-materials-tenorm>)

What are the radioactive constituents in the Paradox Valley brine, if any? Has Bureau of Reclamation measured for radioactivity of the brine, and similarly radioactivity of remnant waste salt? We would appreciate inclusion of this information in the EIS. The EIS needs to evaluate the consequences of Technologically Enhanced Naturally Occurring Radioactive Material if present, and options for addressing the handling and disposal of these materials.

243.18

We appreciate that evaluation of options for removing brine in Paradox Valley has required substantial technical analysis and review. The DEIS is the first opportunity for impacts to surface values – recreation, wildlife, scenery, wilderness, cultural resources, etc. – to receive similar scrutiny and feedback. We look forward to the incorporation of these concerns into further analysis and an eventual decision.

Sincerely yours



Mark Pearson  
Executive Director  
San Juan Citizens Alliance  
PO Box 2461  
Durango, CO 81302

FW: San Diego County Water Authority Paradox Valley Unit DEIS Comments

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 12:29 PM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (101 KB)

SDCWA PVU DEIR Comments.pdf

COMMENT LETTER 244

From: 'Rodgers, Kelly' via BOR WCAO DL Paradox EIS

Sent: Wednesday, February 19, 2020 12:28:59 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Subject: San Diego County Water Authority Paradox Valley Unit DEIS Comments

Dear Mr. Warner,

The San Diego County Water Authority respectfully submits the attached comments regarding the Paradox Valley Unit Draft Environment Impact Statement. Thank you for your consideration.

Regards,

Kelly L. Rodgers, Ph.D., P.E.

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February 19, 2020

**MEMBER AGENCIES**

Carlsbad  
Municipal Water District

City of Del Mar

City of Escondido

City of National City

City of Oceanside

City of Poway

City of San Diego

Fallbrook  
Public Utility District

Helix Water District

Lakeside Water District

Oliverhain  
Municipal Water District

Otay Water District

Padre Dam  
Municipal Water District

Camp Pendleton  
Marine Corps Base

Rainbow  
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Ramona  
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Rincon del Diablo  
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San Dieguito Water District

Santa Fe Irrigation District

South Bay Irrigation District

Vallecitos Water District

Valley Center  
Municipal Water District

Vista Irrigation District

Yulima  
Municipal Water District

**OTHER  
REPRESENTATIVE**

County of San Diego

**Mr. Ed Warner**  
**Area Manager**  
**U.S. Bureau of Reclamation**  
**445 West Gunnison Avenue, Suite 221**  
**Grand Junction, CO 81501**

**Re: Comments of the San Diego County Water Authority on the Paradox Valley Unit Draft Environmental Impact Statement**

**Dear Mr. Warner:**

**Thank you for the opportunity to provide input on the Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit (PVU) of the Colorado River Basin Title II Salinity Control Program (Program).**

**The San Diego County Water Authority, created in 1944, delivers a safe and reliable wholesale water supply at an affordable cost to 24 retail water agencies. The Water Authority sustains a \$245 billion regional economy and the quality of life for 3.3 million residents through a multi-decade water supply diversification plan, major infrastructure investments and forward-thinking policies that promote fiscal and environmental responsibility. Historically, the Water Authority depended almost exclusively on water supplies imported from the Colorado River and Northern California by the Metropolitan Water District of Southern California. That changed in 2003 with the execution of the Quantification Settlement Agreement (QSA) which includes the nation's largest farm-to-urban water conservation and transfer agreement and canal lining projects. In late 2015, the Water Authority added a historic new water source to its portfolio with the completion of the nation's largest seawater desalination plant in Carlsbad. Today, the Water Authority and its member agencies have identified potable reuse of recycled water as the next major source of local water supply, while continuing to aggressively promote water conservation as a civic responsibility.**

**Today, almost 60% of the Water Authority's supplies come from the Colorado River, including our QSA supplies. To that end, salinity control is critical for the Water Authority, our member agencies and their end-users. The Water Authority appreciates the collaboration between the Colorado River Basin Salinity Control Forum (Forum) and federal agencies on proactive implementation of salinity control measures for the Colorado River.**

The Water Authority respectfully submits the following comments on the PVU DEIS.

1. The Water Authority supports the ongoing implementation of the Salinity Control Program, and in particular continued salinity control through the PVU. The PVU is an extremely effective salinity control project that has consistently resulted in eliminating approximately 100,000 tons of salt annually from the Colorado River.
2. The Water Authority supports the existing PVU brine injection well remaining operational while a replacement alternative is explored because it is a cost effective facility that effectively controls salinity at the point-source.
3. The Water Authority supports continued salinity control at the PVU, and therefore does not support Alternative A - "No Action". Failure to identify a replacement alternative at the PVU would result in significant increases in salinity levels downstream and, in turn, adverse impacts to resources in the environment and the economy.
4. The Water Authority supports the Forum's position in recommending a preferred alternative that meets the project purpose and need, provides the greatest certainty of meeting EIS goals and objectives, reduces construction and operational risk, and is cost considerate especially in regard to long-term operations and maintenance.

Thank you for your consideration of these comments. We appreciate the Bureau of Reclamation's commitment to salinity control in the Colorado River. Please feel free to contact me, or Kelly Rodgers, Director of the Colorado River Program at (858) 522-6736 if you have any questions or require additional information regarding these comments.

Sincerely,



Sandra L. Kerl  
General Manager

cc: San Diego County Water Authority Board of Directors

FW: SWCD comments on PVU draft EIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 8:43 AM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 245**

1 attachments (206 KB)

SWCD to USBR Comments re. PVU DEIS 2-19-20.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Carrie Padgett

**Sent:** Wednesday, February 19, 2020 8:41:20 AM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Frank Kugel; Laura Spann

**Subject:** [EXTERNAL] SWCD comments on PVU draft EIS

Good Morning,

Please find attached Southwestern Water Conservation District's comments on the draft EIS for the Paradox Valley Unit. We appreciate Reclamation extending the comment deadline and allowing us this opportunity to comment. If you have any questions about our attached letter please reach out to myself or Southwestern directly.

Thank you,

Carrie Padgett, P.E.

Harris Water Engineering, Inc.  
954 E. 2nd Ave, Suite 202  
Durango, Colorado 81301  
970-259-5322



**THE SOUTHWESTERN WATER CONSERVATION DISTRICT**

Developing and Conserving the Waters in the  
SAN JUAN AND DOLORES RIVERS AND THEIR TRIBUTARIES

**West Building – 841 East Second Avenue**

**DURANGO, COLORADO 81301**

**(970) 247-1302**

February 19, 2020

Ed Warner  
Area Manager, Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, Colorado 81501  
paradoxeis@usbr.gov

*RE: Comments on the Paradox Valley Unit Draft Environmental Impact Statement*

Dear Mr. Warner:

The Southwestern Water Conservation District (SWCD) was created by Colorado statute in 1941 to promote the conservation, use and development of the waters of the San Juan and Dolores River basins in southwestern Colorado, and to safeguard for Colorado all waters to which the state of Colorado is equitably entitled. The SWCD encompasses all of La Plata, Montezuma, Archuleta, San Juan, San Miguel, and Dolores counties and parts of Montrose, Hinsdale, and Mineral counties.

SWCD has been a cooperating agency over the past several years with the Paradox Valley Unit (PVU). SWCD appreciates this opportunity to provide comments on the draft Environmental Impact Statement (DEIS) for the PVU. SWCD previously provided comments during the cooperating agency comment period. SWCD is grateful for Reclamation's efforts to allow significant comment opportunities for agencies and public alike during the development and review process of the DEIS.

SWCD strongly supports the Colorado River Basin Salinity Control Program in its efforts to reduced salinity levels in the Colorado River basin. By eliminating approximately 100,000 tons of salt annually, the PVU improves salt loading within the Dolores River and decreased salinity concentrations downstream in the Colorado River. These reduced salt loads result in an estimated seven percent reduction in total salinity in the Colorado River basin. SWCD believes that without this single point source reduction in salinity control, significant impacts may occur within the Dolores River and downstream that will have adverse economic impacts throughout the basin.

In addition to general support of reducing salinity levels in the Colorado River basin, SWCD has the following comments on specific issues in the proposal.

Existing PVU Injection Well

There are serious concerns about the existing PVU injection well and the seismic activities caused by the well. These negative impacts to the local community have been voiced to SWCD on numerous occasions. SWCD would support the continued use of the existing well at decreased injection rates under the condition that it would not cause any further seismic activities. SWCD understands the importance of operating the well and the positive impacts the well operations have had on salinity in the basin. Even decreased pumping rates will have a positive impact on the salt loading, while also addressing growing concerns the community at large has had about potential seismic impacts.

245.01

Preferred Alternative

The draft EIS describes four alternatives to the existing PVU inject well. While each alternative has an array of positive and negative impacts, SWCD's preferred alternative is the evaporation ponds. While SWCD may support this alternative, concerns still exist its potential negative impacts to wildlife, which are a substantial concern for the local community and SWCD. In the interim period prior to completion of the evaporation ponds, we would support use of the existing well to a lesser extent than historic operations to limit seismic activities.

245.02

SWCD appreciates the opportunity to comment. Please contact the SWCD office if there are any questions or comments on this letter.

Sincerely,



Frank Kugel, Executive Director  
Southwestern Water Conservation District

FW: State of Arizona Comments on the Draft EIS for the Paradox Valley Unit of the Colorado River Salinity Control Program

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 1:15 PM

To: McCarter, Molly E <mccarter@blm.gov>

**COMMENT LETTER 246**

1 attachments (477 KB)

2020 02 18 DEIS Comments ADWR-CAWCD.pdf

**From:** paradoxeis@usbr.gov On Behalf Of Leslie Olsen

**Sent:** Wednesday, February 19, 2020 1:13:51 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS; Warner, Louis (Ed)

**Cc:** Chuck Cullom

**Subject:** [EXTERNAL] State of Arizona Comments on the Draft EIS for the Paradox Valley Unit of the Colorado River Salinity Control Program

Please see attached Arizona Department of Water Resources and Central Arizona Project's comments in response to the Paradox Valley Unit of the Colorado River Control Program.

Central Arizona Project

**Leslie Olsen**

EXECUTIVE SECRETARY

O (623) 869-2337

E [lolsen@cap-az.com](mailto:lolsen@cap-az.com)

L 23636 North 7th Street, Phoenix, Arizona 85024



Central Arizona Project Disclaimer:

This e-mail message from **Leslie Olsen** and any files transmitted with it may contain confidential or privileged information intended solely for the individual(s) addressed in the message. Any review, use, distribution, or disclosure of this information by others is strictly prohibited. If you are not the intended recipient, or authorized to receive this transmission for the intended recipient, please contact the sender by reply e-mail and delete all copies of this message and any files transmitted with it from your system.



1110 W Washington St. Suite 310 ~ Phoenix, AZ 85007 ~ 602-771-8500



P.O. Box 43020 ~ Phoenix, AZ 85080 ~ 623-869-2333

February 18, 2020

Mr. Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Subject: State of Arizona Comments on the Draft Environmental Impact Statement for the Paradox Valley Unit of the Colorado River Salinity Control Program

Dear Mr. Warner,

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit (PVU) of the Colorado River Basin Salinity Control Program (Program). The DEIS was released for public review and comment on December 6, 2019; the comment period ends February 19, 2020 (*See Fed. Reg. 84 FR 66897 and Fed. Reg. 85 FR 5658*). The following comments on the DEIS are submitted on behalf of the Arizona Department of Water Resources and the Central Arizona Water Conservation District (collectively, Arizona). Arizona is an active participant in the Program and has been engaged throughout the PVU National Environmental Policy Act (NEPA) process. This letter is intended to complement the letter from the Colorado River Basin Salinity Control Forum, submitted contemporaneously with this letter but under separate cover. Arizona submits the following comments:

**Role of the Forum and Colorado River Basin Salinity Control Advisory Council:**

The Forum and the Colorado River Basin Salinity Control Advisory Council (Advisory Council) have played an important role in the coordination, development, implementation and funding of the Salinity Control Program. The Advisory Council was created by the passage of the Colorado River Basin Salinity Control Act and the representatives from the Basin States on the Forum and Advisory Council have advised the Federal Government regarding implementation of Title II of the Salinity Control Act for more than 40 years. The Forum, the Advisory Council and the Forum's Work Group have worked with Reclamation on matters regarding the PVU for decades and have developed a knowledge base, expertise, and consensus approach in salinity control and policy issues among the Basin States.

The Forum and the Forum's technical Work Group have worked with the Federal Agencies for years on the research and evaluation of salinity issues in the Paradox Valley, including developing concepts and alternatives for the brine disposal at the PVU. The Final Environmental Impact Statement (FEIS) should include a section on the history of the development of the Program, the crucial role that the Forum, and Work Group have played in the Program, and the vital role they will play in implementing the preferred alternative.

**Deep injection well:**

The DEIS makes several references to the deep injection well nearing the end of its serviceable life. When it was constructed in the late 1980s and early 1990s, PVU was expected to have a life of 40 years. However, the increased local seismic activity has caused additional concern. Moreover, seismic events in the area may be indicative of the increasing storage reservoir pressures, which may potentially limit or reduce future injection volumes or rates. As such, it is not accurate to say that the deep injection well and related infrastructure is nearing the end of its serviceable life. It is important that the FEIS recognize that concerns regarding increased seismicity have impacted PVU's operations. Further, the FEIS should recognize that the deep injection well and related infrastructure has the potential to operate at reduced volumes or injection rates, which would extend its serviceable life.

246.01

**Development of the alternatives:**

The alternative development process usually begins with identification of the proposed action, purpose and need, and the goals and objectives of the EIS. Once these items are identified, the lead agency (in this case, Bureau of Reclamation) usually works with cooperating agencies and stakeholders on an alternative development process, describes the proposed alternative characteristics, and solicits feedback. The DEIS as currently written lacks any description of the alternative development process. There is no description of the stakeholder process and of any interaction with the Forum or the Work Group regarding this topic. A descriptive alternative development process helps stakeholders aid in the review and analysis of the selected alternatives. The FEIS should include a section on the alternative development process.

246.02

**The No Action alternative:**

NEPA requires that a No Action alternative is described and analyzed in an EIS. A No Action alternative provides a benchmark to allow decisionmakers and the public to compare the levels of environmental effects of the alternatives to the current baseline or status quo. Under a traditional approach the "No Action" alternative would assume continued operation of the PVU brine capture and injection wells as currently authorized, budgeted for and maintained. However, the No Action alternative, as described in the DEIS, contemplates the shutting down of the existing operations at the PVU. If this were to occur, approximately 100,000 tons of salt currently being disposed of per year would flow in the Colorado River System leading to an increase of downstream salinity levels of 9-10 mg/L and causing an estimated additional \$23 million dollars in annual damages. Arizona understands that the reasons for formulating the "No Action" alternative in such a manner in this DEIS may be three-fold:

246.03

- 1) as of the release of the DEIS, the PVU brine capture and disposal activities had been temporarily suspended,
- 2) due to seismic concerns, the existing injection well may have less capacity or curtailed usefulness, and
- 3) presenting the "No Action" alternative as no brine capture and disposal activities at PVU allows for the maximum examination and comparison of potential project impacts.

In order to strengthen the FEIS, Arizona recommends that Reclamation fully explain the justification and reasons for the characterization of the "No Action" alternative in this EIS.

**Uncertainty and need for continued collaboration:**

The operation of the existing PVU injection well has demonstrated the complexity and uncertainty relating to long-term salt removal projects from the Paradox Valley. The cost estimate for a new injection well assumes a 50-year life cycle for a single well and related infrastructure. Due to the lack of local well and operational data, it remains uncertain if such a 50-year life cycle assumption is warranted for an injection well in complex hydrogeologic conditions. Further, the Zero Liquid Discharge and evaporation pond alternatives include uncertainties in life cycle and cost. Therefore, the FEIS should acknowledge the uncertainties inherent in developing, implementing and operating salt removal projects from the Paradox Valley and note that as the preferred alternative moves through the design and implementation phases, it will require close coordination with the funders and other stakeholders.

246.04

**Preferred Alternative**

Arizona has worked collaboratively with the Forum over many decades to address salinity control issues in the Colorado River Basin. The Forum in coordination with the Colorado River Basin States, has submitted evaporation ponds for consideration as the preferred alternative in the PVU FEIS. Arizona agrees with the adoption of this alternative as the preferred alternative in the PVU FEIS.

Arizona appreciates the opportunity to submit comments on the PVU DEIS. Attached to this letter are additional comments that suggests revisions and improvements to the DEIS. Arizona thanks you and your staff for your ongoing efforts to coordinate with us throughout the duration of this process.

Should you have any questions regarding this letter, please contact Vineetha Kartha at 602.771.8552 or Chuck Cullom at 623.869.2665 at your earliest convenience.

Sincerely,



Thomas Buschatzke  
Director  
Arizona Department of Water Resources



Theodore C. Cooke, D.B.A.  
General Manager  
Central Arizona Water Conservation District

**Specific Comments:**

Page	Chapter/Section	Executive Summary Comments
ES-1	ES.2, ¶ 1	<p><i>"The PVU currently removes about 95,000 tons of salt per year that would otherwise enter the Colorado River."</i></p> <ul style="list-style-type: none"> <li>- Use specific language such as an exact year, instead of generic language.</li> </ul>
ES-1	ES.2 , ¶ 1	<p><i>"This tonnage represents current salinity control in the Colorado River at Imperial Dam, just upstream of the Northerly International Boundary"</i></p> <ul style="list-style-type: none"> <li>- Use specific language to portray distance.</li> </ul>
ES-2	ES. 3, last sentence	For more specific analysis of a given alternative, a provision for an amendment that could be tiered to this DEIS is mentioned. This may be true for the alternative proposed by the States, in coordination with the Forum.
ES-4	ES.5	<p><i>"The need for the proposed action is to control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin."</i></p> <ul style="list-style-type: none"> <li>- <i>Id.</i></li> </ul>
ES-5	ES.7	<p><i>"A common element of all alternatives is that the existing well would be plugged and abandoned."</i></p> <ul style="list-style-type: none"> <li>- This would preclude continued operation of the currently authorized project (existing well). Nothing in the FEIS should impact the current authorization and coverage to operate the existing facilities.</li> </ul>
ES-5	ES.7.1	<p><i>"Under Alternative A, the existing deep injection well would not be replaced. This would represent no salinity control in Paradox Valley."</i></p> <ul style="list-style-type: none"> <li>- In combining assumed closure of the existing well and foregoing its replacement ("No Action"), would it be fair to characterize the machinery created by this Alternative A as action – or inaction – out of line with both Reclamation’s Proposed Action and Purpose and Need (<i>supra</i>)?</li> </ul>
ES-6	¶ 1	Contrary to this discussion, Alternatives B1 and B2 are cited with considerable uncertainty, particularly with subsurface processes regarding sufficient permeability and porosity to accept the continuous bring injection at 200 gpm.
ES-6	ES 7.3	<p><i>"This equates to up to 171,000 tons of salt that would be prevented from entering the Colorado River system annually..."</i></p> <ul style="list-style-type: none"> <li>- While both Alternatives C and D at the aforementioned tonnage show promise, their implementation may be more practicable if such a proposal were better in line with the stated Goals and Objectives.</li> </ul>
ES-8	Table ES-1	Under Column <i>Alternative A</i> , third row, the <i>"\$0 dollars of net benefit"</i> is redundant for an increase in \$23 million in damages.
ES -11	ES.8.2	First few sentences in Paragraph 2 regarding the location of the brine injection well and assumptions of subsurface geology (pending 3D seismic study) are contrary to the statements in the first paragraph ES.6.
ES-12	ES.8.3, ES. 8.4	First paragraphs are identical. It is intuitive to assume that the fresh water by product from ZLD would be more than the Evaporation ponds. How does that result in the same 2,978 acre-feet of additional freshwater that could be released from Lake Mead annually?

Page	Chapter/Section	Chapter 1 Comments
1-1	1.1, ¶ 1	<p><i>“Historically (from 1940-2017), the Colorado River carried an average salt load...”</i></p> <ul style="list-style-type: none"> <li>- This sentence needs further clarification. As written currently, it sounds like the Colorado River carried an average salt load of 9 million tons only during these years.</li> </ul>
1-1	1.1, ¶ 1	<p><i>“High salt concentrations in the lower Colorado River adversely affect more than 40 million people and about 5.5 million acres of irrigated farmland”</i></p> <ul style="list-style-type: none"> <li>- The cited data are for the entire Colorado River Basin (including Mexico). It is erroneous to mention high salt concentration in the Lower Colorado River and refer back to the usage in the entire Colorado River Basin.</li> </ul>
1-3		The current condition, since March 2019 (after PVU injection ceased its operation), there is zero current control and the goal of removing approximately 100,000 or more tons of salt has not been met.

Page	Chapter/Section	Chapter 2 Comments
2-1	¶ 3	It is stated that each alternative is designed to a 30% conceptual design. Please offer more clarity to what this means, how does this affect the stated 40% uncertainty in costs?
2-2	2.1.1., ¶ 2	How was the ability of the Leadville limestone formation to accept the brine injection determined (e.g., 200 gpm vs 300 gpm)?
2-2	¶ 2, last sentence	This statement is consistent and acceptable with the state’s scaling proposal to design alternatives to accept a lower disposal rate.
2-3	Table 2-1, Footnote 4	Why is the 70% brine/ 30% freshwater mix considered for injection?
2-4	2.3.2	It is stated that Reclamation currently operates 9 brine production wells, how many additional wells are being considered in each of the alternatives? Will the current production wells continue to operate?
2-7	2.4.2.1	<p><i>“The [3D seismic] survey would be completed to obtain a high-resolution picture of the subsurface geology to verify the extent of the Leadville Formation and the locations of faults.”</i></p> <ul style="list-style-type: none"> <li>- The way this sentence reads is that the extent of our knowledge of the Formation’s potential is less than complete, insinuating uncertainty about the actual capacity of the Formation, which would have implications on the viability of a new injection well as a long-term control option. Would there be contingencies to re-evaluate our options, should such that scenario arise?</li> </ul>
2-11	2.5.2.1	<i>What seismic hazard would the evaporation pond embankments be designed for? Not sure what the term “snow loading” means?</i>
2-12	2.5.2.3	171,000 tons of salt would create ~3,000 acre feet of salt over the 50-year operation, yet the landfill design would accommodate ~6,900 acre feet. Why does it seem the landfill is oversized, or at least it would not be as high as stated and therefore would make less of a visual impact to the surrounding environment?

2-13	2.5.3.1	How will the bittern be tested to ensure it has or has not reached marketable concentration?
2-14	2.5.4	For clarification, was the volume of salt as the protective layer in the crystallizers removal during closure taken into consideration for the final landfill height of 100 feet above grade? If not, wouldn't the volume of salt removal for closure add another ~10 feet to the landfill?
2-15	2.6.2	<p><i>"Alternative D would prevent up to 171,000 tons of salt from entering the Dolores River annually, if brine is continuously diverted. The ZLD facilities would be constructed over approximately 2 to 3 years."</i></p> <ul style="list-style-type: none"> <li>- If Alternative D were selected, what would be the timeline regarding closure of the existing well as compared to the construction and eventual operation of the facilities? Concisely, could we use existing operations to phase in the control capacity of the new alternative?</li> </ul>
2-19	2.7.2	<p><i>"For Alternative D, the annual energy costs are based upon the average commercial price of natural gas over the last 10 years. Energy costs can fluctuate, and unknown future energy costs could have a significant direct impact on the cost effectiveness of this alternative."</i></p> <ul style="list-style-type: none"> <li>- Given the high point in price of natural gas over the last ten years (~\$7/kft<sup>3</sup>, Dec. 2009), prices have since been fractions and on a generally decreasing trend. However, at some point a preliminary analysis of how various price fluctuation scenarios (low, medium, high increase) might impact annual O&amp;M prices would be helpful to inform decision-making.</li> </ul>
2-33	Table 2-10	The achievement of the state numeric criterion is based on the Most probable hydrologic scenario. Could the standards be expressed as a range to address the associated projection uncertainties?
2-44	Table 2-7	The ultimate selection of the 4 alternatives considered in the DEIS is not discussed.
2-44	Table 2-7, Rows 2-3 (dual facility operations/ combination of alternatives)	<p><i>"[Concerns]: The existing well is nearing the end of its useful life and would not be operational in combination with other alternatives."</i></p> <p><i>"At this time, it would be cost prohibitive to implement a combination of alternatives; however, implementation of a combination of alternatives would be considered in the future should a specific combination be determined to be cost effective."</i></p> <ul style="list-style-type: none"> <li>- If and once a determination is made on where the "end of useful life" is temporally, does the elimination of these alternatives preclude entirely the possibility of interim, short-term operations in conjunction with implementation of the preferred alternative? Such action could be useful as a mechanism in best addressing Purpose/Need and comporting with other considerations there outlined.</li> </ul>

Page	Chapter/Section	Chapter 3 Comments
3-20	3.6.1.1	<p><i>“Historical data ... indicate over 200,000 tons of salt entered the river annually at Paradox Valley. The change in average annual salt load ... between the pre-PVU (1980 – 1993) and post-PVU (1997 – 2015) periods was 94,600 tons/year, which represents a nearly 70% reduction in salt loading to the river and compares closely to the annual average mass of salt (95,000 tons) currently disposed of at the PVU injection well...”</i></p> <ul style="list-style-type: none"> <li>- How else might we lay this out? Including “pre-PVU” average annual load may be helpful to avoid layperson confusion. How it reads currently is that we’ve historically controlled ~94.6k of 200k annual Paradox Valley loading, which would not be a 70% reduction.</li> </ul>
3-20	3.6.1.2	<p><i>*Pro forma*</i> – regarding use of “Basin states” in document: the term is introduced as capitalized in 1.1 (Pg. 1-1), while not so in others. In general, “Basin States” has been used across various programs; may be prudent to consider uniformity in one direction or the other.</p>
3-24	3.6.2.2	<p><i>“A key assumption, .... a steady state CRSS run. The Colorado River System conditions that were kept constant at 2017 values included: all salinity control projects, Upper and Lower Colorado River Basin water demands, and time varying Colorado River operational elements.”</i></p> <ul style="list-style-type: none"> <li>- Given temporal gaps in existing well operations, what are the implications of its operational condition on figures borne out by this assumption? Further, this modeling assumption seems to operate under a baseline condition, as would be a typical “status quo” control scenario.</li> </ul>
3-25	3.6.2.2	<p><i>“Water released or saved annually in Lake Mead to meet the salinity differential’ shows estimates of the change in the amount of water that would be released or saved in Lake Mead annually as a result of implementing the alternatives...”</i></p> <ul style="list-style-type: none"> <li>- Noting that in a strictly ‘No Action Alternative’, in contrast to no salinity control in Paradox Valley as is proposed, water volumes saved/released would not deviate from the status quo.</li> </ul>
3-26	3.6.2.4	<p><i>“Salinity levels in the Dolores River would be reduced, <u>compared with</u> [Alt. A].”</i></p> <ul style="list-style-type: none"> <li>- A “comparable” reduction when Alternative A would not actually reduce salinity levels seems a bit like apples to oranges. Might consider “as opposed to Alternative A”, etc.</li> </ul>
3-27	3.6.2.6	<p><i>“Release of produced freshwater from the ZLD process would result in up to a 240 gpm produced freshwater stream.”</i></p> <ul style="list-style-type: none"> <li>- While not a high yield overall, how might this freshwater stream affect the figures of Alternative D outlined in Table 3-9, compared to others?</li> </ul>
3-66	3.15.2.5	<p><i>“Replacement costs would occur roughly every 8 years over the life of the project.”</i></p> <ul style="list-style-type: none"> <li>- Please explain the selection of the 8-year timespan.</li> </ul>

Page	Chapter/Section	Chapter 4 Comments
4-13	4.4	<p><i>"An irreversible and irretrievable resource commitment refers to impacts on or losses of resources that cannot be recovered or reversed. Implementing an action alternative would involve a commitment of natural, physical, and socioeconomic resources".</i></p> <ul style="list-style-type: none"> <li>- Typically, a No Action Alternative would not involve the nominal commitment of additional resources.</li> </ul>
Table 4-1	4.1.1.2	<ul style="list-style-type: none"> <li>i) 'ROW Applications' has 5 pending applications, will any of the proposed ROWs cross with the ROWs that would be required for any action alternative?</li> <li>ii) Uranium Leasing Program – would any of the proposed actions by the mining affect the proposals in Alternative B?</li> </ul>
Table 4-1	4.2	For air quality, was a failure at the H2S facility taken into consideration?

Page	Chapter/Section	Appendices Comments
10	Volume 4, Appendix 1	For Alternative C, the construction cost is extremely close to what was determined in the AMEC study; however, AMEC had a \$300,000 annual operating budget while this table listed \$1,600,000 as the operating cost. Anything that would explain this discrepancy is not found.
9	Final Pond Design Strategy Report Pond Optimization Study 2	<p><i>"Costs for land acquisition, permitting, and utility distribution are not considered in this analysis."</i></p> <ul style="list-style-type: none"> <li>- How can an accurate project cost be determined if power transmission and land acquisition are not considered?</li> </ul>
16	<i>Id.</i>	<p><i>"A 20-year post-closure period has been assumed for the cost estimate."</i></p> <ul style="list-style-type: none"> <li>- EIS specifically states that one of the closure requirements last 30 years.</li> </ul>
16	<i>Id.</i>	<p><i>"Brine and freshwater pipelines to the sites are assumed to be abandoned in place and capped at each end."</i></p> <ul style="list-style-type: none"> <li>- In Section 2.5.4 it states that the closure of the evaporation ponds could require the removal of all piping and pumping systems, so this cost may need to be considered.</li> </ul>

FW: [EXTERNAL] CRBSCF's Comments on PVU DEIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 1:10 PM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (282 KB)

Forum Comments Letter on PVU DEIS 2020-02-19.pdf

**COMMENT LETTER 247**

**From:** paradoxeis@usbr.gov On Behalf Of Don Barnett

**Sent:** Wednesday, February 19, 2020 1:09:09 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Espin, Brent; Fulp, Terrance J; Jacobson, Kib E; Warner, Louis (Ed); McWhirter, Lesley A.

**Subject:** [EXTERNAL] CRBSCF's Comments on PVU DEIS

Attached hereto please find the comments of the Colorado River Basin Salinity Control Forum on the draft Environmental Impact Statement for the Paradox Valley Unit. We very much appreciate Reclamation's efforts on this EIS and the opportunity to provide comment. Should you have any questions concerning the Forum's comments, please do not hesitate to contact me.



**Don A. Barnett**, Executive Director  
Colorado River Basin Salinity Control Forum  
106 West 500 South, Suite 101  
Bountiful, UT 84010  
(801) 292-4663  
[dbarnett@barnettwater.com](mailto:dbarnett@barnettwater.com)  
[www.coloradoriversalinity.org](http://www.coloradoriversalinity.org)



# Colorado River Basin SALINITY CONTROL FORUM

## GOVERNORS

Doug Ducey, AZ  
Gavin Newsom, CA  
Jared Polis, CO  
Steve Sisolak, NV  
Michelle Lujan Grisham, NM  
Gary R. Herbert, UT  
Mark Gordon, WY

February 19, 2020

## FORUM MEMBERS

### Arizona

Clint Chandler  
Krista Osterberg  
Suzanne Ticknor

### California

Bill Hasencamp, Chair  
Tanya Trujillo

### Colorado

Rebecca Mitchell, Vice Chair  
Pat Pfaltzgraff  
David W. Robbins

### Nevada

Andrew Burns  
Sara Price

### New Mexico

John R. D'Antonio, Jr.  
Rolf Schmidt-Petersen

### Utah

James Harris  
Eric Millis  
Gawain Snow

### Wyoming

Chad Espenscheid  
Patrick T. Tyrrell  
David Waterstreet

## EXECUTIVE DIRECTOR

Don A. Barnett

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Ed Warner

Area Manager, Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, Colorado 81501

Re: Comments of the Colorado River Basin Salinity Control Forum on the Paradox Valley Unit Draft Environmental Impact Statement

Dear Mr. Warner:

The Colorado River Basin Salinity Control Forum (Forum) has reviewed the U.S. Bureau of Reclamation's (Reclamation) Draft Environmental Impact Statement (DEIS) dated December 6, 2019, for the Paradox Valley Unit (PVU) of the Colorado River Basin Salinity Control Program<sup>1</sup> (Program). The Forum previously commented on the Notice of Intent to Prepare an EIS. The Forum expresses appreciation for the fifteen-day extension to provide comments on the DEIS – it was time well spent by the Forum in reviewing the DEIS and building consensus on a preferred alternative. It is also with appreciation for Reclamation's significant efforts over a number of years that the Forum submits its comments on the PVU DEIS.

### **Role of the Forum:**

The Forum plays a unique role in the coordination, development, implementation and funding of salinity control projects throughout the Colorado River Basin. The Forum was created by the seven Colorado River Basin States in 1973 to act as a common voice for the states on salinity matters and to coordinate with federal agencies in the implementation of the Program.

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<sup>1</sup> The Forum's comment letter is not intended to waive or preclude any future comments or recommendations on the operation of the PVU or PVU alternatives.

The Forum is comprised of representatives appointed by the governors of the seven Basin States. Given this unique role, the Forum looks forward to working collaboratively with Reclamation to develop and implement a successful brine disposal replacement alternative for the existing PVU salinity control project facility.

**Salinity Control Program:**

The fundamental objective of the Colorado River Basin Salinity Control Program is to achieve basin-wide salinity control consistent with Title II of the Colorado River Basin Salinity Control Act. The Program has been implemented to meet water quality standards, mandated under the Clean Water Act, which have been developed by the Basin States and approved by EPA.

In addition to meeting water quality standards, reducing salinity levels is important to the Basin States and Colorado River water users because use of high salinity water causes damages including increased scaling potential, reduced agricultural crop yields, constraints on groundwater recharge, and potential reductions in the usability and marketability of recycled water. Additionally, high salinity water contributes to corrosion and increased maintenance of water treatment and distribution systems, including pipelines, pumps, valves, and other equipment. The PVU and other salinity control projects implemented under the Program have combined to reduce the downstream salinity levels in the Colorado River by more than 100 mg/L, thereby reducing economic damages, which damages Reclamation currently estimates at over \$454 million per year.

The Goals and Objectives identified in the PVU DEIS include removing approximately 100,000 tons of salt that would otherwise enter the Dolores River and the downstream Colorado River and optimizing the annual cost per ton of salt removed. Reductions in salinity concentrations in both the Dolores River and the Colorado River downstream of the Dolores benefit downstream Colorado River Basin States, Mexico, and the Program as a whole. In that regard, the final EIS should describe more thoroughly the basin-wide context and benefits achieved from salinity control at the PVU.

247.01

**Continued Operation of the Existing PVU Injection Well:** The status of the continued operation of the existing PVU injection well is unclear in the DEIS. The Forum understands the current and future operations of the existing injection well are governed by existing authorization. Nothing in the final EIS should preclude the continued operation of the existing PVU injection well, pending Reclamation's ongoing seismic investigation. The final EIS should assume for its analysis the continued operation of the existing well at least until the Preferred Alternative is operational. Continued operation of the existing PVU injection well is necessary to protect water quality and water supplies during design and construction of the Preferred Alternative, and possibly beyond, as appropriate. The Forum urges Reclamation to edit language in the DEIS such that in the final EIS it is very clear that operation of the existing PVU injection well is authorized and governed under other environmental documents and that nothing associated with the present EIS effort changes this authorization or precludes continued operations of the existing PVU injection well.

247.02

**Description of the No Action alternative:**

The National Environmental Policy Act requires that a No Action alternative be described and analyzed in an EIS. A No Action alternative provides a benchmark to allow decision-makers and the public to compare the environmental effects of the alternatives to the current baseline or status quo. If the PVU were operating without issues or concerns, then the No Action alternative would assume continued operation of the PVU brine capture wells and the injection well as currently authorized, budgeted for and maintained. In other words, there would be no change in the current operations and maintenance of the existing PVU facilities. The No Action alternative, as described in the DEIS, contemplates shutting down the existing operations at the PVU. If this were to occur, approximately 100,000 tons of salt that have been disposed of annually would flow into the Colorado River System, leading to an increase in downstream salinity levels of 9-10 mg/L causing an additional \$23 million in annual damages. The Forum understands there are at least three reasons for formulating the No Action alternative in this way: 1) as of the release date of the DEIS PVU brine capture and disposal activities had been temporarily suspended; 2) due to seismic concerns, there is concern that the existing injection well is nearing the end of its useful life; and 3) it allows the salinity control impacts of each action alternative to be stated as the total salt removal capacity of each alternative rather than as incremental changes relative to the capacity of the existing injection well. Accordingly, in order to strengthen the integrity of the final EIS, the Forum recommends that Reclamation fully explain the justification for the definition of the No Action alternative in this EIS.

247.03

**Support for Action Alternative:**

The Forum believes action is required to meet the purposes and needs described in the DEIS for the following reasons:

- The PVU is a particularly effective salinity control project among the 1974 Colorado River Basin Salinity Control Act (P.L. 93-320, as amended) Title II projects as it has consistently eliminated approximately 100,000 tons of salt annually from the Colorado River and provides verifiable reductions to salt load in the Dolores River and salinity concentrations downstream in the Colorado River. Implementing an action alternative at PVU is consistent with the mandate of the Colorado River Basin Salinity Control Act.
- The PVU provides an estimated 7% of the current total salinity control in the Colorado River System and is the largest single point-source control project for the Program. No other single project or group of projects with equivalent salinity reduction benefits to those provided by the PVU (i.e., removal of approximately 100,000 tons of salt annually) has been identified or is ready for implementation.
- Implementing an action alternative for the PVU is necessary to avoid significant basin-wide economic damages. Modeling indicates that the PVU reduces salinity-related quantifiable economic damages to water users in the Lower Basin States by at least \$23 million per year.

**Preferred Alternative:**

Based on the available information and our understanding of the alternatives as presented in the DEIS, and after significant review and discussion among the Basin States, the Forum supports selecting Alternative C (the evaporation pond alternative) as the Preferred Alternative in the forthcoming PVU final EIS, with appropriate mitigation to wildlife impacts. It is imperative that Reclamation work closely with the Basin States and the Forum through design, implementation, and operation of this selected alternative, including review of appropriate sizing of the evaporation pond facilities.

Based on the Forum's understanding, the evaporation pond alternative, Alternative C, has the following advantages, as compared to the other action alternatives, and best meets the EIS goals and objectives for the following reasons:

The evaporation pond alternative has the greatest certainty of achieving the EIS goals and objectives. In contrast, we believe that the new injection well alternative (Alternative B) entails the greatest risk of potential failure, either during the construction phase or in the future during operations.

The technology associated with the construction and operation of evaporation ponds is well established with little risk of not successfully functioning as designed, whereas, though the technology associated with the zero liquid discharge (ZLD, Alternative D) alternative is certainly improving, it is not as certain as evaporation pond technology. Though a pilot ZLD unit was deployed to the PVU several years ago and successfully treated the PVU brine, there was a lot of "learning" occurring during the month-long operation, including greater-than-expected scaling of the ZLD equipment. It is anticipated that additional "learning" would be required if this alternative were selected, making successful operations less certain.

Given its more certain technology, the evaporation pond alternative has the least risk of construction and operational cost overruns. Anytime one drills more than 10,000 feet into the earth there is the potential for a number of unforeseen issues which could dramatically increase the costs. This is particularly true because there are no nearby analogous wells and, due to cost concerns, the injection well alternative does not include the drilling of a test well during the design phase. Separately, given the proprietary nature of the ZLD technology, Reclamation would be left with a relatively short list of vendors from which to choose, thereby creating a greater potential for unanticipated or undisclosed costs if the ZLD alternative were selected.

Operation of evaporation ponds will require less energy than other alternatives, thereby leading to a lower carbon footprint. The injection well alternative would require about three times as much electricity as the evaporation ponds and the ZLD technology would require 8,000 – 9,000 times as much electricity. Moreover, the DEIS

assumes the average energy prices over the past ten years will persist for the next fifty years. Given the high energy consumption associated with the ZLD alternative, if energy prices were to increase then the OM&R costs of this alternative could increase significantly over those projected in the DEIS.

Evaporation ponds generate no seismic risk. Seismic activity is the reason for the need to select and build a new brine disposal alternative at PVU. The seismic risk potential was not fully appreciated when an injection well was selected over an evaporation pond alternative 25 years ago. Evaporation ponds do not create seismic risk, whereas in contrast Alternative B would result in the continuing risk of seismic activity in the Paradox Valley.

Evaporation ponds provide the most certain project life span, with the potential for operations beyond the 50 years stated in the DEIS. Given recent experience with the existing PVU injection well, the Forum is concerned with the assumption in the DEIS that a new injection well (Alternative B) could be continuously operated at the full design rate of 200 gpm for 50 years. Obviously, if the second injection well could not operate continuously for 50 years at this rate, then either brine disposal would need to be incrementally decreased (as has been the case with the existing injection well) or a new well would need to be drilled. In either case, these contingencies would make the injection well alternative dramatically more costly than the evaporation pond alternative. Similarly, despite efforts in the EIS to estimate costs associated with replacing worn components and systems as part of maintaining the ZLD alternative, given the relatively novel and proprietary nature of ZLD technology, it is hard to reliably estimate the life span of that alternative.

Given the uncertainty associated with a second injection well, the evaporation pond alternative provides the most clear and cost-effective option for salinity control in the Paradox Valley. Though holding the future hope of improved efficiencies with attendant reduced costs, as presently understood and arrayed in the DEIS, the ZLD alternative is currently one and a half times more expensive than the evaporation pond alternative. Accordingly, the ZLD alternative would make a more dramatic impact on required future appropriations and draws from the Basin Funds.

- Finally, the Forum understands that there is the potential to work with industry partners on an evaporation pond alternative and the potential for the marketing of salts, thereby reducing the costs below those shown in the DEIS.

In totality, an evaporation pond alternative most completely meets the purpose and need for action and has the greatest certainty in fulfilling the goals and objectives of the EIS. Further, it provides the most certain and cost-effective alternative for meeting the broader goal of improving the water quality in the Colorado River System.

**Future Involvement of the Forum:**

The Basin States represent the beneficiaries of the improved water quality of the Colorado River System. The Forum strongly recommends that Reclamation develop a process to work closely with the Basin States, through the Forum, to design, fund, implement and operate the selected alternative.

The Forum wishes to express its appreciation to Reclamation for the significant effort expended in evaluating potential replacement alternatives for brine disposal at its PVU facility and in completing the EIS process. The Forum looks forward to working closely with Reclamation in the development and implementation of the Preferred Alternative.

Respectfully submitted,

Colorado River Basin Salinity Control Forum



Bill Hasencamp, Chair

cc: Forum Members

Mr. Brent Esplin, Regional Director, UC Region

Dr. Terry Fulp, Regional Director, LC Region

Mr. Kib Jacobson, Salinity Control Program Manager

Ms. Lesley McWhirter, Environmental & Planning Group Chief

FW: Comments on Paradox Ynit EIS - Cryodesalination Option

COMMENT LETTER 248

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 3:11 PM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (1 MB)

APPENDIX E - Salt Load Reduction Worksheet 2020\_mjc\_7\_26\_19.docx

From: mcenginr via BOR WCAO DL Paradox EIS

Sent: Wednesday, February 19, 2020 3:10:39 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Cc: cryodesalination@comcast.net; kingery713@gmail.com

Subject: Comments on Paradox Ynit EIS - Cryodesalination Option

Ed Warner, Area Manager  
Grand Junction Office  
Bureau of Reclamation

Dear Mr. Warner:

My name is Michael Clinton and over the past few years we have unsuccessfully attempted to enter the Federal procurement process to provide an alternative to the current alternatives displayed in the Draft EIS.

We propose a public/private partnership with Reclamation whereby Reclamation would continue to operate the collection well system and the current Injection Well.

Using the Cryodesalination technology, our group would take the collected brine, separate culinary quality Sodium Chloride from the brine, return about 80% of the collected water (drinking water quality) to the Dolores River and return the residual salt and water (20 GPM) to Reclamation for injection in the existing Injection well for disposal. This use of the existing Injection Well with a smaller volume of fluid should reduce the seismic consequences of continued operation.

Attached is the SALT LOAD REDUCTION WORKSHEET for such a project in the format required by the Basinwide Salinity Control Program.

Because Reclamation has not been able to consider our prior suggestions for such a project alternative, our prior assembled team and private sector financing has been disbanded. However, should Reclamation be interested in our assembling a full proposal, we are prepared to do so.

248.01

Thank you for your consideration,

Michael J. Clinton, PE and Life Member, ASCE  
President, Michael Clinton Consulting, LLC  
8635 W. Sahara Ave., #588  
Las Vegas NV 89117  
702-807-9071  
702-304-0084 FAX

**Colorado River  
Basinwide and Basin States  
Salinity Control Programs**

**Salt Load Reduction Worksheet**

**PROJECT NAME & LOCATION**

**Cryodesalination**

**Applicant Name**

**Michael Clinton Consulting, LLC**

**Date**

**February 19, 2020**

## A.1 WORKSHEET SUBMITTAL INSTRUCTIONS & SCHEDULE

Applications for salt load reduction **must** be emailed to the Grant's Office at:

[bor-sha-uc-foasaltloadreduction@usbr.gov](mailto:bor-sha-uc-foasaltloadreduction@usbr.gov)

Point of Contact:  
Richard Pew  
rpew@usbr.gov  
801-524-3740

**A request for salt numbers will only be accepted, by email, from the proposing entity that is eligible to apply. Reclamation will carbon copy response to engineers at the request of the entity.**

Deadline:

Applicants are encouraged to submit the Salt Load Reduction Worksheet as early as possible following the release of the FOA, especially if applicants anticipate submitting a revised version of the Salt Load Reduction Worksheet. **Final submissions of Salt Load Reduction Worksheet must be received by Reclamation no later than August 1, 2019.**

## A.2 PROPOSED SALINITY CONTROL

### A.2.A IRRIGATION DELIVERY SYSTEM IMPROVEMENTS

**Prior to preparing the responses for the Worksheet, applicants proposing salinity control projects through irrigation delivery system improvements should contact the appropriate Reclamation Technical Contact listed in Section B to learn if salt load reduction estimates are available for your area.** Salt load reduction estimates for agricultural areas can only be provided where Reclamation has been able to make estimates from Reclamation, Natural Resources Conservation Service (NRCS), or United States Geological Survey (USGS) salinity studies. For proposed salinity control projects through irrigation delivery system improvements, applicants must complete and submit the Worksheet including Part D.1 of the Background & Information section describing the facilities to be improved or replaced and Appendix B detailing the facility data. Describe plans for abandoning any facilities. If the project plan does not remove or fill in the canal, please describe why this will be left open. (Leaving a ditch/canal open will decrease the salt loading and will increase cost effectiveness)

### A.2.B OTHER TYPES OF SALINITY CONTROL

Applications for other types of salinity control (non-irrigation related) will be accepted for evaluation in the FOA. Applicants proposing other types of salinity control must complete and submit the Worksheet including Part D.2 of the Background & Information section and Appendix C. The Worksheet is to include relevant information and data regarding the salinity source and proposed salinity control process and must quantify the salt load reduction. Reclamation will review the information regarding the salinity source and control process and

may request additional information. In the response letter to the applicant, Reclamation will either confirm and accept the applicant's estimated salt load reduction or provide a revised estimate based on Reclamation's analysis of the information.

### **A.2.C WATER IMPOUNDMENT STRUCTURES**

This section contains special provisions for applications involving new pond or reservoir construction.

It is allowable to include the construction of a new pond or reservoir in a salinity control proposal if that structure is needed for the operation of a piped irrigation water delivery system or for other essential purposes. Justification for the pond or reservoir must be provided in the application. To be acceptable the design and construction must meet standards developed by Reclamation. The standards are aimed at providing the impoundment structure liner and other components sufficient to last for the life of the entire project (50 years if coupled with buried pipelines) and that they are built to acceptable standards. Applicants contemplating a new pond or reservoir can obtain these standards from the appropriate Technical Contact listed in Section B. A successful applicant's funding agreement will require a complete Reclamation review and approval of the proposed design, specification, and construction standards.

Additional seepage will likely occur from the new pond or reservoir and must be accounted for in the application's overall salt load reduction estimate. This seepage must be identified and multiplied by the appropriate local salt loading rate to estimate new salt loading which will then be deducted from the application's total salt load reduction estimate. Applicants proposing new water impoundment structures as part of a salinity control project must obtain a salt load reduction estimate from Reclamation by completing and submitting the Salt Load Reduction Worksheet.

## **SECTION B - RECLAMATION SALINITY TECHNICAL CONTACTS**

### Colorado River Basin Salinity Control Program Manager

Mr. Kib Jacobson

125 South State Street, Room 8100  
Salt Lake City, UT 84138  
Phone: 801-524-3753  
Email: [kjacobson@usbr.gov](mailto:kjacobson@usbr.gov)

### Colorado River Basin Salinity Control Program Basinwide Coordinator

Mr. Brad Parry

125 South State Street, Room 8100  
Salt Lake City, UT 84138  
801-524-3723  
[bjparry@usbr.gov](mailto:bjparry@usbr.gov)

### Colorado River Basin Salinity Control Program Basin States Coordinator

Ms. Marcie Bains

125 South State Street, Room 8100  
Salt Lake City, UT 84138  
801-524-3747  
[mbainson@usbr.gov](mailto:mbainson@usbr.gov)

### Western Colorado & Southwest Colorado, New Mexico, and Arizona

Mr. Andrew Limbach

Bureau of Reclamation  
445 West Gunnison Ave Suite 221  
Grand Junction CO 81501-5711  
Phone: 970-248-0644  
Email: [alimbach@usbr.gov](mailto:alimbach@usbr.gov)

### Eastern Utah and Western Wyoming

Mr. Ben Radcliffe

Bureau of Reclamation  
302 East 1860 South  
Provo UT 84606  
Phone: 801-379-1213  
Email: [bradcliffe@usbr.gov](mailto:bradcliffe@usbr.gov)

<b>REQUESTOR INFORMATION</b>													
<p>This worksheet may only be submitted by the owner/operator of the facilities proposed to be improved or constructed. The owners may, at their discretion, designate an engineering/consulting company or individual as their representative in an email to <a href="mailto:bor-sha-uc-foasaltloadreduction@usbr.gov">bor-sha-uc-foasaltloadreduction@usbr.gov</a></p> <p>Salt load reduction estimates will be provided directly to the Entity Manager with a copy to any designated representative.</p>													
<b>A.</b>	<p><b>REQUESTING ENTITY NAME:</b>  City/town, State</p>												
	<p>Response:  <b>Michael Clinton Consulting, LLC</b>  <b>8635 W. Sahara Ave., #588</b>  <b>Las Vegas NV 89117</b></p>												
<b>B.</b>	<p><b>PROJECT NAME:</b></p>												
	<p>Response:  <b>Cryodesalination</b></p>												
<b>C.</b>	<p><b>WORKSHEET PREPARED BY:</b></p>												
	<p>Response:  <b>Michael J. Clinton, PE</b></p>												
<b>D.</b>	<p><b>ENTITY MANAGER CONTACT INFORMATION:</b></p>												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Name:</td> <td><b>Michael J. Clinton, PE</b></td> </tr> <tr> <td>Title:</td> <td><b>President, Michael Clinton Consulting, LLC</b></td> </tr> <tr> <td>Address:</td> <td><b>8635 W. Sahara Ave., #588</b> <b>Las Vegas NV 89117</b></td> </tr> <tr> <td>Telephone:</td> <td><b>702-807-9071</b></td> </tr> <tr> <td>Fax:</td> <td><b>702-304-0084</b></td> </tr> <tr> <td>E-mail:</td> <td><b>mcenginr@aol.com</b></td> </tr> </table>	Name:	<b>Michael J. Clinton, PE</b>	Title:	<b>President, Michael Clinton Consulting, LLC</b>	Address:	<b>8635 W. Sahara Ave., #588</b> <b>Las Vegas NV 89117</b>	Telephone:	<b>702-807-9071</b>	Fax:	<b>702-304-0084</b>	E-mail:	<b>mcenginr@aol.com</b>
Name:	<b>Michael J. Clinton, PE</b>												
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Telephone:	<b>702-807-9071</b>												
Fax:	<b>702-304-0084</b>												
E-mail:	<b>mcenginr@aol.com</b>												

## **BACKGROUND & INFORMATION FOR SALT LOAD REDUCTION ESTIMATE**

IN ORDER TO OBTAIN SALT LOAD REDUCTION ESTIMATES FOR FOA APPLICATIONS, THIS  
WORKSHEET MUST BE SUBMITTED TO

[BOR-SHA-UC-FOASALTLOADREDUCTION@USBR.GOV](mailto:BOR-SHA-UC-FOASALTLOADREDUCTION@USBR.GOV)

Provide a brief narrative or tabular data responding to each of the following sections that apply to the proposed salinity control project. All information must be entered into the response boxes provided in the application, with the exception of data tables which may be inserted in Appendix B. Additional instructions for completing this worksheet are provided in Section A. (It is important to confer with or contact the appropriate Technical Contact listed in Section B, prior to preparing the responses for this worksheet)

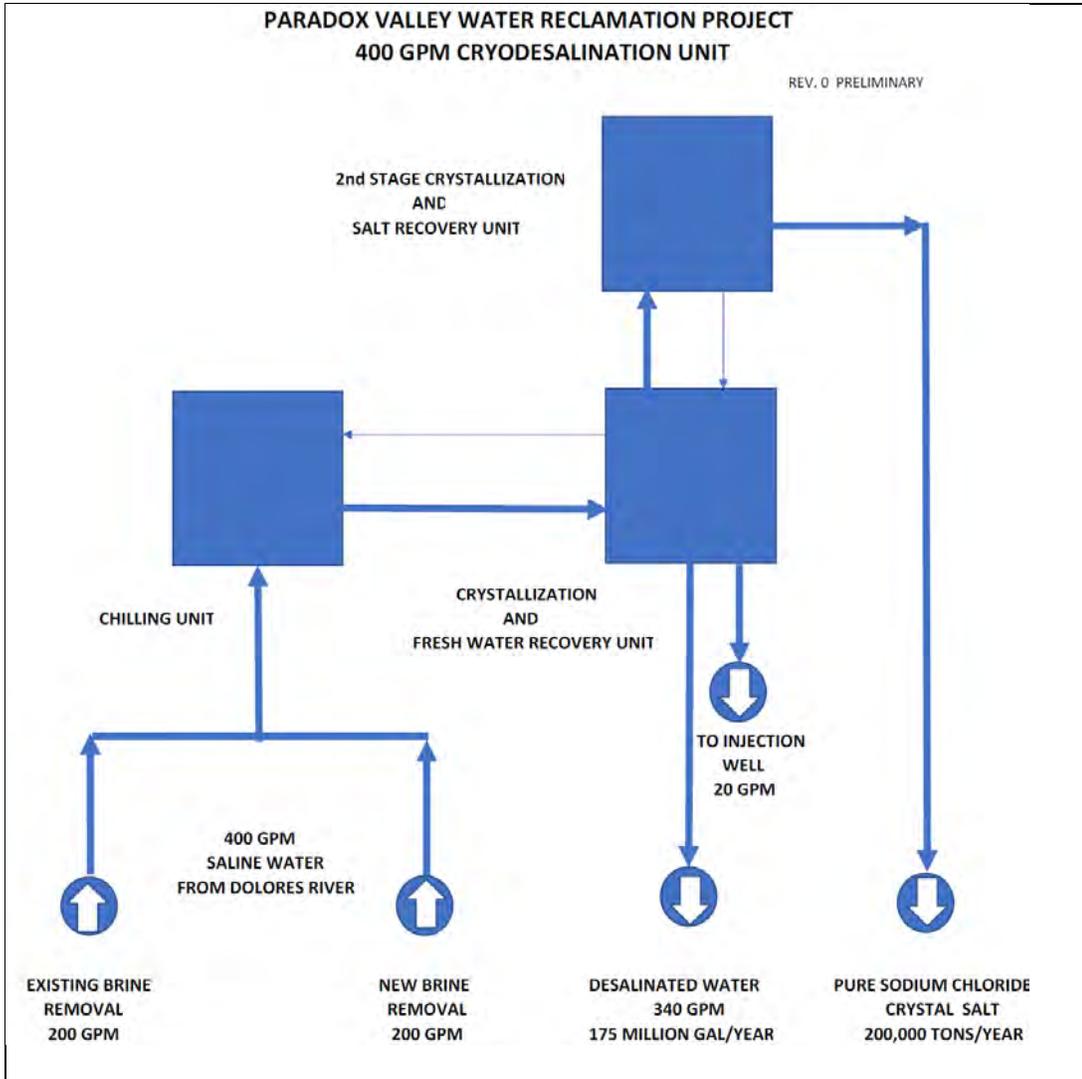
**A. BACKGROUND & DESCRIPTION OF PROJECT AREA:** Describe project setting and geographic location. For irrigation-related applications, include general hydrology, geology, soils, climate (average rainfall, temperature, and growing season), water storage facilities, existing irrigation facilities (total mileage of canals & laterals and number of users), irrigated acreage, types of crops, etc.

**Response:**

**The enhancement and protection of the quality of water available in the Colorado River for use in the United States and the Republic of Mexico is necessary to comply with the Federal Water Pollution Control Act of 1948 (P.L. 80-845) and the Colorado River Basin Salinity Control Act of 1974, as amended and supplemented (P.L. 93-320). The Paradox Valley Salinity Control Unit (the PVU”) is located along the Dolores River in western Montrose County, approximately 50 miles southwest of Grand Junction, Colorado, and 10 miles east of the Colorado-Utah border. Area groundwater, naturally high in salt because of a salt anticline in the Paradox Valley, enters the Delores River, a tributary of the Colorado River near this site. Saline concentrations of this natural brine groundwater have been measured in excess of 250,000 milligrams per liter, which, prior to the PVU, added more than 205,000 tons of salt to the Dolores River annually.**

**To reduce the amount of salt entering the Colorado River eco-system, the PVU drilled a series of 9 groundwater interceptor wells to pump and presently divert approximately 200 gallons per minute of salt laden groundwater and 100,000 tons of salt per year to a 16,000-foot deep Class V injection well. Recent seismic activity resulting from the underground brine injection has limited the volume of groundwater and salt now intercepted and increased the salt load on the river system. As the injection pressure in the well increases and brine disposal rates decrease, it is important to look at alternative methods to control the salt deposition.**

**As part of their program to decrease salt loading of the Delores River System, the PVU historically diverted 400 gallons per minute of groundwater for treatment and disposal but due to physical limitations with the current system, has had to reduce this quantity to 200 gallons per minutes of groundwater. This proposal will reinstate this diversion to 400 gallons per minute with 340 GPM of fresh water returning to the Dolores River, as shown in the Block Diagram below:**



**B. PROJECT MAP(S):** Attach a detailed map(s) as Appendix A scaled appropriately to easily identify the project area, existing facilities, and major geographic features including roads, streams, reservoirs, towns, etc. If the proposed project is irrigation related, the map should show locations of canals, laterals, and irrigated lands and land ownership (Federal, state, Tribal, private etc). Those canals or laterals proposed for improvement or abandonment under this application should be identified. Existing lined or piped sections of canals or laterals should also be clearly identified.  
**See Appendix B, Attached**

**C. WATER RIGHTS AND SUPPLY:** Describe the water rights for both diversion and storage. Describe irrigation water supply and water shortages.

Response:  
**Reclamation has been decreed a conditional water right for the nine intercept wells of 1.34 cfs (600 GPM). An augmentation plan allows water to be stored in McPhee Reservoir and released to replace depletions in the Dolores River resulting from out-of-priority pumping of the brine production well field. This project will use up to 200 GPM of the entitlement but will deliver about 170 GPM of replacement fresh water back to the Dolores River system.**

Bureau of Reclamation  
Colorado River Basinwide and Basin States Salinity Control Programs  
Salt Load Reduction Worksheet

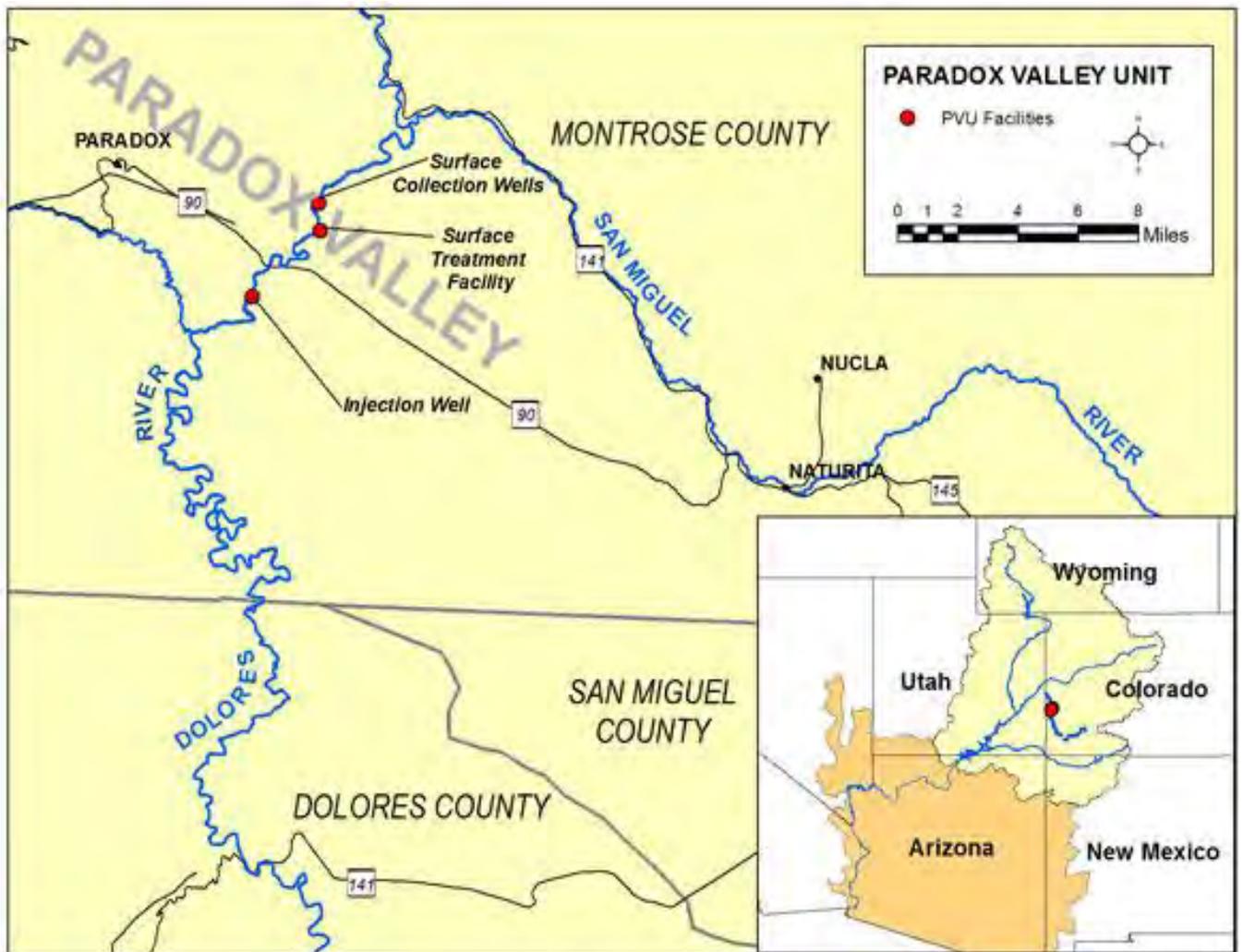
D.	<p><b>DESCRIPTION OF PROPOSED SALINITY CONTROL:</b> Describe proposed process or changes (in parts D.1, D.2, or D.3) anticipated by the proposed project that will lead to salt load reductions to the Colorado River system. This would include improvements to or elimination of existing facilities or operations. Describe plans for abandoning any facilities. If the project plan does not remove or fill in the canal, please describe why this will be left open. (leaving a ditch/canal open will raise cost effectiveness) If the application does not contemplate changes in one of the three categories below, please indicate by entering "NA" or "Not Applicable".</p>
D.1	<p><b>IRRIGATION DELIVERY SYSTEM (CANALS, LATERALS, DITCHES) IMPROVEMENTS:</b> If specific facilities are to be improved or replaced, include a detailed description of the facilities and complete Appendix B.</p> <p>Response: N/A</p>
D.2	<p><b>OTHER TYPES OF SALINITY CONTROL (NON-IRRIGATION RELATED):</b> For desalinization, evaporation or other salinity control measures, clearly describe the proposed project, identify the salinity sources and quantify the salt (in tons/year) that will be controlled or eliminated. Include data that defines the salt loading and control in tabular format in Appendix C.</p> <p><b>Response:</b>  <b>The CryoDesalinization Unit will process approximately 200 GPM of water from the Delores River resulting in a decrease of 94,000 tons of salt per year to the Colorado River system.</b></p> <p><b>CryoDesalination separates water and salt from brines through freezing. CryoDesalinization cools influent brine to -2°C to -10°C by injecting liquid propane into the feed stream via its unique Crystallizer design. This freezing process means there are no chemicals needed for treating the feed stream, no fouling and no scaling. Lowering the temperature of the influent brine creates freshwater ice crystals in solution. The ice, brine, and any precipitated salts are then mixed with Cryosol oil. Cryosol and water are immiscible liquids that create a definable layer between the concentrated brine below the oil layer and the freshwater ice on top. The ice is decanted and diverted to a heat exchange unit for melting and 85% of the brine (approximately 170 gallons per minute) with less than 1,000 ppm TDS would be delivered as fresh water back to the Delores River. Once the ice is isolated from the solution, the Cryosol brine passes through a propane condenser where the evaporated propane is collected, compressed, condensed, and recycled for re-injection. The residual brine enters a Separation Column where approximately 30 gallons per minute of concentrated brine is segregated and transported for disposal in the existing injection well. The remaining Cryosol oil is recycled for reuse.</b></p> <p><b>The heat exchange unit power consumption is minimized by lowering the propane/compressor pressure ratio and by taking advantage of the winter climate in the Paradox Valley. This innovative approach reduces power consumption in the plant and lowers costs for brine processing. This gravity separation occurs without any mechanical means or handling of solids, thus effecting savings of maintenance and labor. The efficient use of propane and Cryosol along with thermodynamic advantages using pressure ratios, helps to keep the</b></p>

	<p><b>overall power consumption of the process at a minimum.</b></p> <p><b>As conditions allow, the quantity of brine will be increased to 400 GPM with additional salt load reduction.</b></p>
<b>D.3</b>	<p><b>NEW WATER IMPOUNDMENT STRUCTURES:</b> If new ponds, reservoirs, settling basins, or other water impoundment structures are to be constructed for any purpose (e.g., re-regulation, evaporation pond, etc.) as part of this application, address the requirements listed in Section IV.C.1.b. If the size of a proposed or existing water impoundment structure increases later a new salt load calculation will be developed and funding may be reduced, and/or the application ranking may change. Modifications to the structures would require Reclamation review and approval of the proposed design, specification, and construction standards”.</p> <p>Response: <b>No new water impoundment structures proposed.</b></p>

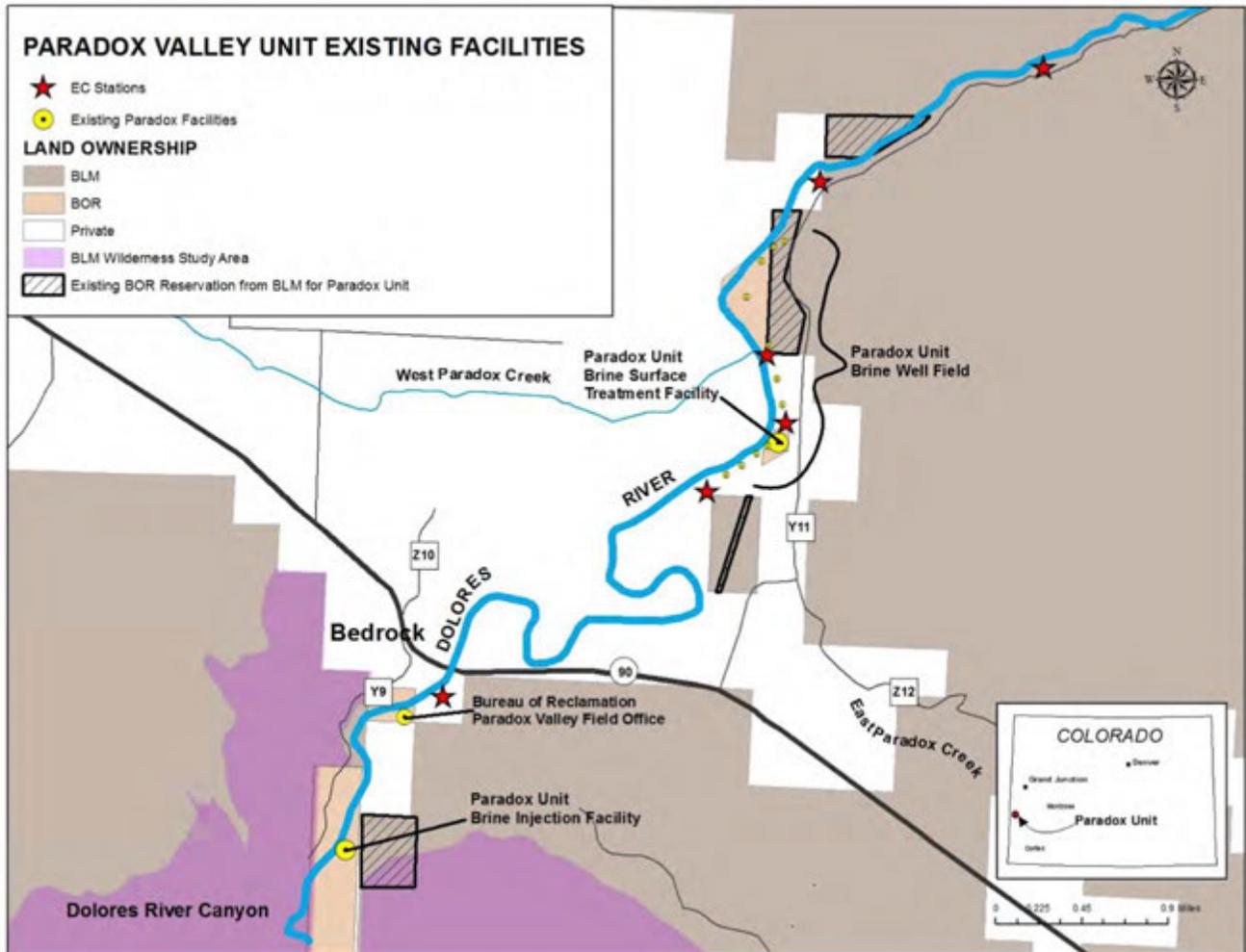
**APPENDIX A: EXISTING IRRIGATION DELIVERY FACILITIES DATA SHEET** (Use  
required format)

**N/A**

**APPENDIX B: PROJECT MAPS**



Bureau of Reclamation  
Colorado River Basinwide and Basin States Salinity Control Programs  
Salt Load Reduction Worksheet



Bureau of Reclamation  
Colorado River Basinwide and Basin States Salinity Control Programs  
Salt Load Reduction Worksheet



**APPENDIX C: SUPPLEMENTAL DATA TABLES AND/OR DATA FOR OTHER  
TYPES OF SALINITY CONTROL (NON-IRRIGATION RELATED)**

N/A

FW: Comments on Paradox Valley Unit Draft EIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 2:06 PM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (2 MB)

PVUEIS\_CRBComments\_02192020.pdf;

**COMMENT LETTER 249**

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**From:** paradoxeis@usbr.gov On Behalf Of Rich Juricich

**Sent:** Wednesday, February 19, 2020 2:04:46 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Comments on Paradox Valley Unit Draft EIS

Dear Mr. Warner,

The Colorado River Board of California appreciates the opportunity to comment on the Draft EIS for the Paradox Valley Unit salinity control replacement project. The Board's comments are attached for your consideration. Please contact me if you have any need to follow-up on this topic.

Sincerely,

*Rich Juricich*

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Colorado River Board of California  
770 Fairmont Ave, Ste. 100  
Glendale, CA 91203-1068  
Office: (818) 500-1625 Ext 303  
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[www.crb.ca.gov](http://www.crb.ca.gov)





February 19, 2020

Mr. Ed Warner  
Area Manager, Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, Colorado 81501

Re: Comments of the Colorado River Board of California on the Paradox Valley Unit Draft Environmental Impact Statement

Dear Mr. Warner:

The Colorado River Board of California (Board) appreciates the opportunity to provide its comments on the Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit (PVU) to evaluate brine disposal alternatives to replace the existing brine injection well. The Board also appreciates Reclamation's extension of the comment period to February 19, 2020. The extra time allowed the Board to coordinate its comments with the Colorado River Basin Salinity Control Forum (Forum) and California agencies to ensure consistency and consensus in preparation of the comments. The Board fully supports the forthcoming comments from the Forum as part of its comments on the PVU DEIS. The Board is providing the following additional comments with respect to the PVU DEIS.

**Salinity Control Program:**

The Board strongly supports the ongoing implementation of the Colorado River Basin Salinity Control Program (Program), and in particular continued salinity control through the PVU. The PVU is an extremely effective salinity control project among the 1974 Colorado River Basin Salinity Control Act (P.L. 93-320, as amended) Title II projects as it has consistently resulted in eliminating approximately 100,000 tons of salt annually from entering the Dolores River upstream of the Colorado River and provides specific and verifiable improvements to the salinity concentrations in the Colorado River. The PVU is an important component of the Program developed by the Basin States and approved by the U.S. EPA and is necessary to meet water quality standards mandated under the Clean Water Act.

The Board works very closely with and supports the unique role that the Forum plays in the coordination, development, implementation and funding of salinity control projects throughout the Basin. The Board looks forward to working with the Forum and Reclamation to implement a successful replacement for the existing PVU salinity control project facility.

**Continued Operation of the Existing PVU Brine Injection Well:**

The Board believes the existing PVU brine injection well is a cost effective and valuable facility that should remain in place while a replacement alternative is developed and implemented. The current language in the DEIS is unclear about the future status of the existing PVU brine injection well. Nothing in the FEIS or Record of Decision should preclude continued operation of the existing PVU brine injection well, pending Reclamation's ongoing seismic investigations.

249.01

**“No Action” alternative:**

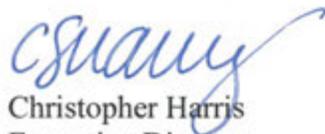
As one of the primary sources of salinity control in the Program, the Board supports continued salinity control at the PVU, and therefore does not support the “No Action” alternative described in the DEIS. Failure to identify a replacement alternative at the PVU would result in approximately 100,000 tons per year of salt, currently being controlled, to reach the Colorado River System leading to an increase in downstream salinity levels of 9-10 mg/L and causing an estimated additional \$23 million dollars in annual economic damages.

**Preferred Alternative:**

The Board, in coordination with the Forum, supports selecting the evaporation pond alternative (Alternative C) as the preferred alternative in the forthcoming PVU FEIS, with appropriate mitigation for wildlife impacts, to provide a long-term method for replacing the existing brine injection well. The Board believes Alternative C meets the purpose and need of the project and provides the greatest certainty of achieving the EIS goals and objectives. Specifically, Alternative C does not have the construction and operational risk associated with a new deep injection well (Alternative B), and does not have the higher annual maintenance and operational costs associated with the Zero Liquid Discharge (Alternative D).

Thank you for your consideration of these comments on the PVU DEIS. Please feel free to contact Mr. Rich Juricich, at (818) 500-1625, or myself, if you have any questions or require additional information regarding these comments.

Sincerely,



Christopher Harris  
Executive Director

FW: Comment Letter - Draft EIS for the Paradox Valley Unit

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 11:48 AM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (690 KB)

CR Salinity DEIS- MWDOC Letter\_2020\_Feb.pdf

COMMENT LETTER 250

From: 'Melissa Baum-Haley' via BOR WCAO DL Paradox EIS

Sent: Wednesday, February 19, 2020 11:46:52 AM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Cc: Maribeth Goldsby; Pari Francisco

Subject: Comment Letter - Draft EIS for the Paradox Valley Unit

On behalf of the Municipal Water District of Orange County, please find our comment letter attached in response to the Draft Environmental Impact Statement for the Paradox Valley Unit of the Colorado River Basin Salinity Control Program.

Thank you,



Melissa Baum Haley, Ph.D. M.E.  
Principal Water Resources Analyst  
Municipal Water District of Orange County  
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A: 18700 Ward Street, Fountain Valley, CA 92708





February 19, 2020

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*Director*

Jeffery M. Thomas  
*Director*

Robert J. Hunter  
*General Manager*

#### MEMBER AGENCIES

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City of Garden Grove  
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City of Tustin  
City of Westminster  
Yorba Linda Water District

Mr. Ed Warner  
Area Manager  
U.S. Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, CO 81501

**Subject:** Comment on the Draft Environmental Impact Statement for the Paradox Valley Unit of the Colorado River Basin Salinity Control Program - Support for Salinity Control

Dear Mr. Warner:

On behalf of the Municipal Water District of Orange County<sup>1</sup> (MWDOC), we thank you for the opportunity to provide input on the Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit (PVU) of the Colorado River Basin Title II Salinity Control Program (Program).

As the third largest member agency of the Metropolitan Water District of Southern California (Metropolitan), MWDOC relies on Colorado River supplies to meet the needs of our service area. The MWDOC service area is composed of retail member agencies with a diversity in water supply and demand. Approximately half of our member agencies are heavily dependent on imported sources, among them the Colorado River, with some nearly 100% dependent. Thus, our comments reflect our ongoing concerns with reliability and water quality of the Colorado River over time.

Protecting the Colorado River's water quality is of paramount importance to our member agencies and, as such, we support USBR's commitment to explore long-term alternatives to reduce salinity in the Colorado River from sources in the Paradox Valley. High salinity can impact the end-users of our water by: increasing the scaling potential of water-using devices; limiting groundwater recharge efforts; reducing the marketability and usability of recycled water; and reducing agricultural crop yields.

For the past 45 years, the Colorado River Basin Salinity Control Forum (Forum) has worked with federal agencies to reduce salinity in the Colorado River through the implementation of salinity control measures. We appreciate that salinity control projects coordinated between the Forum and federal agencies have contributed to

reducing total dissolved solids in the Colorado River by about 100 mg/L in Lake Havasu since the inception of the Program. Salinity control measures have included improved irrigation practices, rangeland management for non-point source control, and deep-well brine injection through the PVU. Historically, the PVU has represented approximately 7 percent of salinity control in the upper Colorado River Basin and has been the largest single point-source control project for the Program. At this time, no other project, albeit a single or group of projects with equivalent salinity reduction benefits, is ready for implementation.

Implementing a PVU replacement alternative is necessary to avoid significant basin-wide economic damages and to continue the success of the Program. Modeling indicates that the PVU reduces salinity-related economic damages to water users in the Lower Basin States by more than \$20 million annually. As well as, additional costs related to meeting state wide water quality standards for groundwater and recycled water use.

We are in favor of the objectives and goals as outlined in the DEIS: to remove approximately 100,000 or more tons of salt per year that would otherwise enter the Colorado River; to optimize the annual cost per ton of salt removed; and to avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in the affected environment. Therefore, **we do not support Alternative A – No Action**, whereby the existing deep injection well would not be replaced as this would represent no salinity control in Paradox Valley. Continued salinity control in the Paradox Valley is critical to reducing salinity levels in the Colorado River. **Thus, we support any cost-considerate long-term replacement alternative that continues or exceeds the salinity reduction achieved by the existing project.**

We recognize the considerable efforts taken by USBR to evaluate the environmental effects of salinity control alternatives in Paradox Valley. USBR has demonstrated a strong commitment to reducing salinity levels in the Colorado River and collaborated with stakeholders who depend on the Colorado River as a source of drinking water. We look forward to the Final EIS and Record of Decision that identify a cost effective alternative ensuring the long-term protection of the Colorado River and its tributaries.

Sincerely,



Robert J. Hunter  
General Manager

<sup>1</sup>Municipal Water District of Orange County is a member of the Metropolitan Water District of Southern California, providing imported water to over 3.2 million Orange County residents through 28 retail water agencies. MWDOC is a wholesale water supplier and resource planning agency whose efforts focus on sound planning and appropriate investments in water supply development, water use efficiency, public information, legislative advocacy, water education and emergency preparedness.

FW: [EXTERNAL] PVU DEIS Comments by the Wyoming State Engineer's Office and Wyoming Department of Environmental Quality

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 3:22 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 251**

1 attachments (1 MB)

2020-0219\_Wyoming\_SEO\_&\_DEQ\_PVU\_DEIS\_Comments\_Final.pdf

**From:** paradoxeis@usbr.gov On Behalf Of Charlie Ferrantelli

**Sent:** Wednesday, February 19, 2020 3:19:44 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] PVU DEIS Comments by the Wyoming State Engineer's Office and Wyoming Department of Environmental Quality

Dear Mr Warner,

The Wyoming State Engineer's Office and Wyoming Department of Environmental Quality, both cooperating agencies in the preparation of the EIS for the Paradox Valley Unit, submit comments for your consideration on the Draft EIS, dated December 6, 2019. Wyoming appreciates this opportunity and looks forward to ongoing collaboration with the Bureau of Reclamation.

Should you have any questions, please do not hesitate to contact me or any Wyoming representative on the Salinity Control Forum.

Sincerely,

Charlie Ferrantelli

**Charlie Ferrantelli**

Wyoming State Engineer's Office - Interstate Streams Division

(307) 777-6151

122 W. 25th St - Herschler Building 1E

Cheyenne, WY 82002

[charlie.ferrantelli@wyo.gov](mailto:charlie.ferrantelli@wyo.gov)

E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.

E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.



Greg Lanning, State Engineer

Todd Parfitt, Director

February 19, 2020

Ed Warner

Area Manager, Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, Colorado 81501

Re: Comments by the Wyoming State Engineer's Office and Wyoming Department of Environmental Quality on the Paradox Valley Unit Draft Environmental Impact Statement of the Colorado River Basin Salinity Control Program

Dear Mr. Warner,

The Wyoming State Engineer's Office and the Wyoming Department of Environmental Quality (collectively referred to as Wyoming) have been designated by the Bureau of Reclamation (Reclamation) as cooperating agencies in the preparation of the Environmental Impact Statement (EIS) for the Paradox Valley Unit (PVU) of the Colorado River Basin Salinity Control Program (Program). In this regard, we submit for your consideration the following comments on the PVU Draft EIS (DEIS), dated December 6, 2019.

### **Wyoming's Role on Forum**

Wyoming, as part of the Colorado River Salinity Control Forum (Forum), works with the other six Colorado Basin States with a common goal of working with federal agencies to reduce salinity in the Colorado River. Wyoming appreciates the opportunity to collaborate with Reclamation to develop an effective replacement salinity control project at the PVU.

A primary role of the Forum is to achieve basin-wide salinity control consistent with Title II of the Colorado River Basin Salinity Control Act. In addition, the Program is required to meet water quality standards that have been developed by the Basin States and approved by EPA. Historically, the Program has been effective at reducing downstream salinity levels by more than 100 mg/l and reducing economic damages by an estimated \$454 million per year.

### **Importance of the PVU for the Forum**

To date, the PVU is the largest single point source control project for the Program, and therefore plays a critical role in reducing salt concentrations in the Colorado River. Wyoming believes that the failure to implement an action at the PVU would cause salinity concentrations to increase in the Colorado River, which is counter to the mandate of the Colorado River Salinity Control Act. As such, Wyoming recommends that Reclamation exhaust all options of salt disposal in Paradox Valley, including implementation of a preferred alternative and the continued operation of the existing PVU injection well at a rate that does not induce seismicity.

The status of continued operations at the existing PVU injection well remain unclear in the DEIS. Because current and future operations of the existing injection well are governed by existing authorization, nothing in the FEIS should suggest preclusion of the continued operation of the existing PVU injection well, pending USBR's ongoing seismic investigation. Wyoming requests that Reclamation update the DEIS to explicitly state that operations of the existing PVU injection well are authorized and governed under other environmental documents, including the 1979 Paradox Valley Unit Final Environmental Statement and the 1986 and 1997 Final Environmental Assessment and Finding of No Significant Impact reports. Moreover, Wyoming requests that Reclamation include language that nothing associated with the present EIS effort and authorizations presupposes, changes or precludes continued operations of the PVU injection well.

251.01

Wyoming understands that the existing injection well is mechanically sound and has only been shut down due to the increased down-hole pressure and increasing seismic activity. Wyoming also understands that Reclamation is currently conducting additional analyses to determine the risks associated with restarting the injection well. If Reclamation determines that the existing PVU injection well can be operated at a lower injection rate that results in acceptable seismic risks, Wyoming recommends that the well resume injection for the remainder of its operational life or until a new alternative can replace all salinity control at the PVU.

### **The Preferred Alternative**

The four alternatives presented by Reclamation in the DEIS have individual advantages and disadvantages, yet it is necessary to recommend the alternative which most effectively and efficiently achieves the EIS's Purpose and Need for Action in addition to achieving the objectives of the Program. Based on Wyoming's current understanding of the DEIS and description of proposed alternatives, Wyoming supports evaporation ponds as the preferred alternative. Wyoming's selection of the evaporation pond alternative is based on the following:

- The evaporation pond option does not have seismic risks. Even though analyses suggest that a new injection well could operate with acceptable down-hole pressure, the risk of seismic hazards continues to exist, even if it is smaller.
- Evaporation ponds are a well-established commercial technology and provide the greatest certainty of achieving the EIS goals and objectives. While the new injection well may ultimately be effective, the geologic uncertainty creates an added risk that drilling will either fail to find the targeted subsurface storage reservoir or that the reservoir would have a smaller storage capacity than intended. These risks may ultimately result in a shorter project life and cost overruns.
- It appears to be technically and economically feasible to scale down the evaporation pond option, whereas the injection well alternative cannot be rescaled effectively. In conjunction with continued operation of the existing PVU injection well, a scaled evaporation pond alternative should be able to reach a desired disposal rate. While the ZLD option is scalable, innovative and has shown success during pilot studies, there is increased risk relying on this relatively new technology.
- While reducing salinity concentrations is a core charge to the Program, it is also important to Wyoming and the Program that it be done in a cost-effective manner. According to the DEIS, evaporation ponds are one of the more effective option in cost per tons of salt removed, while the ZLD alternative costs are the least effective option due to high annual operation, maintenance and replacement costs. Additionally, the ZLD option has higher

power requirements compared to the evaporation ponds and is subject to uncertain price increases and a larger carbon footprint. The injection well alternative may be as cost effective as the evaporation ponds, however, the uncertainties associated with installation and longterm operation may result in cost overruns, as mentioned above.

- Finally, evaporation ponds lend themselves to potential public-private partnerships in which harvested salt can be marketed to local industries. Though this type of partnership needs to be explored further, a potential partnership may reduce costs and stimulate economic growth in the region.

Despite the advantages of evaporation ponds, Wyoming understands that there are factors and uncertainties that need to be studied going forward. Wyoming requests that Reclamation confirm that the evaporation ponds alternative sufficiently addresses environmental impacts (e.g., migratory bird take), scenic impacts (e.g, pond and landfill), and any other impacts that may have been identified by the Forum, the other six basin states, cooperating agencies, and the public. Wyoming also recommends that Reclamation include potential avoidance and mitigation strategies for the evaporation ponds alternative in the FEIS. Finally, Wyoming recommends that Reclamation conduct cost analyses for various scales of the evaporation pond alternative. These analyses would provide valuable information should the Program decide to implement the preferred alternative in phases.

251.02

In conclusion and based on our current understanding provided in the DEIS, Wyoming feels an evaporation pond alternative meets the Purpose and Need for Action and has the greatest certainty in fulfilling the goals and objectives of the EIS. Further, it provides the most certain and cost-effective alternative for meeting the broader goal and objective of improving water quality in the Colorado River System. It is of critical importance to Wyoming that Reclamation continues to work and consult with the Forum and seven basin states during the ongoing development and design of the preferred alternative.

Wyoming appreciates the opportunity to provide comments on the DEIS and looks forward to ongoing collaboration with Reclamation.

Sincerely,



*Steve W. Wolff*  
Wyoming State Engineer's Office



*David Waterstreet*  
Wyoming Department of Environmental Quality

cc:

Greg Lanning, Wyoming State Engineer

Todd Parfitt, Director of Wyoming Department of Environmental Quality

Beth Callaway, State of Wyoming Governor's Office

Don Barnett, Executive Director of the Salinity Control Forum

Pat Tyrrell, Salinity Control Forum Member, Wyoming Principal of Colorado Basin States

Chad Espenscheid, Salinity Control Forum Member

Basin States

**COMMENT LETTER 252**

**FW: New Mexico ISC comments on PVU DEIS**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 2:23 PM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (188 KB)

New Mexico ISC Comments on Paradox Valley DEIS.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Harms, Paul, OSE

**Sent:** Wednesday, February 19, 2020 2:20:32 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Colleen.Cunningham@state.nm.us; rolf.schmidt@state.nm.us; Varela, Gloria, OSE

**Subject:** [EXTERNAL] New Mexico ISC comments on PVU DEIS

Ed Warner,

Attached are comments from the New Mexico Interstate Stream Commission on the Paradox Valley Unit Draft EIS.

Please contact us with any questions.

Thank you,

**Paul W. Harms, P.E.**

NM Interstate Stream Commission

PO Box 25102

Santa Fe NM 87504-5102

(505) 827-6126

paul.harms@state.nm.us

# NEW MEXICO INTERSTATE STREAM COMMISSION

## COMMISSION MEMBERS

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(505) 827-6160  
FAX: (505) 827-6188

February 18, 2020

**Attn: Ed Warner, Area Manager, Bureau of Reclamation**

**RE: New Mexico Interstate Stream Commission Comments on the DRAFT Environmental Impact Statement (EIS) for the Paradox Valley Unit of the Colorado River Basin Salinity Control Program**

Dear Mr. Warner,

The New Mexico Interstate Stream Commission (ISC) appreciates the opportunity to comment on the draft EIS for the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. We are a member of the Colorado River Basin Salinity Control Forum and a Cooperating agency for the Paradox Valley Unit EIS. These comments are in addition to the technical comments we provided earlier on the Cooperator's draft of the EIS.

The ISC supports continued salinity control efforts at the Paradox Valley location to help meet downstream Colorado River salinity criteria and reduce damages to water users. Paradox Valley is a large natural source of salinity to the Colorado River and the easiest point source to control in the Colorado Basin. Therefore, it makes sense to pursue a large salinity reduction project in this area. The ISC supports the comments and the Preferred Alternative identified in the Colorado River Basin Salinity Control Forum's letter on the Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit. We provide additional clarifying ISC comments below:

1. The continued operation of the existing injection well is not addressed in the DEIS, but must be. It is our understanding that the Bureau of Reclamation (Reclamation) plans to operate the existing injection well for an undetermined period of time as seismic and other conditions allow. We support Reclamation continuing to do so either until a suitable alternative is fully operational or in conjunction with implementation of one of the DEIS action alternatives. The final EIS should make it clear that the existing injection well will continue to be operated within previously authorized parameters for an undetermined length of time.

252.01

2. The brine pumping rates analyzed for the action alternatives are 200 or 300 gallons per minute (gpm), depending on the alternative. This theoretically results in either 114,000 tons per year (200 gpm) or 171,000 tons per year (300 gpm) of salt removed from the system. However, according to Table 2-1 of the Draft EIS, the estimated amount of salt potentially available for control in the Paradox Valley has been less than 171,000 tons per year since 1988. Therefore, it

252.02

does not make sense to analyze pumping rates higher than 200 gpm as these may not result in the anticipated removal of 171,000 tons of salt per year and the increased pumping capacity increases project costs and, potentially, environmental impacts. An analysis of all action alternatives at a 200 gpm pumping rate would better account for the amount of salt potentially available for control in the Paradox Valley and allow for easier comparison of alternatives.

252.02

3. The injection well action alternative (Alternative B) has the benefit of permanently removing salt from the system with less risk of accidental reintroduction of salt into surface or groundwater than other alternatives. However, the ISC finds it difficult to assess the potential seismic and financial risks of Alternative B versus the reward of permanent salt removal without additional information indicating whether injection wells in areas B1 and B2 could be completed successfully and used to dispose of brine for several decades. The ISC is not advocating for completion of a 3D seismic survey at this time due to the cost associated with such surveys. In order to better assess the seismic risk and the potential lifespan of the proposed new injection well, Reclamation should consider whether conventional 2D seismic surveys along intersecting lines could be used to visualize the known fault and analyze what other fault(s), if any, are present in the area of the proposed new injection wells.

252.03

4. It has come to the ISC's attention that commercial entities have expressed interest in purchasing salt if Reclamation selected the evaporation pond action alternative (Alternative C). It is also our understanding that commercial entities have expressed interest in being involved in the construction of the evaporation ponds and the salt operations if that alternative was implemented. The ISC requests that Reclamation further examine the marketability of the salt that would be produced by Alternative C (evaporation ponds) or by Alternative D (Zero-Liquid Discharge). Being able to sell the salt would reduce, if not eliminate, the costs associated with salt storage and disposal.

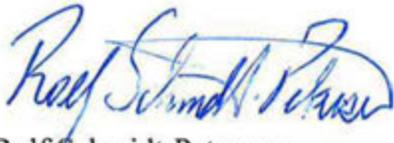
252.04

5. In the absence of additional information that would provide assurances regarding the potential seismic risk and lifespan of the injection well in Alternative B, the ISC supports the evaporation pond alternative (Alternative C) as it appears to have the least financial and operational risks given the available information. However, this alternative is not without risk. Wildlife impacts, fugitive dust, leaching, and potential for dam breaches or overtopping will be significant issues during the life of the evaporation ponds. Any of these issues, should they become problems, could cause operational shutdowns and increase costs associated with this alternative. The ISC recommends that a thorough failure analysis be completed to identify any items or events that could cause shutdown of the ponds, or otherwise increase the cost of implementation of this alternative, and ways to avoid or minimize the associated negative impacts. Many of the items that could cause operational issues with the ponds are identified in the DEIS or supporting technical documents (e.g. the Predictive Ecological Risk Assessment, Pond Design Strategy Final Report, etc.) along with mitigation measures. However, the ISC believes that it would be most helpful to identify all the items or events and necessary mitigation or operational adjustments in one contingency planning operational document for the evaporation ponds. Such a document would facilitate prompt identification and mitigation of risks during operation of the evaporation ponds.

252.05

Thank you for your consideration of these comments. Please do not hesitate to contact Colleen Cunningham ([colleen.cunningham@state.nm.us](mailto:colleen.cunningham@state.nm.us)) of my office if you have questions about these comments.

Sincerely,

A handwritten signature in blue ink that reads "Rolf Schmidt-Petersen". The signature is written in a cursive style with a large, looping initial "R".

Rolf Schmidt-Petersen  
Director, New Mexico Interstate Stream Commission  
Member, Colorado River Basin Salinity Control Forum

Cc: John D'Antonio Jr. P.E. New Mexico Colorado River Compact Principal  
Colleen Cunningham, ISC staff  
Paul Harms, ISC staff





SOUTHERN NEVADA  
WATER AUTHORITY



COLORADO RIVER COMMISSION  
OF NEVADA

February 18, 2020

Mr. Ed Warner, Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave., Suite 221  
Grand Junction, CO 81501

Re: Draft Environmental Impact Statement for the Paradox Valley Unit of the Colorado River Basin Salinity Control Program

Dear Mr. Warner:

The Southern Nevada Water Authority (SNWA) and Colorado River Commission of Nevada (CRC) appreciate the opportunity to provide comments on the Bureau of Reclamation's (Reclamation) Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit (PVU) of the Colorado River Basin Salinity Control Program. SNWA and CRC are cooperating agencies on the DEIS, and support efforts by Reclamation and the Seven Colorado River Basin States (Basin States) to control salinity on the Colorado River.

SNWA and CRC are active participants in the Colorado River Basin Salinity Control Forum (Forum) and Advisory Council. In those capacities, SNWA and CRC work with the other Basin States on ways to achieve salinity control in the Colorado River Basin and provide technical advice to Reclamation and other federal agencies.

In addition to the joint comments submitted by the Forum; SNWA and CRC request Reclamation consider the following comments on the DEIS.

Purpose and Need

The need for the action is described in the DEIS as control of the salinity in the Colorado River contributed by sources in the Paradox Valley, and the purpose is to comply with Title II, Section 202(a)(1) of the Colorado River Basin Salinity Control Act (Salinity Control Act) and approved state water quality standards. Title II, Section 202(a)(1) of the Salinity Control Act simply authorizes, but does not obligate, Reclamation to construct Paradox Valley unit facilities. Additionally, none of the action alternatives are necessary to comply with approved state water quality standards today.

253.01

The DEIS also identifies goals and objectives, which will be considered by the Secretary of the Interior as part of his decision. However, the DEIS does not provide any discussion on how these goals and objectives were developed, and how they relate to the identified purpose and need.

253.02

Tables ES-1 and 2-7 should add a column identifying how the alternatives meet the purpose and need, as well as the goals and objectives.

The last goal and objective are described as being in the best interest of the public, including the local community's desired future conditions. This statement should be modified, or a new statement added addressing the provision of effective and fiscally responsible salinity control particularly as it relates to the Lower Basin Development Fund (LBDF).

253.03

#### Tiered Analysis

The DEIS should clearly describe the areas and alternatives where tiered analysis may be necessary, and what decisions regarding the alternatives can be made based upon the current DEIS. Only one area of potential additional tiered site-specific NEPA analysis was identified in the DEIS - for the completion of 3D seismic survey prior to final selection of new well site under Alternative B (p. 2-7, section 2.4.2.1, 1st paragraph).

253.04

#### Continued Operation of Existing PVU

A common element of all alternatives, including the No Action, is the assumption of closing and abandoning the existing PVU injection well facility (p. ES-5, section ES.7; p. 2-5, section 2.3.4; Table 2-4, footnote 1; p. 3-8, section 3.1.2.2). The language should be clarified that the current injection well is separately authorized and decommissioning the current well is not required under any of the proposed alternatives, including the No Action.

SNWA and CRC supports the Forum's request that Reclamation consider resuming operation of the existing injection well as conditions allow. This could be at reduced injection rates and pressures, with greater rest periods, or both, while another salinity disposal alternative is constructed or phased in over time. The language in the DEIS should be revised to reflect this flexibility with operations of the current injection well.

253.05

#### No Action Alternative

The cost of the No Action Alternative is represented in Table 2-3 and the description of cost is described in Section 2.3. As noted above, the existing injection well is authorized under a separate project and may be desired to continue operating as conditions allow. Thus, the cost for closing/decommissioning the existing injection well would occur regardless of the selected alternative, and the No Action Alternative cost shown in Table 2-3 should be removed.

#### Lifespan and Cost of Alternative B1 and B2

The identified 50-year lifespan of Alternative B1 and B2 may be unreasonable, based upon experience with the existing PVU facility. Reclamation assumes a new well would be sited at a location with a more suitable underground reservoir and bases that assumption on the results from 2D seismic reflection data, analysis of well log and core data, aeromagnetic survey data and interpretation, gravity data interpretation, geologic structure interpretation, induced seismicity analysis, and drilling feasibility studies. Same or similar techniques were used to support citing the existing injection well location. However, within only a few years of operation, the existing injection well had already reached maximum operating pressures forcing a reduction in injection

253.06

rate. Thus, the DEIS should acknowledge that a new well may have a shorter lifespan. A 25- to 50-year lifespan range may be more reasonable.

This would affect the relative cost of this alternative. Thus, a range of cost reflective of a range in lifespan, should be identified in Table 2-3. In addition, Section 2.7.2, Risks to Cost, should reflect the risks to the annualized construction and total annual cost associated with a shorter lifespan.

#### Salt Reduction Capacity for Alternatives C and D

The DEIS should summarize the costs/benefits for all alternatives using a common amount of salt reduction (in units of tons per year). Alternative C and D are designed to capture 171,000 tons of salt per year while Alternative B controls 114,000 tons per year (Table 2-3). A summary comparing the alternatives using the 114,000 tons per year would allow cost-effectiveness of the alternatives to be more readily compared. This number is closer to the historical average amount of brine removed by the existing PVU.

#### Use of Upper Basin and Lower Basin Development Funds

The DEIS identifies the funding mechanism for the proposed action, including the anticipated use of the Colorado River Basin Development Funds (p. 2-19, Section 2.7.3). As noted in that discussion, the LBDF currently has a \$13 million deficit<sup>1</sup>, which has been increasing by approximately \$1 million per year. The Colorado River Basin Development Funds are used to fund a variety of other salinity control projects on the Colorado River. SNWA and CRC request that before Reclamation seeks appropriations for the PVU project and obligates additional funding out of the LBDF, a funding solution be identified to address the historical and future deficit.

To clarify the effects on the Upper and Lower Basin Development Funds, a table should be added in Section 2.7 showing how the funds would be affected by each of the alternatives. The following is an example of such a table.

	A	B Area B1	B Area B2	C	D
Annualized Construction cost (\$M)	\$0.00	\$6.5 - \$6.7	\$7.60	\$10.70	\$16.00
Basin States Cost-share Obligation (25%)	\$0.00	\$1.63 - \$1.68	\$1.90	\$2.68	\$4.00
Upper Basin Development Fund (15%)	\$0.00	\$0.24 - \$0.25	\$0.29	\$0.40	\$0.60
Lower Basin Development Fund (85%)	\$0.00	\$1.39 - \$1.43	\$1.62	\$2.27	\$3.40

#### Water Released from Lake Mead

Drought on the Colorado River persists. It is important for Reclamation to acknowledge in the DEIS that the Alternatives could impact the volume of water released from Lake Mead. Reclamation should work with the Basin States and affected stakeholders to implement appropriate

<sup>1</sup> Occurs in any year a project is funded, and the Lower Basin is not able to meet its cost-share obligation.

Mr. Ed Warner  
February 18, 2020  
Page 4

253.09

mitigation measures if, after the ROD is issued, the selected Alternative would require additional water to be released from Lake Mead. The statement found at p. 3-26, section 3.6.2.2, 2<sup>nd</sup> paragraph should mirror the commitment found in Table 2-5.

#### Other Comments

Table 2-3, footnote 4. Add to the description that the costs of replacing Lake Mead water are not included in the identified annual OM&R costs.

Table 2-4, footnote 1. This footnote should be modified to read "When deemed necessary, the injection well will be plugged and abandoned in accordance with its existing UIC Permit."

Table 2-6, p. 2-34. Under Potential to affect private drinking water wells, Alternative A should be revised to "No effect." This would be consistent with the DEIS analysis, which on p. 3-26 states "there would be no effect once operations cease."

p. ES-4, section ES.5, 2<sup>nd</sup> paragraph. Replace "Section 202(a)(1)" with "Section 201(a)". Section 202(a)(1) of the Salinity Control Act, as amended, speaks to the authority to construct the original PVU, whereas Section 201(a) covers the implementation of the Title II salinity control policy and water quality standards.

p. 2-18, 3-69, 3-70. The symbol "~" should be removed from the document, since the DEIS states all numbers are estimates.

p. 2-19, section 2.7.3, 1<sup>st</sup> paragraph. Remove "The Lower Basin states are Nevada, Arizona and California, and the Upper Basin states are Wyoming, Colorado, Utah and New Mexico." Because this sentence follows the repayment dispersion sentence, it implies that all Lower Basin states are contributing to the LBDF for salinity control purposes and only the Upper Basin states are contributing to the Upper Basin Development Fund (UBDF). This is not true; Arizona is not required to contribute to the LBDF for salinity control until the Central Arizona Project is paid off and Arizona and Nevada power users contribute to the UBDF.

p. 20-20, section 2.7.3, 4<sup>th</sup> paragraph. Change first sentence to, "The Lower Basin Fund receives its funding through a mil levy of 2 1/2 mils for each kw hour of power produced from hydroelectric powerplants along the Colorado River in the Lower Basin." The second sentence is repetitive, so it should be removed.

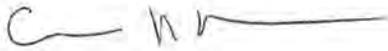
253.10

We appreciate the opportunity to provide comments on the DEIS and look forward to continuing to collaborate with Reclamation and the other Basin States on salinity control on the Colorado River. Since project design has not been completed, and detailed costs have not yet been identified, it is important for Reclamation to continue to coordinate with the Basin States and the Salinity Control Forum during the decision-making process and obtain their concurrence prior to the Basin States incurring a cost-share obligation for a new PVU project.

Mr. Ed Warner  
February 18, 2020  
Page 5

If you have any questions regarding these comments, please contact Colby Pellegrino at 702-822-3378 or [colby.pellegrino@snwa.com](mailto:colby.pellegrino@snwa.com), or Sara Price at 702-486-2670 or [sprice@crc.nv.gov](mailto:sprice@crc.nv.gov).

Sincerely,



Colby N. Pellegrino  
Director, Water Resources Department  
Southern Nevada Water Authority



Sara A. Price, Esq.  
Senior Assistant Director  
Colorado River Commission of Nevada

FW: [EXTERNAL] Comments regarding the Paradox Valley Unit of the Colorado River Basin Salinity Control Program

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 4:36 PM

To: McCarter, Molly E <mmccarter@blm.gov>

COMMENT LETTER 254

1 attachments (752 KB)

Paradox Salinity.pdf

From: paradoxeis@usbr.gov On Behalf Of Carmen Warfield

Sent: Wednesday, February 19, 2020 4:34:13 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Subject: [EXTERNAL] Comments regarding the Paradox Valley Unit of the Colorado River Basin Salinity Control Program

Attn: Ed Warner, Area Manager, Bureau of Reclamation:

Please see the attached comment letter.



Carmen L. Warfield  
Chief Deputy Clerk - BOCC  
San Miguel County  
333 W. Colorado Ave, 3rd Floor  
PO Box 1170  
Telluride, CO 81435  
970-369-5429  
E: \_\_\_\_\_  
W: \_\_\_\_\_



[http://https://www.sanmiguelcountyco.gov/564/Census-2020]Census 2020



## BOARD OF COMMISSIONERS

HILARY COOPER KRIS HOLSTROM LANCE WARING

February 19, 2020

Bureau of Reclamation  
Attn: Ed Warner, Area Manager  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501  
[paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

**Re: Paradox Valley Unit of the Colorado River Basin Salinity Control Program  
Draft Environmental Impact Statement (DEIS)**

Dear Mr. Warner,

Please accept the following comments submitted by the San Miguel County Board of County Commissioners (BOCC).

We appreciate the opportunity to attend the public meetings held in Bedrock and Montrose in January 2020. From the presentations, handouts, Draft Environmental Impact Statement (DEIS) and supporting materials<sup>1</sup> we understand that the goals and objectives of the proposed action are the following:

- Minimize the use of nonrenewable resources, including land and energy.
- Be consistent with existing BLM RMPs, where applicable.
- Be in the best interest of the public, including considerations of health and safety and the local community's desired future conditions.
- Remove 100,000 or more tons of salt per year.
- Optimize [the] annual cost per ton of salt removed.
- Avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in [the] affected environment.

We recognize that this project and Alternatives are not located in San Miguel County, however our residents and visitors travel through, recreate in and otherwise appreciate the Paradox Valley and areas proposed for the Alternatives. San Miguel County participates in the Dolores River Monitoring and Research Team which works on the Dolores River from McPhee Dam to the

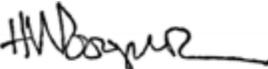
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<sup>1</sup> USBR (12/2019) Paradox Valley Unit of the Colorado River Basin Salinity Control Program DEIS Volumes 1-IV: <https://www.usbr.gov/uc/envdocs/eis.html> and supporting materials (1/2020) at <https://www.usbr.gov/uc/progact/paradox/index.html>

confluence with the Colorado River. While we normally leave land-use decisions in neighboring jurisdictions to our elected colleagues in those jurisdictions, we received a significant number of environmental and socioeconomic concerns from our residents to warrant the submission of our own comments for this significant project.

Alternative A appears to be the single option that meets most of the goals and objectives of the project while avoiding, minimizing, and mitigating negative impacts on the local communities and environment. At this time without additional analysis and clear evidence that salinity control in the Paradox Valley is the only alternative to meet the stated objectives, Alternative A is the only acceptable alternative. Monitoring of salinity and TDS in the Dolores River and seismic events related to the PVU deep injection well that is now shut-in should continue. New alternatives should be explored when there is a clear link to the brine extraction in the Paradox Valley as a necessary solution to salinity reduction on the Colorado River. Until then, Alternative A should be selected.

Sincerely,  
San Miguel County  
Board of Commissioners

  
Hillary Cooper, Chair

  
Lance Waring, Vice Chair

  
Kris Holstrom, Commissioner

**COMMENT LETTER 255**

FW: [EXTERNAL] Draft EIS Plan Comment

SOL, BOR-SHA-UC &lt;bor-sha-uc-sol@usbr.gov&gt;

Wed 2/19/2020 4:28 PM

To: McCarter, Molly E &lt;mmccarter@blm.gov&gt;

**From:** paradoxeis@usbr.gov On Behalf Of James Heller**Sent:** Wednesday, February 19, 2020 4:27:38 PM (UTC-07:00) Mountain Time (US & Canada)**To:** BOR WCAO DL Paradox EIS**Subject:** [EXTERNAL] Draft EIS Plan Comment

To whom it may concern,

I am writing to have my comments considered as the decision process moves forward with regard to the Environmental Impact Statement for the The Paradox Valley Unit of the Colorado River Basin Salinity Control Program.

I am a homeowner in Redvale Colorado, situated on Wrights Mesa between Naturita and Norwood, within the Dolores River watershed. My home is located in a local community that would be significantly impacted by any decision that the Bureau of Reclamation with regard to this project. Additionally, I work in Dolores Colorado which is another community that would be similarly impacted.

As a resident, homeowner (I own two separate homes on different properties in Redvale), employee, and recreationist who made a life changing decision to invest and relocate my life into these communities I feel I should advocate for decisions that I believe would positively affect the Dolores River and the Paradox Valley, and I should rally against decisions that I feel would negatively affect the same areas.

I propose that the Bureau of Reclamation should place "Alternative A - No Action" as the preferred alternative when moving forward with the EIS as the draft is currently written.

"Alternative B - New Deep Injection Well" should be considered the least desirable alternative as it is costly, unproven to be an effective long term solution (the current deep injection well has essentially proven to be a failure over the long run, and there is no proof that a new well would fare any better over time), and is sure to be extraordinarily disruptive to the ecology, environment, and setting of the relatively undisturbed lower reaches of the Slick Rock to Bedrock portion of the Dolores River Canyon System.

I hike, camp, and float that section of river every chance I get. It is without doubt the single most important factor in my decision to relocate my life to the area, and I feel it is a true National Treasure. This is coming from a person who has worked and lived in National Parks and National Forests as a Ranger in spectacular locations throughout the American West.

I implore the bureau to not make a decision that would contribute to the ongoing industrialization of the few scraps of relatively pristine natural areas left in this region. While I understand that there needs to be a way to address the problem of excess salinity in the Colorado River Basin, I do not feel that as currently written the Draft EIS for this project is getting us there in the most effective and least destructive way possible. Alternatives C and D are better than Alternative B in my opinion because they do not impose further damage to the section of river in question beyond that which already exists, but I do not feel they go far enough as written to address concerns over the impact to the Paradox Valley itself as currently proposed. Perhaps there is room in those proposals to improve, but as currently written I can not support them. Therefore I reiterate that I want the Bureau of Reclamation to recommend Alternative A in the Final Environmental Impact Statement for this project when moving forward as of this writing.

Thank you for considering my comments. Please keep me informed of ongoing developments and decisions regarding this issue.

James Henry Heller  
PO Box 173  
35480 Highway 145  
Redvale Colorado  
81431  
(970) 629-5399  
[iamaheller@gmail.com](mailto:iamaheller@gmail.com)

FW: [EXTERNAL] American Whitewater's Comments of the Paradox Valley Unit Draft Environmental Impact Statement

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 4:50 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 256**

1 attachments (148 KB)

Paradox DEIS\_AW comments\_2.19.20.pdf;

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**From:** paradoxeis@usbr.gov On Behalf Of Hattie Johnson

**Sent:** Wednesday, February 19, 2020 4:48:01 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] American Whitewater's Comments of the Paradox Valley Unit Draft Environmental Impact Statement

Good Afternoon Mr. Warner,

Please find attached American Whitewater's comments on the draft Environmental Impact Statement for the Paradox Valley Unit of the Colorado River Basin Salinity Control Program. We appreciate the opportunity to provide our input and hope you find our perspective as river recreationists and advocates useful in your review.

Please contact me if you have any questions or concerns.

Thank you

--

Hattie Johnson, PLA  
Southern Rockies Stewardship Director

[AmericanWhitewater.org](http://AmericanWhitewater.org)

395 S 2nd Street  
Carbondale, CO 81623  
970.456.8533

[Join American Whitewater!](#)

February 18, 2020

Bureau of Reclamation  
Attn: Ed Warner, Area Manager  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Letter sent via email to: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

*Re: Paradox Valley Unit Draft Environmental Impact Statement*

Dear Mr. Warner,

American Whitewater appreciates the opportunity to provide comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program Draft Environmental Impact Statement.

American Whitewater is a national non-profit 501(c)(3) river conservation organization founded in 1954 with approximately 6,000 members and 100 local-based affiliate clubs, representing whitewater enthusiasts across the nation. American Whitewater's mission is to protect and restore America's whitewater rivers and to enhance opportunities to enjoy them safely. The organization is the primary advocate for the preservation and protection of whitewater rivers throughout the United States and connects the interests of human-powered recreational river users with ecological and science-based data to achieve the goals within its mission. Our vision is that our nation's remaining wild and free-flowing rivers stay that way, our developed rivers are restored to function and flourish, that the public has access to rivers for recreation, and that river enthusiasts are active and effective river advocates.

Starting in 2003, American Whitewater has been invested in a collaborative effort to protect and restore natural attributes of the Dolores River watershed. Our comments provided herein pertain to the temporary and permanent negative impacts described in Alternative B to the Dolores River Canyon and the outstanding recreational opportunities it provides. In addition, our comments include concerns the cultural, social, recreational, economic, and wildlife resources of Alternative C and D.

*Purpose and need for action:*

The Colorado Basin Salinity Control Act authorizes the Paradox Valley unit as "this initial stage of the Colorado River Basin salinity control program".<sup>1</sup> From our understanding, the efficiency of the PVU has decreased significantly over the past year due to increased seismicity in the region of the injection well. It would be most advantageous to reviewers for the DEIS to provide a baseline assessment of the benefit of the past 24 years of operation of the Paradox Valley Unit

<sup>1</sup> The Salinity Control Act (1974). Available at:  
<http://www.onthecolorado.com/Resources/LawOfTheRiver/SalinityControl1974.pdf>

256.01

of the Colorado River Basin Salinity Control program. How have salinity levels at Imperial Dam corresponded to these changes in operations of the past few years of the PVU? Each alternative shows the salt reduction expected at Imperial, but is not qualified by the current levels at which the PVU is reducing salinity. It is our recommendation that the BOR not decide on one of the action alternatives unless the need for the project can be clearly identified.

*Goals and objectives:*

Four of the stated DEIS project goals are as follows:

- Avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in the affected environment
- Minimize the use of nonrenewable resources, including land and energy
- Be consistent with existing BLM resource management plans (RMPs), where applicable
- Be in the best interest of the public, including considerations of health and safety and the local community's desired future conditions.

Each action alternative described fails one or all these stated goals. Below we identify the failures of each action alternative as they relate to the above goals. It is our recommendation that the Bureau of Reclamation (BOR) either select Alternative A, no action, or complete a more holistic analysis of the need for the Paradox Valley unit within the entire Colorado River Salinity Control Program and include a cost benefit analysis when developing a different range of alternatives.

Additional alternatives could include non-structural options like modification of Dolores River flows, or alternative structural options with less impactful locations or approaches. Reduced stream flows lead to higher concentrations of salinity. This has especially compounded the salinity issue for the Dolores River. Since the construction of the Dolores Project, the magnitude, frequency, and duration of flushing flows have decreased by annual flows from 30% before McPhee to 69% after McPhee.<sup>2</sup> We understand that increased flows in an overallocated system are difficult. However, the efficiency of use of water within the Dolores Project could be analyzed in a subsequent suite of alternatives. This alternative would additionally help the BOR meeting whitewater boating mitigation measures described in the 1977 Dolores Project Environmental Impact Statement.<sup>3</sup>

*Alternative A – No Action:*

American Whitewater supports no action over B1, B2, C and D. The impacts to wild and scenic rivers, wilderness study areas, wildlife, cultural resources, and energy resources of each action alternative do not meet the state goals of the project and would do long-term damage to public resources for short-term salinity mitigation.

<sup>2</sup> Core Science Report for the Dolores River Dialogue, 2005. Available at: <http://ocs.fortlewis.edu/drd/pdf/coreScienceReport.pdf>

<sup>3</sup> Bureau of Reclamation. Dolores Project Colorado Final Environmental Impact Statement. 1977. Chapter D Mitigation Measures and Air and Water Quality Aspects

*Alternative B – New Injection Well:*

American Whitewater has particular concern with Alternative B, specifically the location identified in B1. The Bureau of Reclamation's Alternative B1 would not only physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek with the horizon before them criss-crossed by powerlines, roadways, traffic, chain link fences, storage tanks, buildings, and lights. The DEIS makes unsubstantiated claims that these impacts would only have a minor affect the river segment's recreation and wild classification.

The Tres Rios Field Office found the Dolores River eligible for inclusion in the wild and scenic rivers system. The segment of the river from Little Gypsum Bridge to 2.5 upstream of Bedrock was classified as wild and the remaining 2.5 miles to Bedrock were identified as recreational.<sup>4</sup> Placement of a new injection well and the associated infrastructure as indicated in the DEIS would violate the BLM's nondegradation standard as it would impact both the recreation and scenery Outstandingly Remarkable Values (ORVs). There will also be potential impacts to fish, wildlife and vegetation ORVs. The experience for boaters floating downstream the last couple of miles to the Bedrock boat ramp will be negatively impacted to a significant degree.

Additionally, the new bridges would impose a safety hazard not present elsewhere in the reach. This segment of river is rated class II+<sup>5</sup>, defined as "straightforward rapids with wide, clear channels" by the International Scale of River Difficulty.<sup>6</sup> The DEIS states no bridge supports or abutments would be constructed below the ordinary high-water mark of the river, nor would any rip rap be placed below the ordinary high-water and thus not negatively affect the free-flowing nature. However, that level of detailed design would not be included in this level of planning and cannot be considered as insurance two new bridges would not create new river hazards. Tres Rios estimated 5300 boaters through the Dolores River Canyon in 2019. According to surveys of our membership who floated the section in 2019, many were family trips with intermediate experience.

From the reports of the existing injection well, this approach to salinity control has a short lifetime. The minimal distance from the existing wells does not provide confidence a new well would be a sufficient long-term solution. This is another reason to assess if other locations would be better for salt removal.

The location in Alternative B2 would destroy habitat for desert bighorn sheep and the Gunnison sage grouse, and potentially create additional earthquakes in the region. Alternative B does not avoid or minimize adverse impacts on physical, biological, social and economic resources in the affected environment. It is inconsistent with existing BLM resource management plans (RMPs), and is not in the best interest of the public, including considerations of health and safety and the local community's desired future conditions.

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<sup>4</sup> [https://eplanning.blm.gov/epl-front-office/projects/lup/65211/78936/91213/Appendix\\_D\\_WSR\\_FINAL.pdf](https://eplanning.blm.gov/epl-front-office/projects/lup/65211/78936/91213/Appendix_D_WSR_FINAL.pdf)

<sup>5</sup> <https://www.americanwhitewater.org/content/River/detail/id/387/>

<sup>6</sup> [https://www.americanwhitewater.org/content/Wiki/safety:start#vi.international\\_scale\\_of\\_river\\_difficulty](https://www.americanwhitewater.org/content/Wiki/safety:start#vi.international_scale_of_river_difficulty)

### *Alternative C – Evaporation Ponds:*

In the context of the project's stated goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public, Alternative C fails on all counts and must be discarded. BLM's proposed Paradox Rock Art ACEC is adjacent to the large salt evaporation ponds proposed in Alternative C. These would greatly diminish the setting of the Paradox Rock Art ACEC:

The nominated Paradox Rock Art ACEC is located in the eastern part of Paradox Valley. It contains important rock art and archaeological sites, including several outstanding examples of Ancestral Puebloan style petroglyphs, Formative period and earlier occupations, features and isolates, and settled village sites dating more than five hundred to a thousand years old. The site is rare for its northern extent of Anasazi rock art and occupation. (Uncompahgre Proposed RMP FEIS at 4-170).

For cultural resources, a significant adverse impact would be the loss of those elements that make them eligible for listing on the National Register of Historic Places due to the extent or degree to which resources are damaged, their physical integrity is lost, or the setting of the resource is damaged. Siting over a thousand-acre salt evaporation pond facility adjacent to a National Register District site would create significant adverse impacts by enormously modifying the setting of the Paradox Rock Art site.

Additionally, this alternative would have serious impacts to wildlife (i.e. migratory birds) and game habitat. The 600-acre footprint would impair critical habitat for elk and mule deer habitat with increased activity and the presence of evaporation ponds. The proposed location of Alternative C sits on top of the ephemeral East Paradox Creek. It is prone to flashy conditions with recorded of floods of almost 400 cfs at times. These flows could easily flood the site and carry salt directly into the Dolores River.

### *Alternative D – Zero Liquid Discharge Technology:*

The visual impacts from the on-site salt landfill would negatively affect the rural character of the Paradox Valley. However, most concerning with this alternative is the high energy use required.

While the DEIS states that the operations would create carbon dioxide emissions within allowable EPA regulations, the burning fossil fuels to power the crystallizers create a new source of greenhouse gas use in the region, contributing to climate change.

BLM's proposed Biological Soil Crust ACEC is adjacent to the location of the Zero Liquid Discharge facility proposed in Alternative D. Given the omission of analysis of impacts to biological soil crusts, it is not possible to ascertain whether Alternative D would achieve the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public.

Alternative D does not sufficiently avoid or minimize adverse impacts on physical, biological, social, and economic resources in the affected environment. It especially does not minimize the use of nonrenewable resources, including land and energy. It also doesn't seem to be in the

best interest of the public, including considerations of health and safety and the local community's desired future conditions.

We appreciate the effort that went into the evaluation of options for salinity control in Paradox Valley and the substantial technical analysis and review. The DEIS provides an opportunity to analyze impacts to boarder surface values such as recreation, wildlife, scenery, wilderness, and cultural resources. We look forward to the incorporation of these concerns into further analysis and an eventual decision.

Thank you for your consideration of American Whitewater's comments on the DEIS for the Paradox Valley Unit. We have significant concerns about this project and intend to remain involved in all future stages of the planning process. If you have any questions or concerns, please feel free to contact me.

Sincerely,



Hattie Johnson  
Southern Rockies Stewardship Director  
American Whitewater

FW: Colorado River Basin Salinity Control Advisory Council Comments on Paradox Valley DEIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 3:43 PM

To: McCarter, Molly E <mmccarter@blm.gov>

COMMENT LETTER 257

1 attachments (94 KB)

Advisory Council Comment Letter on PVU DEIS 2020-02-19.pdf

From: paradoxeis@usbr.gov On Behalf Of Hasencamp, William

Sent: Wednesday, February 19, 2020 3:42:14 PM (UTC-07:00) Mountain Time (US & Canada)

To: exsec@ios.doi.gov

Cc: Larsen, Tyler J; Rae, Kerry L; Esplin, Brent; Fulp, Terrance J; Jacobson, Kib E; Warner, Louis (Ed); McWhirter, Lesley A.; BOR WCAO DL Paradox EIS

Subject: [EXTERNAL] Colorado River Basin Salinity Control Advisory Council Comments on Paradox Valley DEIS

A ched please find the Colorado River Basin Salinity Control Advisory Council Comments on Reclamaon' s Paradox Valley DEIS. We appreciate your consideraon of our comments.

This communication, together with any attachments or embedded links, is for the sole use of the intended recipient(s) and may contain information that is confidential or legally protected. If you are not the intended recipient, you are hereby notified that any review, disclosure, copying, dissemination, distribution or use of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by return e-mail message and delete the original and all copies of the communication, along with any attachments or embedded links, from your system.

# Colorado River Basin Salinity Control Advisory Council

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February 19, 2020

Secretary David Bernhardt  
U.S. Department of the Interior  
1849 C Street, NW, MS 5311  
Washington, DC 20240

Re: Comments of the Colorado River Basin Salinity Control Advisory Council on the Paradox Valley Unit Draft Environmental Impact Statement

Dear Secretary Bernhardt:

The Colorado River Basin Salinity Control Advisory Council (Council) has reviewed the U.S. Bureau of Reclamation's (Reclamation) Draft Environmental Impact Statement (DEIS) dated December 6, 2019, for the Paradox Valley Unit (PVU) of the Colorado River Basin Salinity Control Program (Program)<sup>1</sup>. It is with appreciation for Reclamation's significant efforts over a number of years that the Council submits comments to you on the PVU DEIS.

The Council was created in 1974 by the Colorado River Basin Salinity Control Act (Act) and charged with providing recommendations to the Secretary of the Interior on the implementation of the Program. Over the past more than 40 years the Council has worked closely and productively with Interior and Reclamation on the implementation of the Program. The Act provides that 25% of the cost of implementing salinity control at the PVU be provided as cost share from the Upper Colorado River Basin Fund and the Lower Colorado River Basin Development Fund (Basin Funds) and specifically provides that the Secretary shall consult with the Council on the expenditures of such funds. This letter is being provided to you in partial fulfillment of the Council's consultation responsibilities.

The Council is in accord with the recommendations made by the Colorado River Basin Salinity Control Forum (Forum) and sent separately to Reclamation. The Council would like to echo the Forum's concern that the DEIS, as written, potentially confuses the authority for the continued operation of the existing PVU injection well and requests that the final EIS clarify the matter.

257.01

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<sup>1</sup> The Council's comment letter is not intended to waive or preclude any future comments or recommendations on the operation of the PVU or PVU alternatives.

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Arizona	California	Colorado	Nevada	New Mexico	Utah	Wyoming
Clint Chandler Krista Osterberg Suzanne Ticknor	Bill Hasencamp Tanya Trujillo	Rebecca Mitchell Pat Pfaltzgraff David Robbins	Andrew Burns Sara Price	John D'Antonio Rolf Schmidt-Petersen	James Harris Eric Millis Gawain Snow	Chad Espenscheid Patrick Tyrrell David Waterstreet

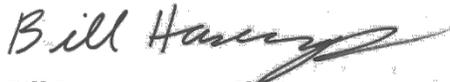
February 19, 2020

Specifically, as to a Preferred Alternative, the Council recommends that the Secretary select, and that Reclamation pursue, the evaporation pond alternative as is generally described in the DEIS. Though there are items associated with the other alternatives that are meritorious, particularly the zero liquid discharge alternative, in total the evaporation pond alternative best meets the purpose and need specified in the EIS with the least risk and for the least cost.

As specified in the DEIS, both the evaporation pond and zero liquid discharge alternative can provide up to 171,000 tons of annual salinity control, thereby reducing downstream salinity levels by 16.7 mg/L and reducing damages to downstream Colorado River water users by approximately \$42 million per year. However, implementation of any alternative comes with a cost. As projected in the DEIS, the evaporation pond alternative would cost \$10.7 million per year and the zero liquid discharge alternative would cost \$16 million dollars per year, or 1.5 times as much to achieve the same benefit. Twenty-five percent (25%) of the total costs of the project would come from the Basin Funds. Over the 50-year life of the project the zero liquid discharge alternative would cost \$265 million more in total dollars or \$66 million more from the Basin Funds, or approximately \$1.3 million more on average per year. Given the meaningful cost difference and other benefits, the Council urges that the Secretary select the evaporation pond alternative as the brine disposal replacement alternative at the PVU.

Respectfully submitted,

Colorado River Basin Salinity Control Advisory Council



Bill Hasencamp, Chair

cc: Advisory Council Members

Dr. Timothy Petty, Assistant Secretary, Department of the Interior  
Ms. Brenda Burman, Commissioner, Bureau of Reclamation  
Mr. Brent Esplin, Regional Director, UC Region  
Dr. Terry Fulp, Regional Director, LC Region  
Mr. Kib Jacobson, Salinity Control Program Manager  
Mr. Ed Warner, Western Colorado Area Manager  
Ms. Lesley McWhirter, Environmental & Planning Group Chief

**COMMENT LETTER 258**

FW: [EXTERNAL] Paradox Valley Unit Draft EIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 10:47 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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**From:** paradoxeis@usbr.gov On Behalf Of Kat Wilder

**Sent:** Wednesday, February 19, 2020 10:46:21 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Paradox Valley Unit Draft EIS

Bureau of Reclamation

Attn: Ed Warner, Area Manager

445 West Gunnison Ave, Suite 221

Grand Junction, CO 81501

Sent via email: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Dear Mr. Ed Warner:

As a writer, rancher, and resident of Disappointment Valley in southwestern Colorado, I live on a bluff above Disappointment Creek, about two-and-a-half miles of which run through my family's rangeland. As you know, in the months that it runs, Disappointment Creek drains into the Dolores River upriver of Slick Rock. Then the Dolores merges with the Colorado, just above Dewey Bridge in Utah.

On March 4, 2019, as I worked on a manuscript about this very valley, a drawing on the wall started swinging as my chair shifted beneath me—earthquake! I was soon to learn that it was generated by the desalination plant near Bedrock.

In addition to owning 2,225 acres of land in Disappointment Valley, we have a BLM permit for winter range. The Dolores River watershed, from the Dolores's headwaters to its confluence with the Colorado, is very important to my family and me. In fact, it is an integral part of our ranch, our livelihood, and our emotional integrity.

We support Alternative A—No Action. We do not want to see the river, canyon, water, riparian area, wildlife, rock, rock art, geology, history, prehistory, and culture of this watershed damaged further in any way.

Thank you,

Kathryn Wilder  
Disappointment Valley and  
Dolores, Colorado

FW: Lower Colorado River Water Quality Partnership - Paradox Valley Unit Draft EIS Comments

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 6:50 PM

To: McCarter, Molly E <mmccarter@blm.gov>

COMMENT LETTER 259

1 attachments (217 KB)

MTL Partnership Support for Salinity Control in the Paradox Valley\_Final Draft (002) (002).pdf

From: paradoxeis@usbr.gov On Behalf Of Patrick Dent

Sent: Wednesday, February 19, 2020 6:48:14 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Cc: Christopher S. Harris (csharris@crb.ca.gov); Don A. Barnett (dbarnett@barnettwater.com); Thomas Buschatzke

Subject: [EXTERNAL] Lower Colorado River Water Quality Partnership - Paradox Valley Unit Draft EIS Comments

Mr Ed Warner  
Area Manager, Reclamaon

Please accept the attached comments on behalf of the Lower Colorado River Water Quality Partnership

**Patrick Dent**  
DIRECTOR, WATER POLICY  
O (623) 869-2581 M (602) 399-3943  
E pdent@cap-az.com  
L 23636 North 7th Street, Phoenix, Arizona 85024



Central Arizona Project Disclaimer:

This e-mail message from **Patrick Dent** and any files transmitted with it may contain confidential or privileged information intended solely for the individual(s) addressed in the message. Any review, use, distribution, or disclosure of this information by others is strictly prohibited. If you are not the intended recipient, or authorized to receive this transmission for the intended recipient, please contact the sender by reply e-mail and delete all copies of this message and any files transmitted with it from your system.

# Lower Colorado River Water Quality Partnership



Central Arizona Project  
P.O. Box 43020  
Phoenix, Arizona 85080-3020  
623-869-2333



Metropolitan Water District of  
Southern California  
P.O. Box 54153  
Los Angeles, California 90054  
213-217-6000



Southern Nevada  
Water Authority  
1001 South Valley View  
Las Vegas, Nevada 89107  
702-258-3100

February 19, 2020

Mr. Ed Warner  
Area Manager  
U.S. Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, CO 81501

Dear Mr. Warner:

## Support for Salinity Control in the Paradox Valley in Western Colorado

We submit this letter in response to the U.S. Bureau of Reclamation's (USBR) Draft Environmental Impact Statement (DEIS) for the Paradox Valley Unit (PVU) of the Colorado River Basin Title II Salinity Control Program (Program). As the major providers of Colorado River water in Arizona, California, and Nevada ultimately delivered to more than 25 million people, we participate in salinity control activities in the Colorado River basin and support efforts to reduce salinity in the water we provide. High salinity impacts include, but are not limited to, increasing the scaling potential on household appliances and plumbing fixtures, reducing agricultural crop yields, limiting groundwater recharge efforts, and reducing the marketability and usability of reclaimed water. Protecting the Colorado River's water quality is of paramount importance to our agencies and, as such, we support USBR's commitment to explore and implement long-term approaches to reduce salinity in the Colorado River from sources in the Paradox Valley.

Our agencies are members of the Colorado River Basin Salinity Control Forum (Forum), which, for the past 45 years, has worked with federal agencies to reduce salinity in the Colorado River through the implementation of salinity control measures. For the past decade, we have also collaborated through the Lower Colorado River Water Quality Partnership (Partnership) to address water quality issues facing the Colorado River and our respective agencies. We appreciate that salinity control projects coordinated between the Forum and federal agencies have contributed to reducing total dissolved solids (a synonym for salinity) in the Colorado River by about 100 mg/L in Lake Havasu since the inception of the Program. Salinity control measures have included improved irrigation practices, rangeland management for non-point source control, and deep-well brine injection through the PVU.

Historically, the PVU has represented approximately seven percent of salinity control in the upper Colorado River Basin and has been the largest single point-source control project for the Program by removing about 100,000 tons of salt annually. Therefore, as operation of the existing PVU well faces challenges and its future operation is uncertain, we support planning for a long-term replacement to continue reducing the salinity in the Colorado River so long as issues associated with the long-term financial stability of the Program can be addressed. Failure to implement a replacement alternative would cause salinity concentrations to increase in the Colorado River Basin. Modeling indicates that the PVU reduces economic damages to water users in the Lower Basin states, resulting from high Colorado River salinity, by more than \$20 million annually. The Partnership views continued salinity control in the Paradox Valley as an

Mr. Ed Warner  
February 19, 2020  
Page 2

appropriate means to manage salinity levels in the Colorado River, and we therefore support a long-term replacement alternative that continues or exceeds the salinity reduction achieved by the existing project.

The Partnership appreciates the efforts taken by USBR to evaluate the environmental effects of salinity control alternatives in Paradox Valley. With regard to the alternatives identified in the DEIS, the Partnership is coordinating comments through the aforementioned Forum and supports the Forum's selection of the evaporation pond alternative (Alternative C) as its preferred alternative. Further, we encourage USBR to continue its close collaboration with the Forum in the design, implementation and operation of the preferred alternative. We appreciate the opportunity to provide our support during the DEIS comment period and look forward to receiving the Final EIS and Record of Decision that identify an alternative which ensures the continued long-term management of salinity in the Colorado River and its tributaries.

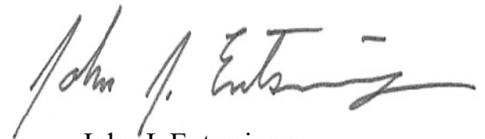
Sincerely,



Theodore C. Cooke  
General Manager  
Central Arizona Project



Jeffrey Kightlinger  
General Manager  
Metropolitan Water District  
of Southern California



John J. Entsminger  
General Manager  
Southern Nevada Water  
Authority

cc: Chris Harris  
Executive Director  
Colorado River Board  
770 Fairmont Avenue, Suite 100  
Glendale, CA 91203-1068  
[crb@crb.ca.gov](mailto:crb@crb.ca.gov)

Don A. Barnett  
Executive Director  
Colorado River Basin Salinity Control Forum  
106 W. 500 South, Suite 101  
Bountiful, Utah 84010  
[dbarnett@barnettwater.com](mailto:dbarnett@barnettwater.com)

Thomas Buschtzke  
Director  
Arizona Department of Water Resources  
1110 W. Washington Street, Suite 310  
Phoenix, Arizona 85007  
[tbuschtzke@azwater.gov](mailto:tbuschtzke@azwater.gov)

Puoy K. Premsrirut  
Chairwoman  
Colorado River Commission of Nevada  
555 E. Washington Ave, Suite 3100  
Las Vegas, NV 89101-1065

Mr. Ed Warner  
February 19, 2020  
Page 3

bcc: S. Bryan (CAP)  
T. Cooke (CAP)  
M. Chaudhuri  
J. Entsminger (SNWA)  
W. Hasencamp  
J. Kightlinger  
M. T. Lopez  
A. M. Mead  
M. J. Santos  
M. Stewart  
C. M. Stites  
J. C. Teraoka  
T. Tietjen (SNWA)  
D. N. Upadhyay  
B. M. Yamasaki  
D. Zinke

FW: [EXTERNAL] Protect and Enhance the Dolores River

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 8:18 PM

To: McCarter, Molly E <mmccarter@blm.gov>

COMMENT LETTER 260

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**From:** paradoxeis@usbr.gov On Behalf Of Katrina Blair

**Sent:** Wednesday, February 19, 2020 8:18:08 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Protect and Enhance the Dolores River

Dear Kind Staff of the Bureau of Reclamation and BLM,

Thank you for your research, efforts and time that you are directing to find a viable solution to the aging existing infrastructure dealing with the salinity of the Dolores River.

I really appreciate the chance to be able to offer a comment and sound solution. I live nearby the Dolores River in Durango and visit the area often. Over years of engaging with the landscape through hiking and canoeing, I have fallen deeply in love with the beauty of the Dolores River Canyons and surrounding lands and wish to protect its integrity.

I am writing to express my opinion about a good option of navigating the aging injection well and reducing further salinity into the Dolores River.

One best solution is to maintain a higher cfs (cubic feet per second) of water flow in the Dolores River at all times of the year. This option is environmentally safe and beneficial to the ecosystem, financially efficient and protects the wilderness value of the Dolores River water shed. The higher water flows will prevent salinity seepage from entering into the Dolores River. When the water levels are low, the salinity from the surrounding geology such as the Mancos Shale Formation have a much greater chance of entering into the water shed. By keeping the water flows higher, excessive salinity is prevented.

Consistently maintained higher water flows solves many of the main issues. However, it will likely direct water away from the farmers in the Dolores Basin. To address this problem, I suggest that money that will be saved from unnecessary construction projects (such as not needing to build a new injection well, new roads or bridges), be instead directed to help subsidize the local farmers nearby to be able to afford to dig additional wells, set up water catchment systems and education and further training about dry land farming.

This solution is a win /win option for all parties involved.

Thank you so much for your consideration.

Sincerely,

Katrina Blair  
1511 CR 205  
Durango, CO 81301  
970-317-0988

FW: [EXTERNAL] PVU Brine Desalination and Fresh Water Recovery Alternative

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 10:46 PM

To: McCarter, Molly E <mmccarter@blm.gov>

COMMENT LETTER 261

From: paradoxeis@usbr.gov On Behalf OF NORBERT N BUCHSBAUM  
Sent: Wednesday, February 19, 2020 10:40:08 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS; ewarner@usbr.gov  
Subject: [EXTERNAL] PVU Brine Desalination and Fresh Water Recovery Alternative

To [ucpao@usbr.gov](mailto:ucpao@usbr.gov) and Mr. E. Warner:

I am Norbert Buchsbaum, PE. Founder and CTO of CryoDesalination LLC, located in Houston, TX. We are the developers of CryoDesalination, a revolutionary new desalination process.

CryoDesalination is a novel High-Volume Desalination Process based on Freeze Technology, particularly well suited to resolve economically the problems now facing the PVU.

A CryoDesalination plant could extract 200,000 tons/year of salt from naturally occurring brine groundwater in the Paradox Valley, thereby preventing the brine from entering the Dolores River. The salt could be produced either in crystalline form or as a slurry of crystals in brine. Such a plant would generate 550 tons/day of salt and 360,000 gallons/day of fresh water. The Plant would cost \$2.5 million (+) or (-) 30%.

I am prepared to furnish to USBR – free of charge – a complete Engineering Design Package for a simple Skid to demonstrate the process.

The Design Package would include Process Flow Diagrams, P&I Diagrams, Equipment Schedules, and Lists for Piping, Valves, and Instruments. Upon receipt of Package, USBR would immediately be ready to start preparing purchase orders for materials and equipment. The Demo Skid could be ready to operate within 6 weeks. It could serve not only to demonstrate the process, but also to perform additional piloting. The cost of this Demonstration Skid is approximately \$40,000. If USBR is not prepared to do themselves the purchase, some additional engineering, and the skid construction, there are contractors in Houston willing to assemble such a skid for the stated amount.

261.01

If this offer is of interest to you, I would like to be invited to make a presentation, to review and discuss the technology and answer any questions you may have.

Sincerely,  
Norbert Buchsbaum, PE  
CryoDesalination, LLC  
1701 Hermann Drive #3402  
Houston, TX 77004

FW: Paradox Valley Salinity Control Program DEIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 7:17 PM

To: McCarter, Molly E <mmccarter@blm.gov>

COMMENT LETTER 262

From: paradoxeis@usbr.gov On Behalf Of Robert S. Lynch  
Sent: Wednesday, February 19, 2020 7:17:15 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Cc: creda@creda.cc; Robert S. Lynch  
Subject: [EXTERNAL] Paradox Valley Salinity Control Program DEIS

These comments are submitted on behalf of the Irrigation & Electrical Districts' Association of Arizona (IEDA). IEDA's 24 Members and associate Members contribute to the salinity control program through CRSP rates and are through rate contributions to the Lower Basin Development Fund.

We have reviewed CREDA's comments and support them. Additionally, we note that the DEIS acknowledges that a decision here will have cumulative water quality impacts as far down river as Imperial Dam but doesn't acknowledge that there are potentially cumulative impacts to other resources, including hydropower generation, depending on what strategy Reclamation develops for salinity control and how that affects Colorado River operations and hydropower rates. These effects and the effects of the DCP and its necessary successor agreement unfortunately complicate every decision affecting the Colorado River. Segmenting doesn't work under these circumstances. However difficult, today's decisionmaking must be more interactive and sophisticated. Salinity control for the Colorado River is a central aspect of the river's health and our obligations to Mexico. Decisions about the Paradox Valley need to be preceded by a wider dialogue.

Thank you for the opportunity to comment.

262.01

Bob Lynch

Robert S. Lynch  
Robert S. Lynch & Associates  
340 E. Palm Lane, Suite 140  
Phone: (602) 254-5908  
Fax: (602) 247-9542  
Cell: (602) 228-6355  
E-Mail: rslynch@rslynch.com

Sent from my iPhone

**COMMENT LETTER 263**

FW: [EXTERNAL] State of Colorado Comments - PVU EIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 8:04 PM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (498 KB)

Comments\_Colorado\_PVU\_DEIS\_02192020.pdf

**From:** paradoxeis@usbr.gov On Behalf Of Mazal - DNR, Vanessa

**Sent:** Wednesday, February 19, 2020 8:01:27 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] State of Colorado Comments - PVU EIS

Dear Mr. Warner,

Attached are public comments from the state of Colorado, departments of Natural Resources (CDNR) and Public Health and the Environment (CDPHE) on the Paradox Valley Salinity Unit Draft EIS.

Included in this attachment:

Cover Letter - CDNR

Attachment 1 - Colorado Water Control Division (WQCD) and Hazardous Materials and Waste Management Division (HMWMD)

Attachment 2 - Colorado Water Conservation Board

Attachment 3 - Colorado Parks and Wildlife

Please let me know if you have questions or concerns about our submission.

With kind regards,

--

Vanessa Mazal

Policy Advisor - Federal Affairs



O: 303-866-3311 Ext. 8658 | C: 303-919-9054

[vanessa.mazal@state.co.us](mailto:vanessa.mazal@state.co.us)

|

[www.colorado.gov/DNR](http://www.colorado.gov/DNR)

263.01



**COLORADO**

Department of  
Natural Resources

1313 Sherman St., Room 718  
Denver, CO 80203

February 19, 2020

U.S. Bureau of Reclamation  
Attention: Mr. Ed Warner, Area Manager  
445 West Gunnison Ave.  
Grand Junction, CO 81501

*RE: Public Comments Paradox Valley Salinity Unit Draft EIS*

Dear Mr. Warner,

The Colorado Department of Natural Resources values the opportunity to submit comments regarding the Bureau of Reclamation's (Reclamation) draft environmental impact statement (DEIS) for the Paradox Valley Salinity Unit (PVU), on behalf of its divisions, Colorado Water Conservation Board (CWCB) and Colorado Parks and Wildlife (CPW), along with the Colorado Department of Public Health and Environment (CDPHE) and its divisions, Hazardous Materials and Waste Management Division (HMWMD), Water Quality Control Division (WQCD), and Air Pollution Control Division (APCD).

CDNR and CDPHE have provided input at various stages during the preparation of this DEIS as cooperating agencies representing the state of Colorado, one of the seven Colorado River Basin States, and as participants in the Colorado River Salinity Forum.

As such, our departments appreciate the PVU's important contribution to controlling salinity levels within the Colorado River system downstream from its site along the Dolores River, in southwestern Colorado. Although we recognize the difficulties involved in identifying a solution to the existing facility's limited operational lifespan, we agree with other stakeholders that a No Action alternative would have detrimental, long-term water quality implications and is not a viable option. However, we urge Reclamation to make clear in the EIS that limited, continued operation of the existing well facility is not intended to be

P 303.866.3311 F 303.866.4474 [www.colorado.gov/dnr](http://www.colorado.gov/dnr)

Jared Polis, Governor | Dan Gibbs, Executive Director



263.02

foreclosed upon and to consider the appropriate sizing and scaling of any preferred alternative.

While each of the Basin States has a stake in the outcomes of this process and would share in the cost of its implementation, Colorado, as the state that houses both the existing facility and the proposed project area, stands to be the most directly impacted by the ultimate project design selection. In reviewing the DEIS through this particular lens, we conclude that all Action Alternatives, as presented, may be problematic in light of other important resource values in our state and/or could ultimately prove cost prohibitive to implement.

For instance, seismic concerns stemming from the new injection wells described in Alternatives B1 and B2 and water treatment concerns associated with the Zero Liquid Discharge option in Alternative D both seem to present significant cost implications. The evaporation ponds in Alternative C might seem to offer the most balance between cost effectiveness, resource conflict, and efficacy. However, as detailed in CPW's comments, Alternative C might entail budgetary and design implications not accounted for in the DEIS.

Specifically, as proposed, the evaporation ponds in Alternative C would curtail public access to federal lands and present substantial risks to wildlife. Among these is the potential for direct or indirect impacts to aquatic, avian, and terrestrial species, including impairments to sensitive habitat for iconic big game species, such as elk, bighorn and mule deer, as well as Gunnison sage grouse, a federally listed threatened species. While these risks were acknowledged in the DEIS, they remain inadequately analyzed and/or mitigated.

263.03

CDNR and CPW are charged with managing Colorado's wildlife and responding to Governor Jared Polis' 2019 executive order to big game protect migration corridors, production areas, and declining winter range. As the implementation of evaporation ponds - at any scale - could impede the state's ability to carry out this and other wildlife management priorities, we respectfully request a more thorough examination of wildlife impacts relevant to the final proposed project design, accompanied by a more thorough evaluation of the efficacy and cost of recommended avoidance and mitigation options, including compensatory measures.

263.04

Our divisions also highlight the need for the EIS to clarify plans in the preferred alternative for complying with state water law; securing any additional augmentation water required for the project through Colorado water courts; and avoiding temperature increases; and deterring condition impairments for aquatic species in the Dolores River caused by depletions stemming from the project. Additionally, we highlight a concern that the DEIS may have overlooked water quality permitting compliance expenditures.

263.05

Colorado encourages Reclamation to continue to explore the feasibility of an appropriately scaled alternative, with an eye toward evaluating its prospects for meeting downstream

Colorado River system water quality needs, but also to account for a full spectrum of cost and resource conflict considerations.

More detailed feedback on the DEIS can be found in the attached technical comments from the following divisions:

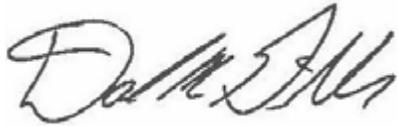
Attachment 1 - CDPHE Divisions HMWMD and WQCD

Attachment 2 - CDNR Division CWCB

Attachment 3 - CDNR Division CPW

We look forward to continuing to work with Reclamation, as well as other Basin States and stakeholders, in developing the best path forward in the PVU EIS process.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Gibbs". The signature is fluid and cursive, with the first name "Dan" being larger and more prominent than the last name "Gibbs".

Dan Gibbs  
Executive Director  
Colorado Department of Natural Resources

*CC: Daniel Prenzlou, Colorado Parks & Wildlife; Cory Chick, Colorado Parks & Wildlife; Rebecca Mitchell, Colorado Water Conservation Board; Aimee Konowal, Colorado Water Quality Control Division; Patrick Pfaltzgraff, Colorado Water Quality Control Division*



February 19, 2020

**Attachment 1  
CDPHE (WQCD, HMWMD) Comments  
PVU DEIS**

U.S. Bureau of Reclamation  
Attention: Mr. Ed Warner, Area Manager  
445 West Gunnison Ave.  
Grand Junction, CO 81501

RE: Paradox Valley Salinity Unit Draft EIS

Dear Mr. Warner,

The Colorado Department of Public Health and Environment (CDPHE) appreciates the opportunity to review and submit comments regarding the Bureau of Reclamation's (Reclamation) draft environmental impact statement (DEIS) for the Paradox Valley Salinity Unit (PVU).

CDPHE has worked closely with the Colorado Department of Natural Resources and support the comments from the Colorado Parks and Wildlife and the Colorado Water Conservation Board.

CDPHE has provided input at various stages during the preparation of this DEIS as cooperating agencies representing the state of Colorado, one of the seven Colorado River Basin States, and as participants in the Colorado River Salinity Forum. The Colorado Department of Public Health and Environment (CDPHE) consists of three environmental divisions. The three divisions are Air Pollution Control Division (APCD), Hazardous Materials and Waste Management (HMWMD), and Water Quality Control (WQCD). These specific comments reflect the technical comments on the Paradox Valley Unit alternatives provided in the Draft Environmental Impact Statement.

The Hazardous Materials and Waste Management Division (HMWMD) covers its costs for reviewing permit applications through assessment of document review fees. HMWMD has concerns that the fees for this certification will not be covered. The full cost of permitting needs to be recognized, including paying any county certificate of designation application fee and state review fees necessary to get the landfill permitted. The review of a certificate of designation application can consume significant resources that could total in the tens of thousands of dollars. This issue should be worked out between the two agencies in advance, perhaps in the form of an interagency agreement. (Section 2.8, Table 2-7, Line 7)

263.06

The State of Colorado does not have salinity or total dissolved solids (TDS) standards for surface water. However, Regulation No. 39 does implicate Colorado in a basin-wide approach for controlling salinity in the Colorado River Basin such that numeric salinity targets are met at specific locations in the Colorado River. Regulation No. 39 thus demonstrates the State of Colorado's interest in ensuring that activities in the Colorado River Basin protect those designated uses of surface water in this basin that can be impacted by increased levels of salinity. Caution should be taken when considering any activities that could increase salinity in the river because of its potential impacts on water quality. Of primary concern is the potential impacts on aquatic life and agriculture in this area.

263.07



The Dolores River is listed on the 303(d) list of impaired waters for temperature. Many alternatives that are being considered could release heat into the river or reduce flows. These activities could have an impact on the temperature of the river thus affecting the aquatic communities. The mitigation of these effects should be considered before a preferred alternative is selected.

263.08

If you have any questions or need additional information, please contact me at [Robert.hillegas@state.co.us](mailto:Robert.hillegas@state.co.us) or (303) 692-3137.

Sincerely,



Robert Hillegas  
Watershed Section, Water Quality Control Division  
Colorado Department of Public Health and Environment





## COLORADO

### Colorado Water Conservation Board

Department of Natural Resources  
1313 Sherman Street, Room 718  
Denver, CO 80203

## Attachment 2 CWCB Comments PVU DEIS

February 19, 2020

Ed Warner  
Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave.  
Suite 221  
Grand Junction, CO 81501

Dear Mr. Warner:

The Colorado Water Conservation Board (CWCB) thanks you for the opportunity to comment on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program Draft Environmental Impact Statement (DEIS) released by the Bureau of Reclamation (Reclamation) in December 2019. The CWCB has a substantial interest in the Colorado River Basin Salinity Control Program, as well as the potential impacts of program activity within the state.

The CWCB's comments consist of two parts. First, Colorado joins the Salinity Control Forum's February 2020 Comments, submitted under separate cover. Second, the CWCB submits the following general comments to the DEIS to address concerns specific to Colorado. These comments are as follows:

- **Compliance with State law:** CWCB appreciates Reclamation's consideration of its comments submitted on the Administrative Draft EIS relating to compliance with state water law. As Reclamation moves forward in its analysis of alternatives and selection of a preferred alternative, it should ensure ongoing compliance with state water law. Specifically, Reclamation must go to water court to obtain additional augmentation water as needed. Additionally, if sufficient augmentation water is not available for PVU uses, curtailment of PVU wells may occur in order to satisfy senior water rights. Specifically relating to Alternatives C and D, Sections 3.4.2.3 and 3.4.2.4 should note that Reclamation will consider curtailing operations at times when augmentation would otherwise be required in lieu of providing augmentation supplies for the pumping.
- **Funding for the Colorado River Basin Salinity Control Forum:** The Salinity Control Program is funded by federal appropriations and by Basin States cost-sharing. The cost-share amount is a percentage of the federal appropriations amount, and funds for the cost-share come from hydropower revenues. Higher federal appropriations in recent years have triggered higher cost-share requirements, while low reservoir levels have resulted in reduced hydropower generation and revenues. Therefore, maintaining the solvency of the cost-share portion of the Program has been challenging.

263.09



Implementing any of the action alternatives in the Paradox DEIS will create a large cost-share obligation for the Basin States, compounding the existing funding issues. As further detailed in the Basin States' letter regarding available funding for the Colorado River Basin Salinity Control Forum, CWCB supports efforts to find solutions to the ongoing funding issues.

- **Authority for operation of existing well:** The DEIS is unclear relating to continued operation of the existing PVU injection well. Nothing in the Final Environmental Impact Statement (FEIS) should suggest preclusion of continued operation of the PVU injection well, pending Reclamation's ongoing seismic investigation. The FEIS should assume, and clearly indicate authority for operation of the existing PVU injection well at a level that does not induce seismic activity, at least until a preferred alternative is constructed, and potentially beyond, as appropriate. CWCB urges Reclamation to edit the language in the DEIS so that the FEIS clearly authorizes continued operations of the existing injection well, assuming it can be operated without inducing seismic activity.
- **Role of the Salinity Control Forum:** The Salinity Control Forum plays a unique and important role in the coordination, development, implementation, and funding of salinity control projects throughout the Basin. Given the Forum's role and importance in the Colorado River Basin, Reclamation should work collaboratively with the Forum in development and implementation of any preferred alternative.
- **Additional analysis needed:** As recognized in the DEIS, additional analysis will be required before a preferred alternative is constructed and implemented. CWCB requests that Reclamation work cooperatively with the Salinity Control Forum, the State of Colorado, and other cooperating agencies as it completes this analysis. CWCB reserves the right to raise additional comments and concerns relating to the alternatives as further analysis is completed.

263.10

In the course of reviewing the material in the DEIS, CWCB focused on factual or legal assertions specific to the PVU. We did not think it necessary or relevant to take issue with or highlight descriptions or representations that did not materially affect the purpose or analyses of the DEIS. CWCB's decision to avoid raising such concerns in these comments, or to correct what it may believe to otherwise be an inaccurate assertion, shall not be construed as an admission of any factual or legal issue, or a waiver of any legal rights or positions in other forums or future proceedings.

CWCB appreciates Reclamation's efforts in evaluating potential alternatives for brine disposal at the PVU facility and looks forward to working closely with Reclamation in the development and implementation of the preferred alternative.

Sincerely,



Rebecca Mitchell  
Director, Colorado Water Conservation Board





**COLORADO**

**Parks and Wildlife**

Department of Natural Resources

Southwest Region Office  
415 Turner Drive  
Durango CO81303  
P 970.375.6707

*Attachment 3:*

*CPW Comments  
PVU DEIS*

February 19, 2020

Mr. Ed Warner  
Area Manager  
Department Of Interior  
Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

RE: Paradox Valley Unit of the Colorado River Basin Salinity Control Program Draft Environmental Impact Statement

Dear Mr. Warner,

Thank you for the opportunity to provide comments on the Bureau of Reclamation's (Reclamation) Paradox Valley Unit (PVU) Draft Environmental Impact Statement (DEIS). The proposed action is to construct, operate, and maintain facilities for the collection and disposal of saline water within the Paradox Valley. The DEIS evaluates the potential impacts of five (5) alternatives to achieve salinity reductions within the Dolores River. CPW has reviewed and evaluated the five alternatives and their potential impacts to the environment, recreational opportunities, terrestrial and aquatic wildlife.

CPW wishes to express concern that all of the alternatives put forth in the DEIS, except the No Action alternative, present potentially significant impacts to Colorado's wildlife and natural resources, as well as the withdrawal of publicly accessible federal lands. The action alternatives involve Reclamation's acquisition and closure of federal lands currently under Bureau of Land Management jurisdiction, ranging from 40 to 1,300 acres.

The alternatives presented would also result in the loss, conversion, degradation, or fragmentation of wildlife habitat within the project area for a number wildlife species including: elk, deer, desert bighorn sheep, river otters, birds, bats, raptors, reptiles, and Gunnison sage-grouse (GUSG). Our conclusion is that, among the Action Alternatives as proposed, Alternative C presents the most direct mortality risk to wildlife, as well as the most significant loss of wildlife habitat, and has the greatest potential to displace big game. While the DEIS offers limited impact avoidance and minimization measures, in our estimation, a number of the potentially significant impacts are not adequately considered or addressed.



## **Summary of Alternatives**

### **Alternative A-No Action**

The existing underground injection well would be plugged and abandoned and all facilities would be repurposed. Reclamation would retain its water rights in Water Divisions 4 and 7 (Case Nos. 83CW14 and 83CW45, respectively) and explore other beneficial uses for the augmentation water reserved to augment out-of-priority depletions from the PVU. This area is mapped by CPW as a desert bighorn sheep (DBHS) winter concentration area, DBHS production area, severe mule deer winter range, and elk severe winter range.

**Alternative B - Area B1-** A new deep injection well would be drilled within 360 acres of existing Reclamation lands and would also require the acquisition of 80 acres of BLM lands. There would be approximately 26 acres of new surface disturbance including surface facilities, access road, and construction of two bridges over the Dolores River, power line extension, and pipeline corridor. This area is mapped as by CPW as a DBHS winter concentration area, DBHS production area, severe mule deer winter range, and elk severe winter range.

**Alternative B - Area B2 -** This alternative would require the construction of a new deep injection well, surface facilities, access road, power line extension, pipeline corridor, pipeline pump stations. It would require the acquisitions of 616 acres of BLM lands and 49 acres of non-federal land. Area B2 would require the construction of 24-mile pipeline parallel to State Highway 90 and county roads from the valley floor to the top of Monogram Mesa. Portions of the project area overlap with USFWS designated Critical Habitat for Gunnison sage-grouse. The proposed project area and associated roads and pipelines for this alternative are >4 miles from the nearest known lek. The Fawn Springs Bench and the Monogram Mesa options for Alternative B2 both require use of the county road and a new pipeline through GUSG occupied USFWS critical habitat. Additionally, Area B2 project area is mapped as severe winter range for deer and elk.

**Alternative C - Evaporation Ponds** involves the piping of brine production water to a facility where water would be evaporated in a pond system. Salt would be harvested from the evaporation ponds and disposed of in a 60-acre, onsite landfill. A freshwater wildlife pond would be constructed in the evaporation pond complex and the bittern ponds would be netted. The evaporation pond complex would be located within an approximately 1,500 acre area with approximately 600 acres of surface disturbance. Reclamation would acquire approximately 1,300 acres of BLM lands and approximately 281 acres of non-federal lands. This area is mapped a winter concentration areas and severe winter range for elk and deer.

**Alternative D - Zero Liquid Discharge (ZLD)-**Involves piping brine water to a centralized treatment facility consisting of a series of thermally driven crystallizers to evaporate and condense the salt. The salt would be transported to a 60 acre landfill and the produced water would be returned to the Dolores River. Reclamation would acquire approximately 270 acres of federal land and 56 acres of non-federal land. The

Alternative D study area is mapped as both an elk and deer severe winter range and winter concentration area.

### Considerations and Recommendations

#### Alternative C – Considerations and Recommendations

**Wildlife Access Prevention:** As detailed in the DEIS and Appendix J, the salinity ponds in Alternative C would be toxic, and represent a significant entrapment hazard and mortality risk to wildlife including: waterfowl, migratory birds, birds of conservation concern, bats, reptiles, small mammals, and big game. Based on CPW's review, the proposed best management practices (BMPs) are comprised of an 8-foot high perimeter fence, a freshwater wildlife pond, bittern pond netting, and routine patrols. These BMPs alone, are inadequate to reliably prevent access to the ponds by most wildlife species.

263.11

**Freshwater Pond Efficacy:** The efficacy of the proposed freshwater pond needs to be further evaluated in the Final EIS due its proximity to the evaporation ponds (as depicted in Figure 2-4). CPW is concerned that the freshwater pond could serve as an attractive nuisance to the facility for birds, bats, and other animals. Further, the final plan should consider that winter conditions will likely cause the freshwater pond(s) to freeze while the saline ponds likely will not. Additionally, the final plan should examine and address the impacts on native fisheries from annual depletions in the Dolores River that will be needed for the freshwater pond. The FEIS should provide further explanation as to how an onsite freshwater pond would serve to prevent attraction to and mortality from, the saline evaporation ponds, and should clarify potential impacts to aquatic resources in the Dolores River.

The Final EIS should include a **wildlife protection plan** tied to the final project design with the following components:

- 1) Specific objectives and thresholds for allowable wildlife (aquatic, terrestrial, bird, and bat) exposure, injury, and mortality;
- 2) Monitoring criteria, methods, and procedures for detecting and reporting wildlife mortality, injury and exposure;
- 3) A comprehensive evaluation of passive and active deterrence techniques (such as hazing and other methods described in Appendix J, Table 5-1) in light of the final plan design;
- 4) An adaptive management and mitigation strategy detailing how deterrence methods or features aimed at reducing mortality, injury, and exposure will be incorporated into the structural design of and management of the facility;
- 5) Clear triggers for when adaptive management strategies (deterrence techniques) will be implemented to prevent additional wildlife mortality.

263.12

***Alternative D - Outstanding Considerations***

The PVU DEIS contains conflicting water quality information on the potential for pollutants to be discharged in the liquid waste-stream for Alternative D (ZLD), and is missing information on additional potential pollutants that may require additional treatment to prevent harm to Aquatic Life before being discharged to the Dolores River:

Section 2.6.3 describes the operation and maintenance of the Alternative D (Zero-Liquid Discharge). Despite the name, this alternative would produce a liquid waste stream.

“Along with the solid product, the crystallizers would produce 250 gpm (80% of brine flow rate) of high temperature (50 degrees [o] Celsius), low to neutral pH (4.5 to 7.5), and low alkalinity (less than [ $<$ ] 20 mg/L as calcium carbonate [CaCO<sub>3</sub>]) freshwater, with an estimated TDS of 500 mg/L. This produced freshwater stream would be released into the Dolores River, pending a discharge permit form CDPHE.”

263.13

This waste stream is likely to require some level of additional treatment prior to discharge to the Dolores River. In particular, a significant reduction in temperature will be required in the summer months. In December 2019, the Colorado Water Quality Control Division (WQCD) added the Dolores River to the 303(d) list of impaired waters for temperature. Continuous temperature data at the two USGS gages (Dolores River at Bedrock 09169500, and Dolores River near Bedrock 09171100) show repeated exceedances of the acute summer temperature standard (Figures 1 and 2). In the summer, the temperature of the waste stream will need to be reduced by more than 20°C to meet instream standards, and avoid causing or contributing to an impairment of the Aquatic Life use, which is protected by the temperature standards.

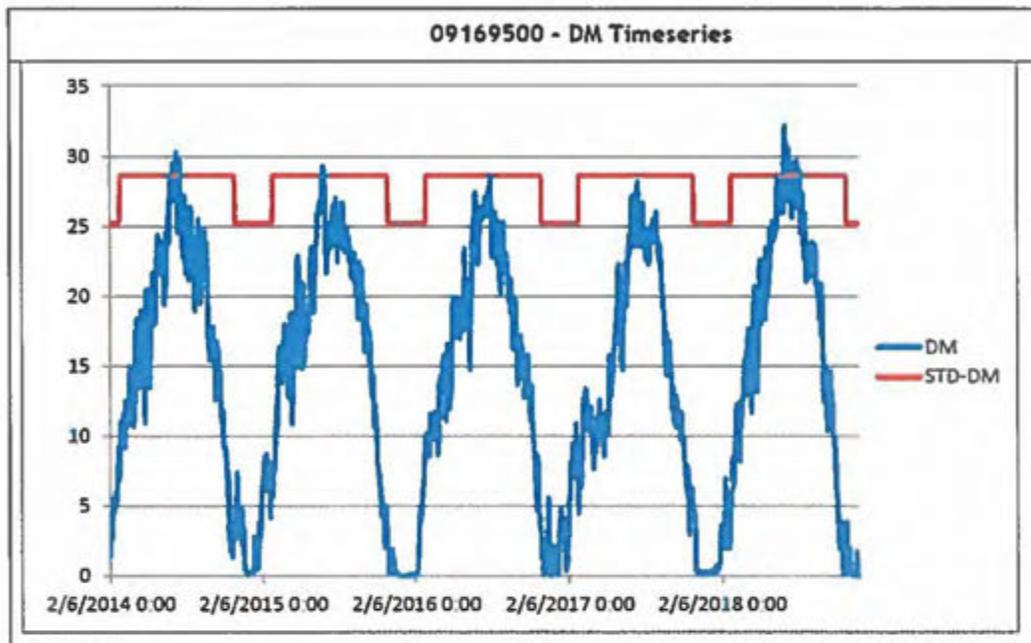


Figure 1. Acute temperatures (2-hour rolling average) in the Dolores River at Bedrock (USGS station 09169500).

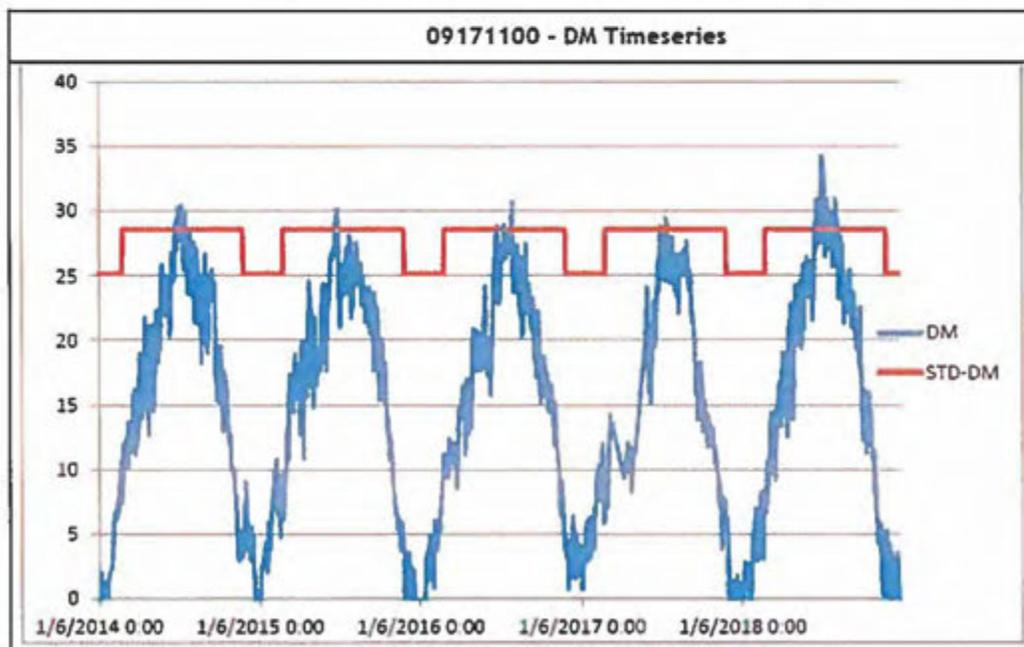


Figure 2. Acute temperatures (2-hour rolling average) in the Dolores River near Bedrock (USGS station 09171100).

The discharge may also need to be adjusted for pH prior to release if the projected pH (4.5 to 7.5) is on the low-end of that estimate. The instream pH standard to protect the Aquatic Life use is 6.5 to 9.0.

Section 3.6.2.6 contains a description of the liquid waste stream from the ZLD that conflicts with descriptions elsewhere in the EIS.

“Initial tests have indicated that the produced freshwater stream would be similar to distilled water, which is harmful to aquatic organisms.”

The more-specific description of the waste stream in section 2.6.3 says the TDS of the waste stream will be 500 mg/L. This is much higher than distilled water, which has negligible dissolved solids.

The final EIS should resolve this discrepancy. Furthermore, Reclamation should complete laboratory testing of the source groundwater to determine if other pollutants are present that would require additional treatment after the ZLD process to meet water-quality standards. The full suite of standards that apply to the Dolores River can be found in the statewide water-quality standards in Regulation 31.11, and in Regulation 35.

The Final plan should provide additional information on the water-quality of liquid waste-stream the from the ZLD, testing results for all potential pollutants in the source water, and explain how water-quality standards including temperature, pH and other potential pollutants will be met.

#### **General Consideration for All Action Alternatives: Aquatic Resources**

The Dolores River from McPhee Dam to the confluence of the San Miguel River is approximately 122 miles in length. There are significant challenges in maintaining a tail water fishery and native fishery in the Dolores River. CPW requests that the Final PVU EIS include a discussion and consider the cumulative environmental impacts relating to potential depletions to the Dolores River. Each alternative should include a quantification of the potential depletion of the Dolores River, the cumulative impact it may have on the aquatic environment below McPhee Dam, and its cumulative impact on aquatic habitat, including analysis of the reduction in salt loading associated with the alternatives identified.

Additionally, please evaluate potentially impacted ephemeral streams, with consideration to their potential role in the early life histories of native fish of the Dolores River.

#### **Conclusion**

On August 21, 2019, Governor Polis signed Executive Order (EO) D-2019-011, Conserving Colorado's Big Game Winter Range and Migration Corridors. This EO recognizes the contribution that big game

263.14

263.15

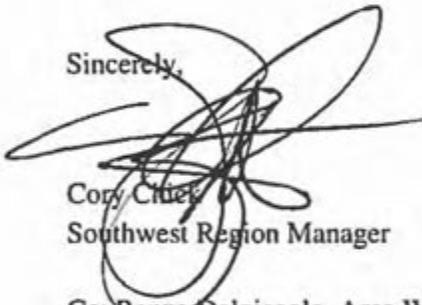
species make to the economy and quality of life for every Coloradan. In addition, the CPW Commission is actively expanding public access opportunities in Colorado.

The project alternatives, as proposed, would result in a direct loss of public land access, significant habitat loss, and potential direct mortality for wildlife in Colorado. To that end, CPW requests that Reclamation provide compensatory mitigation to replace and offset the project impacts to wildlife, terrestrial and aquatic wildlife habitat, and public land access commensurate with the alternative selected in the Final EIS and Record of Decision.

263.16

Thank you for the opportunity to comment. We looked forward to reviewing the Final EIS to evaluate how the issues we raised in these comment have been address.

Sincerely,



Cory Cline  
Southwest Region Manager

Cc: Renzo Delpiccolo, Area Wildlife Manager, Brian Magee, SW Region Land Use Coordinator, Ryan Unterreiner, SW Region Water Specialist



FW: [EXTERNAL] Sheep Mountain Alliance Paradox Salinity DEIS Commnet

**COMMENT LETTER 264**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 6:07 PM

To: McCarter, Molly E <mmccarter@blm.gov>

1 attachments (227 KB)

Paradox Salinity EIS SMA Comments\_Final.docx

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**From:** paradoxeis@usbr.gov On Behalf Of Lexi Tuddenham

**Sent:** Wednesday, February 19, 2020 6:05:41 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] Sheep Mountain Alliance Paradox Salinity DEIS Commnet

Dear Mr. Warner,

Please find Sheep Mountain Alliance's comments attached.

Thank you for your time and consideration.

Regards,

Karen (Lexi) Tuddenham

--

Karen (Lexi) Tuddenham

*Executive Director*

*Sheep Mountain Alliance*

she/her/hers

[sheepmountainalliance.org](http://sheepmountainalliance.org)



## **Sheep Mountain Alliance**

**PO Box 389, Telluride, CO 81435 • 970-728-3729 • [www.sheepmountainalliance.org](http://www.sheepmountainalliance.org)**

February 19, 2020

Ed Warner, Area Manager

Bureau of Reclamation

445 W Gunnison Ave, Suite 221

Grand Junction, CO 81501

Sent via email to: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Re: Comments for Draft Environmental Impact Statement, Salinity Control Program at Paradox Valley, CO.

Dear Mr. Warner,

Sheep Mountain Alliance (SMA) thanks the US Bureau of Reclamation (BOR) for the opportunity to comment on the Paradox Valley Unit Draft EIS. Sheep Mountain Alliance is a 31-year-old grassroots environmental organization representing over 800 members and supporters in the San Miguel and Dolores River watersheds, the central San Juan Mountain region, and Southwest Colorado. We also serve the many residents and visitors who rely on this region's intact ecosystems, wildlife, air and water quality to support their livelihoods, well-being, and recreation. SMA and its members have long had a vested interest in the fate of the Dolores River Canyon, and submitted scoping comments in 2012. We are greatly concerned about the potential impacts of the proposed alternatives in the Draft EIS.

Alternative B1 is incompatible with the Federal Land Policy and Management Act (FLPMA)'s mandate to maintain the Dolores River Canyon WSA with no impairments, while also violating the requirements to maintain outstandingly remarkable values of eligible river segments set forth in the Wild and Scenic River Act. Alternative B2 would cause unacceptable impacts to critical habitat for wildlife such as bighorn sheep, elk, mule deer, as well as the threatened Gunnison Sage Grouse. Alternative C, in addition to the deleterious impacts it would have on scenic and cultural resources, also poses serious risks to migratory birds in violation of the Migratory Bird Treat Act, and could also harm other wildlife, such as bats. Finally, Alternative D would take a short-sighted approach to salinity issues, compounding the problems of climate change and

drought in the Colorado River Basin by emitting 25,000 tons of greenhouse gases every year, while also putting the precious freshwater resources of an increasingly arid region at risk of spills and contamination from a new natural gas pipeline.

Sheep Mountain Alliance supports the adoption of Alternative A, the no-action alternative. We recommend that in the absence of better alternatives at this time, the Bureau of Reclamation select this alternative or further research the development of alternatives that will minimize impacts to wildlife, wildlands, rivers, recreation, scenic and cultural resources. We also recommend that the BOR perform a Programmatic EIS of the Salinity Program in general, and take into account other measures, such as increased flow in the river, that could provide longer-term solutions to water quality problems. We asked for a Programmatic analysis in our 2012 scoping comments and have yet to see evidence of a comprehensive assessment of the impact of the Paradox Valley Unit in the context of salinity within the entire Colorado River Basin.

#### Purpose and Need Statement

The DEIS identifies the Paradox Valley project's purpose as the reduction of salinity levels in the lower Colorado River Basin. A baseline assessment of the benefit of the past 30 years of operation of the Paradox Valley Unit of the Colorado River Basin Salinity Control program is necessary and overdue. Anecdotally, the program has removed several million tons of salt, but the DEIS fails to provide data that quantifies a corresponding observed reduction in salinity a thousand miles downstream at Imperial Dam.

264.01

With the brine injection facility off-line for most of the last year, this would be an opportune time to investigate any observed changes in salinity levels at Imperial Dam as a consequence of the Paradox Valley Unit's cessation. While the Colorado River Basin Salinity Control Act of 1974 authorizes the PVU, it does not mandate a particular type of operation for salinity control, nor does it specify that the Paradox Valley must be the location of this operation.

SMA would like to see a cost-benefit analysis of devoting BOR resources to other known major salinity contributors, such as the effective agricultural solutions which BOR officials have acknowledged as having significant positive impacts in the last decade. We would also like to see a feasibility analysis of solutions, such as increased river flows, which might serve multiple goals and ecosystem functions, rather than sinking further resources into a partial short-term solution.

264.02

#### Project Goals

The DEIS evaluates alternatives against project goals such as the following:

- Remove approximately 100,000 or more tons of salt per year that would otherwise enter the Dolores River and the downstream Colorado River.
- Optimize the annual cost per ton of salt removed.

- Avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in the affected environment.
- Minimize the use of nonrenewable resources, including land and energy
- Be consistent with existing BLM resource management plans (RMPs), where applicable.
- Be in the best interest of the public, including considerations of health and safety and the local community’s desired future conditions

None of the analyzed alternatives come even close to satisfying all of these goals. While salt removal might be achieved by some of these alternatives, Alternatives B-D would have significant adverse impacts, conflict with existing BLM management plans and policies, violate federal laws, and do not serve the public.

264.03

### **Issues with Alternatives B1 and B2:**

Alternative B1 proposes a new injection well approximately 1.3 miles upriver from the current site of the injection well. The DEIS notes that it would require the construction of 1.3 miles of new road, two new bridges, a powerline, an underground pipeline, as well as additional infrastructure.

The Dolores River Canyon WSA is a 30,000 acre area of stunning slickrock canyons full of scenic vistas, significant habitat, and impressive archaeological sites enjoyed by thousands of visitors every year. It was designated by the BLM in 1980, and the Department of the Interior recommended that the area be added to the National Wilderness Preservation System in 1991. The WSA and the “Slickrock Section ” of the Dolores River that winds through the WSA is a popular and sought after recreational resource when flows are sufficient to float the stretch. The Tres Rios and Uncompahgre Field Offices of the BLM estimate that a minimum of about 5,300 visitors floated the Dolores River corridor through the WSA last year. According to BLM Manual 6330, which directs the Management of Wilderness Study Areas, the WSA “includes all surface and subsurface features under the jurisdiction of the BLM.”

Alternative B1 violates the non-impairment standard mandated in section 603 of FLPMA. This alternative would fundamentally alter the wilderness values of the Dolores River Canyon WSA. Nor is it eligible for an exception under section 1.6.C.2.g of the BLM WSA policy manual. The mere absence of surface disturbing activity does not render the action lawful. Furthermore, the Colorado River Basin Salinity Control Act does not create a specific obligation by mandating that a facility be constructed at this location. Finally, BLM Manual 6330 states "If an impairing proposed project—even one that meets an exception—can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that the project is implemented outside the WSA. “

Between the analyzed alternatives, and other possible and hitherto unexamined solutions, there are clearly other alternatives to building a pipeline under the WSA here, and alternative B1 does not meet the criteria of a qualifying exception to the non-impairment standard. It should be eliminated.

264.04

The Dolores River has been identified as a Wild and Scenic eligible river possessing numerous Outstandingly Remarkable Values (ORVs). BLM policy requires protection of ORVs of identified rivers. The facilities proposed in Alternative B1 would damage these values of recreation and scenery, fish and wildlife (including rare and endangered native fish species and CPW-mapped habitat and lambing areas for desert bighorns), geology, ecology, and archaeology. The Dolores River has a well-deserved reputation as among the most spectacular and cherished wild river experiences in the United States. For the thousands of people who have the opportunity to float the corridor or hike upstream from Bedrock to the famous dinosaur tracks and petroglyphs, this place leaves a lasting impression.

Not only would Alternative B1 physically impact the river corridor below Wild Steer Canyon, it would significantly change the character of the experience farther upstream as boaters float down from La Sal Creek. For many boaters, the takeout at Bedrock is the conclusion of days spent floating through remote wilderness in profound beauty and solitude. The construction of new roads, bridges, and powerlines will permanently impair the outstanding values for which the river was identified and negatively impact this experience. The DEIS (3-59) recognizes some of these negative “direct effects to the recreational segment and indirect effects to the wild segment,” but underestimates the impacts that Alternative B1 would have on scenic values from the river and on the shore.

While Alternative B2 would have fewer direct impacts on the river corridor, we cannot support this proposal to construct many miles of new roads to a new injection well site on Monogram Mesa. The proposed roads would impact threatened Gunnison Sage Grouse habitat, as well as impacting other wildlife.

Both Alternatives B1 and B2 would reduce critical elk winter range and desert bighorn habitat. Desert Bighorn Sheep are a BLM sensitive species. Alternative B1 would impact over 400 acres of sheep habitat, with particularly significant impacts to lambing areas and to water sources. The Uncompahgre Draft RMP notes that important habitat requirements for the desert bighorn include escape terrain and areas with high visibility, with good forage sources and reliable water sources nearby. Fragmenting over a mile of prime canyon habitat incorporating reliable water sources would be a substantial negative impact to desert bighorns.

Finally, it is unclear that construction of either of the “B” alternatives would lead to fewer and less damaging seismic events. As described in the BOR information session in Paradox Valley it seems that proximate faults are still likely to be destabilized by the high-pressure injection of

brine into the Leadville Formation. While these earthquakes might take place further away from the populated areas of Paradox Valley, they may still have major consequences for wildlife, hydrology, ecology, and human residents. Anecdotally, local ranchers and farmers have observed changes in their springs and water sources after significant quakes that could be linked to these seismic events, and residents of the valley have expressed significant concern about continued seismicity.

### **Issues with Alternative C:**

Alternative C proposes a series of evaporation ponds in Paradox Valley which would have unacceptable and irreparable impacts on visual and cultural resources. These ponds would occupy up to 1,500 pristine acres of Paradox Valley which are currently critical winter range for big game, bordering incredible petroglyph panels on the cliffs to the north. The salt ponds would pose serious risks for migratory birds and bats, as well as causing visual impacts and loss of range to local ranchers and farmers. The complex would contain and treat toxic and smelly hydrogen sulfide gas and numerous other noxious chemicals that stand to impact wildlife and local residents. In addition, this alternative would conflict with BLM Management plans currently under consideration.

The Uncompahgre Field Office BLM's proposed Paradox Rock Art ACEC is adjacent to the large salt evaporation ponds proposed in Alternative C. These would greatly diminish the setting of the Paradox Rock Art ACEC described here:

The nominated Paradox Rock Art ACEC is located in the eastern part of Paradox Valley. It contains important rock art and archaeological sites, including several outstanding examples of Ancestral Puebloan style petroglyphs, Formative period and earlier occupations, features and isolates, and settled village sites dating more than five hundred to a thousand years old. The site is rare for its northern extent of Anasazi rock art and occupation. (Uncompahgre Proposed RMP FEIS at 4-170).

In addition, BLM proposes that "the 1,080 acres in the Paradox Rock Art Complex would be managed as a National Register District."

For cultural resources, a significant adverse impact would be the loss of those elements that make them eligible for listing on the National Register of Historic Places due to the extent or degree to which resources are damaged, their physical integrity is lost, or the setting of the resource is damaged. Siting a large salt evaporation pond facility adjacent to a National Register District site would create significant adverse impacts by enormously modifying the setting of the Paradox Rock Art site.

In addition, the Paradox Rock Art ACEC is to be managed to protect quiet recreation use (Uncompahgre Proposed RMP FEIS at 4-301). Constructing an industrial facility adjacent to the ACEC conflicts with the proposed RMP's direction for quiet recreation use.

The proposed RMP requires the development of a Cultural Resource Project Plan that develops site-specific management objectives and actions for all Scientific, Conservation Use, Traditional Use, and Public Use (Uncompahgre Proposed RMP FEIS at 2-43). Until this cultural resource project plan is completed, BLM cannot ascertain whether an industrial evaporation pond facility is compatible with the management objectives of the Paradox Rock Art ACEC.

The DEIS contains no specific analysis of impacts of Alternative C on the proposed Paradox Rock Art ACEC. The DEIS acknowledges the existence of BLM's proposed National Historic District (DEIS at 3-76). The DEIS also admits that "visual degradation of the setting associated with significant cultural resources, including rock art sites, could result from development. This could affect significant cultural resources for which visual integrity is a component of their significance, such as sacred sites and landscapes and historic trails and landscapes." (DEIS at 3-77).

264.05

In the context of the project's stated goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public, Alternative C fails on all counts and must be discarded.

The Uncompahgre Proposed RMP classifies much of Paradox Valley as VRM Class II. The salt evaporation ponds and facilities across 1500 acres envisioned in Alternative C would create unacceptable intrusions incompatible with VRM Class II designated areas of Paradox Valley. For this reason, the DEIS acknowledges that Alternative C would not be "in conformance with the interim visual resource management objectives of the UFO RMP. An amendment to the UFO RMP would be required." (DEIS at ES-10)

If constructed as described, the significant visual impacts of Alternative C are unavoidable. Alternative C fails to meet the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public. As a result, Alternative C should not be considered.

Alternative C also poses unacceptable risks to wildlife. The DEIS describes the high salinity of the water in the ponds, which "will present a potentially significant hazard to wildlife that may attempt to use them for drinking, feeding, or resting. These hazards include the toxic effects from ingestion of the salts and trace elements in the water; osmotic imbalances from consuming or resting on the water; and entrapment, waterlogging, and eventual mortality due to salt encrustation." (DEIS, Appendix J at ES-2)

The evaporation ponds will be particularly toxic to waterfowl and bats. Many of these are BLM sensitive species, including Allen's (Mexican) big-eared bat (*Idionycteris phyllotis*), Spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), and Fringed myotis (*Myotis thysanodes*), as noted in Appendix I.

Alternative C would violate the Migratory Bird Treaty Act by causing enormous mortality to migratory birds. The DEIS Appendix I notes that the Migratory Bird Treaty Act of 1981 prohibits the take, capture, or killing of any migratory birds, and any parts, nests, or eggs of any such birds [16 U.S.C. 703 (a)]. Under Executive Order 13186, federal agencies are liable for both intentional and unintentional take of migratory birds. (DEIS at Appendix I-26)

The U.S Fish and Wildlife Service previously expressed its grave concerns about the impacts to migratory birds from evaporation ponds in 2012 Paradox Evaporation Pond Pilot Study. The Bureau of Reclamation and BLM cannot select Alternative C, thereby intentionally causing take of migratory birds, because it would be in violation of federal law.

Alternative C also would eliminate over 1,500 acres of severe winter range for deer and elk. Given the severe impacts to wildlife winter range and impacts to migratory birds and bats from Alternative C, this alternative not only violates federal law but also does not meet the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public.

#### **Issues with Alternative D:**

Alternative D proposes a zero-liquid discharge technology site that would create a large salt landfill, the construction of a 15 mile natural gas pipeline, and massive energy use that would produce over 25,000 tons of CO<sub>2</sub> emissions every year. For these reasons alone this is a "solution" that would only exacerbate the salinity issues it purports to address, and should be rejected.

The zero liquid discharge facility would return water at a higher temperature back into the river, with potential impacts on native fish species. The salt landfill and industrial facilities would impact critical elk habitat, and local residents have expressed concern over smells and toxicity from the hydrogen sulfide removal facilities proposed in both alternatives C & D. These legitimate concerns about safety and pollution have not been adequately addressed in the DEIS and warrant further consideration.

264.06

In addition, BLM's proposed Biological Soil Crust ACEC is adjacent to the location of the Zero Liquid Discharge facility proposed in Alternative D. This ACEC was identified via field surveys in 2009:

The survey discovered that the soils in the inventory area are derived from the Paradox Formation, and are highly gypsiferous. These soils tend to support a higher than normal density and species diversity of biological soil crusts.

The inventory also resulted in the documentation of the occurrence of two species of biological soil crusts that are somewhat rare and typically found only on gypsiferous soils. The two species are: *Lecanora gypsicola* and *Gypsoplaca macrophylla*. The identification of these species was verified by Dr. Larry St. Clair, Lichenologist at Brigham Young University. Dr. St. Clair conveyed via e-mail to Jessie Salix that he felt the lichens were in need of protection for two reasons: 1) they occur exclusively on gypsiferous soils, a limited habitat that is commonly mined, 2) Dr. St. Clair has only observed these two species on less than half of the gypsiferous sites he has inventoried. (Uncompahgre Proposed RMP FEIS at O-30).

The ACEC is proposed specifically to protect these sensitive soils from surface disturbance. Unfortunately, the DEIS explicitly excluded from analysis impacts to biological soil crusts. (DEIS at 3-70) The DEIS contains no acknowledgement of the proximity of the ACEC to the Zero Liquid Discharge facility.

Given the omission of analysis of impacts to biological soil crusts, it is not possible to ascertain whether Alternative D would achieve the project goals to minimize adverse impacts to cultural resources, to be consistent with BLM management plans, and to be in the best interest of the public.

264.07

In summary, Alternatives B-D pose an unacceptable level of risk to numerous values important to the residents of this region, from farmers and ranchers to boaters and bikers. Therefore, we urge the BOR to adopt Alternative A and to carefully consider the serious and irreversible environmental, social, recreational, and cultural impacts the other alternatives would have on the unique character of the beautiful Paradox Valley.

#### **Issues with NEPA Analysis:**

The fundamental objective of NEPA is to ensure that an “agency will not act on incomplete information, only to regret its decision after it is too late to correct.” NEPA dictates that agencies take a “hard look” at the environmental consequences of a proposed action, and the requisite environmental analysis be appropriate for action in question. In order to take the “hard look” required by NEPA, BLM must assess impacts and effects, including: “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or

cumulative.” (DEIS, 3.11). BOR must revise or supplement the DEIS to take a hard look at the following resources, which are either omitted or inadequately analyzed in the DEIS:

264.08

- Impacts to river recreation, such as new bridges and other infrastructure over the Dolores River within a popular boating section, creating new public hazards.

- Impacts to scenic and aesthetic qualities of community and area. Paradox Valley is a rural, residential, and agricultural community. Building significant industrial infrastructure could harm these qualities, and depress already low property values.
- Impacts to economy and efforts at just transition. The West End of Montrose County is working to recover from the boom and bust cycles of the uranium mining era and still reeling from the job losses resulting from the closure of the Tri-State power plant and mine at Nucla. There have been significant efforts to reinvent the local economy around outdoor recreation. New trails have been built, and efforts are being made to promote existing resources like boating on the Dolores River or hiking in the WSA. The DEIS fails to analyze the effects that any of the alternatives would have on the economic revitalization efforts of the area.

264.09

- Impacts to wildlife. The DEIS acknowledges the impacts that Alternative B would have on potential Gunnison sage grouse habitat, however the DEIS incorrectly states that there is low public interest or no economic or recreational concerns in bighorn sheep species in the project area. On the contrary, the public and Colorado Parks and Wildlife have had significant interest in the health and recovery of the herd in the Dolores River canyons.

264.10

- Impacts to existent or proposed management designations such as ACECs and WSAs must be more thoroughly analyzed and considered.

264.11

#### **Additional alternatives:**

The Bureau of Reclamation should consider additional alternatives beyond the three options evaluated in the DEIS. These could include river flow modifications and agricultural land management options.

Some geophysical analysis suggests that increased freshwater flows in the Dolores River could provide a buffer against brine intrusions and suppress the brine layer. One 2019 report notes the correlation between decreased freshwater flows and greatly increased brine discharge.

“When river stage was low, ground-water flowed towards the river, and brine discharge to the river increased. When the river stage was high, the gradient was reversed, and fresh surface water recharged the alluvial aquifer minimizing brine discharge. Most of the salt load to the river occurred during the winter and appeared to be enhanced by diurnal stage fluctuations.” (Mast, M.A., and Terry, N., 2019, Controls on spatial and temporal variations of brine discharge to the Dolores River in the Paradox Valley, Colorado, 2016–18: U.S. Geological Survey Scientific Investigations Report 2019–5058, 25 p., <https://doi.org/10.3133/sir20195058>.)

These new and informative USGS studies assess the sensitive height variations of the fresh-water/brine interface with river streamflow (stage height), especially the observed complete cutoff of salt intrusion during high spring flows. When the height of the adjacent water table is increased (by increased thickness of a so-called fresh water “lens”), it drives the top of the brine layer below the riverbed and establishes conventional fresh-water aquifer recharge from the river as opposed to brine intrusion to the river.

This raises the obvious question whether there is a straight-forward non-structural alternative to reduce brine discharge into the Dolores River simply by increasing freshwater flows in the river. The DEIS should discuss the viability of such an approach.

The DEIS should also discuss and evaluate the efficacy of agricultural land management alternatives throughout the Colorado River Basin as compared with the selected alternatives for analysis. Mitigation projects in the Lower Gunnison or Grand Valley areas have significantly reduced salt loading, and application of these improved agricultural practices throughout the basin could be a far more efficient use of BOR resources.

264.12

Sheep Mountain Alliance would like to see a more holistic analysis done on the necessity of the Paradox Valley Salinity Unit and its impact to the Colorado River basin desalination efforts within the context of overallocation and decreasing snow pack. We recognize the importance of reducing salinity in the Colorado River to meet our treaty obligations, but we are seriously concerned with the lack of analysis of climate change and future drought in the Colorado River Basin as a whole.

**Sheep Mountain Alliance’s summary of recommendations is as follows:**

- **SMA Recommends the Selection of Alternative A, the No-action Alternative.**
- **Analyze additional alternatives that will minimize impacts to the unique natural and cultural resources and future economy of the Paradox Valley and Dolores River Canyon.**
- **Perform a programmatic EIS of the Colorado River Basin Salinity Program and analyze the individual contribution of the PVU.**
- **Take realistic future drought and climate change conditions in the Colorado River Basin into account in planning and analysis of alternatives.**
- **Consider alternative strategies for decreasing brine input to the Dolores River, such as increasing flows in the Dolores.**

Thank you for your consideration of Sheep Mountain Alliance's comments on the DEIS for the Paradox Valley Unit. We particularly appreciate the extension of the comment deadline to February 19th. Sheep Mountain Alliance's staff, board, members, and constituents have significant concerns about this project and will remain engaged in all future stages of the planning process. If you have any questions, please feel free to contact us at [lexi@sheepmountainalliance.org](mailto:lexi@sheepmountainalliance.org)

Regards,  
Karen (Lexi) Tuddenham  
Executive Director  
Sheep Mountain Alliance

PO Box 389  
Telluride, CO 81435  
(970)-728-3729

FW: [EXTERNAL] PVU Comments

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 7:50 PM

To: McCarter, Molly E <mmccarter@blm.gov>

2 attachments (113 KB)

PVU Comments - Rig To Flip.pdf; signature0.jpg;

**COMMENT LETTER 265**

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**From:** paradoxeis@usbr.gov On Behalf Of Cody Perry

**Sent:** Wednesday, February 19, 2020 7:47:58 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Subject:** [EXTERNAL] PVU Comments

PVU Comments attached

Cody M Perry  
Project Director Rig To Flip  
9708191610

February 19, 2020

Ed Warner, Area Manager  
Bureau of Reclamation  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Sent via eMail: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

Re: Comments for Draft Environmental Impact Statement, Salinity Control Program at Paradox Valley, Colorado

Dear Mr. Warner

Rig To Flip is based in the community of Grand Junction, Colorado. As small business owners and community members we live, work and play across the region including much of the salty rock layer of the Paradox Formation. we've seen for ourselves the damage earthquakes can cause natural and other resources resultant to the operations of a deep-injection well at the location of the Paradox Valley Salinity Control Program near the Utah/Colorado state line.<sup>1</sup> We also empathize with the severity of the salinity problem. Having also observed natural salt evaporates along the river corridor and acknowledge that this is a problem that needs an enduring basin-wide solution.

As written, [Public Law 93-320](#)<sup>2</sup> will not solve this basin-wide salinity problem in our lifetime. Moreover, the threat of litigation that this law is designed to avert, will eventually occur. The litigation will likely come from a sovereign state, a sovereign nation, a county, a municipality, or even from rural and urban citizens, such as ourselves.

The present constructs of this program will never be sufficient to mediate this problem long-term, because human consumption has surpassed the natural supply of the river and, because the trend of rising atmospheric and oceanic temperatures are persistent. The ability to store four-years of water in the "system" has been reduced to two-years. Today, the river water that plunges into Lakes Powell and Mead nearly equals the flow that leaves the reservoirs. In the last 100-years, the system's annual average yield dropped 3 million acre-feet. Despite the wetter episodes of the 1980s and 1990s, that temporary gift of increased flow and dilution is what actually relieved the pressing salinity problem that occurred in the 1970s, even before the injection well at Paradox Valley became operational and before the completion of the Yuma Desalination Plant.

The deep, underground injection of briny groundwater near Bedrock, Colorado, is a program that had an effective lifespan of only 20-years, and with a potentially dangerous outcome, geophysically. This is not a comforting statistic when considering the increasing vulnerabilities that await 40 million people and countless sensitive species of the basin's aquatic and riparian habitats. The preceding trend of losing 30,000 acre-feet per year will not relent in the 21st century—it will double to 60,000 acre-feet per year.<sup>3</sup> The model run of Colorado River Simulation System for [Trace 21](#)<sup>4</sup> published in Final Environmental Impact Statement of the 2007 Interim Guidelines (Chapter 4) indicates that hydropower production in the basin will indeed cease for long episodes.<sup>5</sup> Trace 21 was also simulated as an exercise in [planning scenario](#)<sup>6</sup> for the 2012 Basin Study. It is hydropower revenue that pays the bills for the Salinity Control Program and it has assured financial risks ahead that must be evaluated and remedied.

The other lesson learned from the freshets that occurred in the 1980s is that the basin's flood control policy is wholly inadequate. The five-month snow melt volume of 1983 was about 15 million acre-feet. The conversations that occurred during the Basin Study of 2012 informed us that snow melt volumes of 50 million acre-feet may occur in the future.<sup>7</sup> Paleoflood hydrology research in the Colorado River Basin (CRB), and the Salton Through, tell us that such magnitudes happened during the Medieval Warming Period, during the Little Ice Age Period, and even when ocean

temperatures were stable. This indicates the basin's water infrastructure is not prepared for any climate regime. The [paleoflood hydrology study](#)<sup>8</sup> performed in the watershed of the Dolores River in 2010 informs us that flood control protocols at McPhee Dam will someday be seriously challenged, much like the incident of Oroville Dam in February of 2017. Events of this magnitude could compromise Reclamation's infrastructure on the floodplain of the Dolores River at the Paradox Valley facilities for salinity control.

The performance of the El Nino Southern Oscillation has been seriously compromised in the CRB since 1997. This dysfunction in global circulation patterns is attributed to increasing temperatures of the oceans and the atmosphere, over time. Solving the salinity problem in the CRB includes solving the problem of global circulation patterns, which means reducing greenhouse gas emissions, as quickly as possible.<sup>9</sup> Thus, this is an international problem and not a regional problem. The states of the CRB and the federal government are not responsive toward developing an international movement to reduce greenhouse gas emissions at a planetary scale. This critical pro-active consideration is also lacking at every level in the Cabinet of the United States.

### **We support the no-action alternative**

This comment letter will have two parts: (1) a hard look at the next decade; (2) a hard look at the next 100-years. We will provide thoughtful comments for your consideration for initiating short-term goals, and will conclude that what the Salinity Control Program actually needs is a basin-wide programmatic EIS. The basin needs this information to approach the international community for a planetary climate agreement. This information will be respected by the international community, because it is well-known fact that the Colorado River Basin is the ultimate, international case study for the present maladies that afflict every water management paradigm on six continents. This study should be independent of the current review process for 2007 Interim Guidelines, now underway with a deadline of December 31, 2020, as [announced](#)<sup>10</sup> by Secretary Bernhardt on the 13th of December, 2019. The appropriate first-step should begin with the National Academy of Sciences to develop the outline for this study, and to assist in the peer-review of the first and final drafts.

### **Additional water should be released from McPhee Dam to mitigate salinity**

Reducing the volume of an inter-basin diversion from the Dolores River to the San Juan Basin, and increasing the quantity of water released downstream, would supplement Reclamation's action towards reducing salt loads in Paradox Valley. Reduced flows lead to higher concentrations of salinity in river systems, which has specifically compounded the salinity issue in the Dolores River. Since the construction of the Dolores Project, the magnitude, frequency, and duration of flushing flows have decreased by annual flows from 30% before McPhee to 69% after McPhee.<sup>18</sup> In many ways the Dolores River can be seen as a microcosm of the Colorado River, in the high-volume of trans- and intra-basin diversions, over-allocated water rights, intense natural variability, presence of Native Americans, and high-quality recreational opportunities.

265.01

We understand releasing more water downstream to mitigate salinity is challenging in the over-allocated system, as currently, only 700 acre-feet a year is allocated specifically for the Paradox Valley Unit (PVU). However, Reclamation, as the primary owner and operator of the Dolores Project alongside the Dolores Water Conservancy District (DWCD), has a responsibility to manage the river downstream of McPhee Dam, as well as to the larger Colorado River. We suggest that the efficiency of water used by Dolores Project Full-Service Farmers and Montezuma Valley Irrigation Company (MVIC) be studied by the BOR in order to understand how private and federal water systems are functioning. Outcomes from such an exercise may lead to installation of more water-efficient delivery systems (particularly on out-dated MVIC infrastructure) with "saved" water allocated downstream in a manner consistent with a more natural flow regime.

### **Alternative A: No Action**

We prefer Alternative A over B1, B2 and C. No action is better than destroying wild and critical landscapes for short-term salinity mitigation. Project money could be used instead in the Lower Colorado River Basin and in Mexico to improve farming practices and existing salinity control facilities. Improving critical habitat for wildlife is a goal that should never be sacrificed by any alternative.

### **Alternative B: New Deep Injection Well**

We strongly oppose every aspect of Alternative B1 and B2. First, we oppose the construction of the B1 well site within the Dolores River Canyon Wilderness Study Area (WSA) near Wild Steer Canyon. The wilderness qualities of this area are unmatched and need to be protected at all costs, which explicitly includes not allowing machinery or development occur. Benefits of this area include world-class rafting recreational opportunities, wildlife and fish habitat, and myriad cultural sites. Secondly, the construction of roads and bridges would also decrease water quality by increasing sedimentation and other chemicals, and disturb high-quality animal habitat such as bighorn sheep. Page 3-34 of the draft EIS states that: “the Dolores River, Wild Steer Canyon, La Sal Creek, West Paradox Creek, along with the associated riparian corridors and agricultural fields, offer the most suitable habitat for waterfowl and shorebirds in the area.” As the EIS postulates, it is important to maintain the integrity of the riverside area along the Dolores and the stated tributaries for bird habitat. Thirdly, deep-injection wells have clearly shown to cause seismic activity, which may cause immense damage to the river corridor, wildlife, and local residents. We understand that another well, even in a different layer, would subsequently cause earthquake activities in years to come.

### **Alternative C: Evaporation Ponds**

We are concerned about impacts to birds, elk, mule deer, water resources, and landowners stemming from actions in Alternative C. Given the entire project area is 600-acres, actions would impair critical habitat for elk and mule deer habitat, which would be disturbed with increased activity and the presence of evaporation ponds. The study area sits on top of the ephemeral East Paradox Creek, prone to flashy and unpredictable conditions. The currently-inactive USGS gage has records of floods of almost 400 cfs<sup>19</sup> times, which could potentially flood the site and carry salt directly into the Dolores River. Finally, landowners in the area may find issue with the aesthetics of the ponds, as well as their impacts to big game, in which many land owners rely on private hunting tags to supplement income.

### **Alternative D:**

We are open to considering Alternative D, as it would discharge filtered water into the river, create much needed jobs in the region, especially with the shutdown of Nucla Power Plant. We do reiterate the importance of conducting a more in-depth EIS if Alternative D is chosen. Some aspects may need to be improved, however. Constructing solar panels at suitable locations in order to meet high energy requirements is suggested to mitigate any need to develop additional power lines. New natural gas pipelines should not cross the floodplain of the Dolores River in case a flood, leak or spill were ever to occur, in particular with the frequency of seismic activity in the region. Further, it is important that water being discharged into the Dolores River be filtered to an appropriate extent by current WOTUS (Waters of the United States) standards.

265.02

### **Conclusion**

We would like to thank the Bureau of Reclamation for conducting public information sessions and providing the opportunity to comment on this important project. We also appreciated that the comment period was extended from February 4 to February 19. We hope the BOR will consider our request for a programmatic basin-wide EIS, as well as direct comments towards the proposed PVU in Paradox Valley.

Sincerely yours,

Cody M. Perry, Co-founder  
Rig To Flip LLC.

<sup>1</sup> News feature by *Moab Sun News*:

<http://www.livingrivers.org/pdfs/Press/AgingInfrastructureAffectingDoloresRiverCausingQuakesThreatsToWater.pdf>

<sup>2</sup> The Salinity Control Act (1974). Available at: <http://www.onthecolorado.com/Resources/LawOfTheRiver/SalinityControl1974.pdf>

<sup>3</sup> Udall and Overpeck, 2017.

<http://www.riversimulator.org/Resources/ClimateDocs/21CenturyColoradoRiverHotDroughtImplicationsForFuture2017Udall.pdf>

<sup>4</sup> Graphs of Trace 21. Mead Powell 2007 FEIS. Chapter 4. Available at:

<http://www.riversimulator.org/Resources/Graphs/TracesNo.1.21.48MeadPowell2007FEISChap4.pdf>

<sup>5</sup> When will Lake Mead go dry? Barnett and Pierce, 2008.

<http://www.riversimulator.org/Resources/ClimateDocs/2008BarnettPierce.pdf>

<sup>6</sup> Colorado River Water Supply & Demand Study. 2010 Draft. Available at:

<http://www.riversimulator.org/Resources/USBR/BasinStudy/Trace21/Trace21CPScenarioV2.pdf>

<sup>7</sup> Colorado River Commission of Nevada:

<http://www.riversimulator.org/Resources/Testimony/Segeberblom/2017/ColoradoRiverCommissionNevadaHarkin2017.pdf>

<sup>8</sup> Cline, M.L. (2010). Extreme Flooding in the Dolores River Basin, Colorado and Utah: Insights from Paleofloods, Geochronology and Hydroclimatic Analysis. The University of Arizona. Available

at: <http://www.riversimulator.org/Resources/Hydrology/DoloresRiverPaleofloodStudy2010Cline.pdf>

<sup>9</sup> Stationarity is Dead: Whither water management; Milly et al., 2008.

<http://www.riversimulator.org/Resources/ClimateDocs/MillyBetancourt2008.pdf>

<sup>10</sup> <http://www.livingrivers.org/pdfs/Press/InteriorSecSkipsClimateChangeInColoradoRiverUsersSpeech.pdf>

<sup>11</sup> Worster, D. (1993). The wealth of nature: Environmental history and the ecological imagination. New York: Oxford University Press.

<sup>12</sup> Desert Sun news feature:

<https://www.desertsun.com/story/news/environment/2019/10/22/imperial-county-declares-salton-sea-emergency-demands-california-take-action/4064788002/>

<sup>13</sup> Cronkite News feature:

<https://cronkitenews.azpbs.org/2018/05/02/yuma-plant-meant-to- conserve-water-will-cost-millions-to-update/>

<sup>14</sup> Light on the Mexican Water Treaty. <http://www.riversimulator.org/Resources/LawOfTheRiver/LightMexicanTreatyElyCRWUA1946.pdf>

<sup>15</sup> Water Yield and Reservoir Storage in the United States.

<http://www.riversimulator.org/Resources/Hydrology/WaterYieldAndReservoirStorageUSA1959Langbein.pdf>

<sup>16</sup> Probability Analysis Applied to a Water-Supply Problem. <http://www.riversimulator.org/Resources/USGS/Leopold1959.pdf>

<sup>17</sup> Sabo, J.L. et al. (2010). Reclaiming Freshwater Stability in the Cadillac Desert. PNAS. Available at:

<http://www.riversimulator.org/Resources/ClimateDocs/ReclaimingFreshwaterSustainabilityInTheCadillacDesertSabo2010.pdf>

<sup>18</sup> Core Science Report for the Dolores River Dialogue, 2005. Available at: <http://ocs.fortlewis.edu/drd/pdf/coreScienceReport.pdf>

<sup>19</sup> [https://nwis.waterdata.usgs.gov/usa/nwis/peak/?site\\_no=09169800](https://nwis.waterdata.usgs.gov/usa/nwis/peak/?site_no=09169800)

FW: [EXTERNAL] Paradox Valley Unit of the Colorado River Basin Salinity Control Program - Draft Environmental Impact Statement

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 5:48 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 266**

1 attachments (266 KB)

Padgett BOR DEIS Paradox Valley Unit Salinity comments.pdf

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**From:** paradoxeis@usbr.gov On Behalf Of lynn@mtngeogeek.com

**Sent:** Wednesday, February 19, 2020 5:46:24 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS; lynn@mtngeogeek.com

**Subject:** [EXTERNAL] Paradox Valley Unit of the Colorado River Basin Salinity Control Program - Draft Environmental Impact Statement

Hi, please accept my comments on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program – Dra. Environmental Impact Statement.

Lynn Padge  
544 Busted Boiler Lane  
Montrose, CO  
81403

Bureau of Reclamation  
Attn: Ed Warner, Area Manager  
445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Letter sent via email to: [paradoxeis@usbr.gov](mailto:paradoxeis@usbr.gov)

**Re: Paradox Valley Unit of the Colorado River Basin Salinity Control Program Draft Environmental Impact Statement (DEIS)**

Dear Mr. Warner,

Please accept my comments as a concerned citizen.

I appreciated the opportunity to attend a public meeting Montrose in January 2020. From the presentations, handouts, DEIS and supporting materials<sup>1</sup>, I understand that the goals and objectives of the proposed action are (in the order provided on the January 2020 Bureau of Reclamation (BOR) meetings handout<sup>2</sup>:

- Minimize the use of nonrenewable resources, including land and energy;
- Be consistent with existing BLM RMPs, where applicable;
- Be in the best interest of the public, including considerations of health and safety and the local community's desired future conditions;
- Remove 100,000 or more tons of salt per year;
- Optimize [the] annual cost per ton of salt removed;
- Avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in [the] affected environment.

**No alternative comes close to achieving all six of the stated goals or objectives.** I appreciate that the DEIS did not identify a preferred alternative and I appreciate the frank summaries of each alternative in the handouts. Alternatives B1, B2, C, and D tradeoff moderate to high costs; induced seismicity; impacts to listed critical habitat of the Gunnison Sage-Grouse; impacts to Dolores River Canyon Wilderness Study Area; impacts to eligible Wild and Scenic River segments; migratory bird and wildlife mortality; permanent destruction of scenic resources; and moderate to extreme energy use in the form of electricity, propane, and natural gas with an unsupported stated reduction of 9 mg/L in Total Dissolved Solids (TDS) at the lowest of four dam sites, the Imperial Dam, in the Lower Colorado River Basin.

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<sup>1</sup> USBR (12/2019) Paradox Valley Unit of the Colorado River Basin Salinity Control Program DEIS Volumes 1-IV: <https://www.usbr.gov/uc/envdocs/eis.html> and supporting materials (1/2020) at <https://www.usbr.gov/uc/progact/paradox/index.html>

<sup>2</sup> <https://www.usbr.gov/uc/progact/paradox/docs/20200207-ParadoxValleyUnitDraftEIS-AbilitytoMeetGoalsObjectives-508-WCAO.pdf>

**Failure to prove the cause and effect of current salinity reduction efforts despite multiple U.S. Geologic Survey studies. The purpose and need is assumed but not proven, despite salinity control at PVU for two decades.** From the meeting handouts and the Draft Environmental Impact Statement (DEIS) and materials provided online, it is clear that the analyzed alternatives and estimated cost-benefits hinge on one assumption.

This assumption is that the volume of salinity in the saline groundwater (brine) pumped out of the Paradox Valley Unit (PVU) brine collection wells would have certainly flowed into the Dolores River and loaded it with an equal volume of salinity. However, no significant evidence is presented in the DEIS that supports this assumption, despite water quality monitoring upstream and downstream of the extraction and injection wells.

The stated purpose and need for the analysis of alternatives in the DEIS is to “control salinity in the Colorado River contributed by sources in the Paradox Valley to decrease the adverse effects of high salt concentrations in the Lower Colorado Basin.”<sup>3</sup> However, the DEIS fails to quantify the impact of the existing PVU operations since 1996:

*...“because of the many variables associated with quantifying the effect of pumping on the river’s salinity (such as base salt load conditions, river flows, irrigation practices, and groundwater flow into the river), the change in TDS levels between the two U.S. Geological Survey (USGS) stations at Paradox Valley (09169500 and 09171100) does not exactly correlate with the volume of brine pumped from the brine production wells.*

*However, no complete models of salt control in the Paradox Valley exist with which to determine the salinity control effect of PVU operations; therefore, based on best available scientific information, Reclamation is continuing to estimate salt control in the Paradox Valley based on its historical determination.”<sup>4</sup>*

The lack of defensible data demonstrating the effectiveness of the PVU makes it impossible for the public to determine whether the proposed project meets the purpose and need and justifies the tradeoffs of both the cost and permanent degradation or destruction of the landscape, important wildlife habitat, visual resources, recreational opportunities, as well as whether the investment in these costly action alternatives, both to taxpayers as well as to the surrounding environment.

266.01

The Colorado River Basin Salinity Control Forum also maintains that the Paradox Valley Unit’s system of brine collection wells and single deep injection disposal well is preventing 100,000 tons of salt from

<sup>3</sup> USBR (2019). DEIS, Volume I. Page 1-3.

<sup>4</sup> USBR (2019). DEIS, Volume I. Page 2-1.

entering the Colorado River Basin annually, based on statements from BOR when it can operate normally and inject nine to ten million gallons of brine per month.<sup>5</sup>

Alternatives B1, B2, C, and D all would utilize the same method of brine collection and existing extraction wells that pump brine from groundwater below Paradox Valley but would dispose of the brine differently. Without proving the true impact of removing the brine from Paradox Valley, there is no basis for measuring the tradeoffs of the significant environmental impacts of the disposal methods in each alternative.

The environmental and socio-economic impacts are concentrated within the Bedrock-Paradox areas of the Dolores River watershed, but the perceived economic and salinity reduction benefits would benefit the Lower Colorado River Basin, as measured at four dam sites in lower basin states.

**Alternative A, named the “no action alternative” analyzes retiring the salt control system in the PVU and removing the existing infrastructure.**

**Alternative A fully meets five of the six stated goals and objectives, and until there is a demonstrated cause and effect in the Dolores River and Colorado Rivers from lack of pumping and extracting brine from Paradox Valley, Alternative A should be chosen as the preferred alternative. Alternative A does no more harm to the environment than the current condition.**

Alternative A accomplishes:

- Minimize the use of nonrenewable resources, including land and energy;
- Be consistent with existing BLM RMPs, where applicable;
- Be in the best interest of the public, including considerations of health and safety and the local community’s desired future conditions;
- Optimize [the] annual cost per ton of salt removed;
- Avoid and minimize adverse impacts on physical, biological, social, economic, cultural, and tribal resources in [the] affected environment.

Alternative A does not accomplish:

- Remove 100,000 or more tons of salt per year;

The Colorado River Basin Salinity Control Act (CRBSCA) of 1974 does not mandate the extraction of 100,000 or more tons of salt per year at PVU. USBR has only analyzed alternatives where they believe at least 100,000 tons of salt per year can be removed from the “point source” of the PVU. It has not analyzed methods of removing 100,000 tons per year through implementing better management practices and controls of fertilizers in agricultural activities that are hydrologically connected to the Colorado River Basin. Controlling anthropomorphic salinity loading vs. geological salinity loading may be more cost-efficient and better achieve the ultimate goals of the CRBSCA. USBR gave information during

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<sup>5</sup> Colorado River Basin Salinity Control Forum, (2015, April 28). Fact Sheet retrieved at <http://www.coloradoriversalinity.org/docs/PVU%20Briefing%20Document%202015-04-30.pdf>.

the January 2020 public presentations, that when operating, the PVU salinity control collection and injection system removed 7 to 8 percent of the salinity in the Colorado River Basin and provided about \$23 million a year in economic benefits to agriculture while costing around \$6 million/year to operate. USBR provided that 47 percent of the salinity in the Colorado River Basin is “natural” while the other 53 percent is from human activities, including agriculture and reservoirs. Meanwhile, the Salinity Control Forum in 2019 provides that economic damages to agriculture from salinity in the Colorado River Basin is \$454 million per year.<sup>6</sup> The overall impact of the PVU in making a proven difference in salinity in the Lower Colorado River Basin appears to be moot. USBR estimates that the cheapest alternative to construct is \$106 million, which is not factored into the annual operating cost per ton/salinity guesstimated to be removed.

### **Insufficient Range of Reasonable Alternatives.**

NEPA requires that an actual “range” of alternatives is considered, to “preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative.”<sup>7</sup> This requirement prevents the DEIS from becoming “a foreordained formality.”<sup>8</sup> The “evaluation of alternatives mandated by [NEPA] is to be an evaluation of alternative means to accomplish the general goals of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals.”<sup>9</sup>

The DEIS fails to present a reasonable range of alternatives. Alternatives B1, B2, C, and D have environmental and other impacts that do not outweigh the limited benefits of the salinity control program at PVU to the Lower Colorado River Basin. The DEIS should have also included an alternative that analyzes the impacts of managing river flows below McPhee Dam in the Dolores River to reduce salinity and benefit native fish. It is possible that such an alternative could have similar estimated benefits to the four Lower Colorado River Basin dam sites and less cost.

266.02

The action alternatives present the public with unacceptable significant negative impacts on the environment and the community:

- Alternative B - impacts to the Dolores River and its canyons that may impair the wilderness study area, impair the suitability of a wild and scenic river, permanently diminish recreational, destroy habitat for desert bighorn sheep and the Gunnison sage grouse, and potentially create additional earthquakes in the region.

<sup>6</sup> Colorado River Basin Salinity Control Forum, (2018, April 19). Fact Sheet retrieved at <https://www.coloradoriversalinity.org/docs/CRBSCP%20Briefing%20Document%202018-04-19.pdf>.

<sup>7</sup> Col. Evtl. Coal. v. Dombeck, 185 F.3d 1162, 1174 (10th Cir. 1999) (citing Simmons v. U.S. Corps of Eng’rs, 120 F.3d 664, 669 (7th Cir.1997))

<sup>8</sup> City of New York v. Dep’t of Transp., 715 F.2d 732, 743 (2d Cir. 1983). See also Davis v. Mineta, 302 F.3d 1104 (10th Cir. 2002)

<sup>9</sup> Colo. Evtl. Coal. v. Dombeck, 185 F.3d 1162, 1174 (10th Cir. 1999)

- Alternative C - evaporation ponds could harm migratory birds and would damage the scenic and rural nature of the Paradox Valley. High energy use conflicts with air quality and climate change concerns.
- Alternative D - more industrial development would damage the scenic and rural nature of the Paradox Valley, and burning fossil fuels to power the crystallizers would require a pipeline to bring natural gas as well as create a new source of greenhouse gas use contributing to climate change. High energy use conflicts with air quality and climate change concerns.

**Wilderness Study Area Impairment in Alternative B Is In Conflict with BLM Manual 6330. Alternatives B1 and B2 would likely produce earthquakes felt in the WSA.**

Consistent with its obligations under FLPMA and implementing regulations, BLM must manage and protect Wilderness Study Areas (WSAs) to preserve wilderness characteristics so as not to impair the suitability of such areas for designation by Congress as a Wilderness. Alternative B in the DEIS does not meet these obligations.

In July 2012, the Department of the Interior released guidance on BLM management of WSAs.<sup>10</sup> Manual 6330 provides “general policies for the administration and management of [WSAs]” and “outlines procedures to ensure the Congressional mandate to manage” WSAs to a non-impairment standard is met. As a general policy, BLM must “protect the wilderness characteristics of all WSAs in the same or better condition than they were on October 21, 1976, until Congress determines whether or not they should be designated as wilderness.”<sup>11</sup> Further, when “managers are in doubt as to a course of action in a WSA, this [policy] should serve as a guiding principle.”<sup>12</sup> “The benchmark for the non-impairment standard is the condition in 1976 or current condition of the WSA, whichever is the better condition of wilderness characteristics.”<sup>13</sup>

The Dolores River Canyons WSA is a 30,119 acre area of slickrock canyons surrounding the Dolores River, recommended by the BLM to be designated wilderness by Congress.<sup>14</sup> The WSA and the “Slickrock Section” of the Dolores River through the WSA is a popular and sought after recreational resource when flows are sufficient to float the stretch. The WSA “includes all surface *and subsurface* features under the jurisdiction of the BLM [italics added for emphasis].”<sup>15</sup> The non-impairment standard requires a two-part test for proposed actions. One is if the action is temporary and the second is does the action creates a surface disturbance.<sup>16</sup> Alternative B1 would be a permanent action within the WSA, even though it is subsurface, so it fails the non-impairment standard test.

266.03

<sup>10</sup> BLM Manual 6330- Management of Wilderness Study Areas (Public) (July 13, 2012).

<sup>11</sup> BLM Manual 6330 § 1.6.B.

<sup>12</sup> BLM Manual 6330 § 1.6.B.

<sup>13</sup> BLM Manual 6330 § 1.6.B.6

<sup>14</sup> BLM Colorado Wilderness Study Report ROD, October 1991.

<sup>15</sup> BLM Manual 6330 § 1.4.C

<sup>16</sup> BLM Manual 6330 § 1.6.C.1

Earthquakes felt or centered within the WSA would be extremely likely with Alternatives B1 and B2. The proposed injection well site for Alternative B1 is located immediately adjacent to the same fault (on the upside instead of the downside) that the current deep injection well is at. Seismicity events started affecting the management of the current PVU injection system in 2006, just 8 years after it began operations, and far less than the fifty years analyzed in this DEIS. USBR provides data on thousands of earthquakes generated by the PVU injection system. The proposed new injection well locations for Alternative B1 and B2 are still within the zone of earthquakes. USBR states that the current seismic events are expected to continue and new injection systems will add to the cumulative effects:

*“Induced seismicity from current PVU operations is expected to continue under any of the PVU alternatives (see **Section 3.3**, “Geology and Geologic Hazards”). Other projects, such as disposal of wastewater into deep wells following hydraulic fracturing on BLM lands, could also trigger seismicity in those areas. Determining the seismicity impacts of those other projects would be speculative, but seismic events could occur in combination with induced seismicity from Alternative B.”<sup>17</sup>*

The BLM does make exceptions to application of the non-impairment standard, and the DEIS seems to excuse impacts from Alternative B by claiming that since “PVU is authorized by Congress under Title II, Section 202(a)(1), of the Colorado River Basin Salinity Control Act (PL 93-320, as amended)” then that is a qualifying exception.<sup>18</sup>

However, although Manual 3360 does allow that “other obligations may be created by Congress,”<sup>19</sup> it is not plausible to read that Title II, Section 202(a)(1), of the Colorado River Basin Salinity Control Act would be a qualifying act of Congress because the Colorado River Basin Salinity Control Act never mentions, much less authorizes, activities specifically in a location that is now within the Dolores River Canyon WSA (the WSA did not exist in 1974). Because Congress was not specific in location or name, it does not create a congressionally-mandated exception, or valid existing right, that would satisfy the exception requirements to the non-impairment standard. And since there is no current, existing use within the WSA and existing facilities only were established in 1996, it eliminates any exception for grandfathered uses prior to the 1976 effective designation date of the WSA.

266.04

The DEIS then goes on to claim:

*The permanent subsurface facilities would not affect the wilderness characteristics; therefore, they would not impair the area’s suitability for preservation as wilderness.*<sup>20</sup>

<sup>17</sup> USBR (2019). DEIS, Volume I. Page 4-6.

<sup>18</sup> USBR (2019). DEIS, Volume I. Section 3.13.2.2

<sup>19</sup> BLM Manual 6330 § 1.6.C.2.g

<sup>20</sup> USBR (2019). DEIS, Volume I. Section 3.13.2.2

This statement is entirely subjective and attempts to presuppose the judgment of Congress. Congress has been reluctant to designate wilderness where there are ROWs and subsurface infrastructure, so it is not credible to claim that a pipeline would not impair the area's suitability.

BLM Manual 6330 states:

*If an impairing proposed project—even one that meets an exception—can be implemented outside of a WSA and accomplish the objectives identified in the purpose and need statement prepared under NEPA, the BLM should endeavor to ensure that the project is implemented outside the WSA.<sup>21</sup>*

The Department of the Interior, USBR, and BLM should not choose or prefer an alternative that impairs the WSA. In summary, the DEIS has not identified alternatives that achieve all of the goals and objectives of the salinity control project. Alternative A appears to achieve all but one of the goals and objectives while avoiding, minimizing, and mitigating negative impacts on the environment and wildlife. This is an acceptable tradeoff. Monitoring of salinity and TDS in the Dolores River, and seismic events related to the PVU deep injection well that is now shut-in should continue. New alternatives should be explored only when there is a clear purpose and need that brine collection and extraction at the PVU will remedy, proven by science and data. New alternatives should be explored if their benefits outweigh the risks, costs, and impacts. Until then, Alternative A should be selected. Based on the DEIS, Alternative A is the only acceptable alternative.

Sincerely,

A handwritten signature in black ink, appearing to read "Lynn Padgett". The signature is written in a cursive, somewhat stylized font.

Lynn Padgett

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<sup>21</sup> BLM Manual 6330 § 1.6.C.2

FW: Comments on Paradox Valley Unit Draft EIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 5:47 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 267**

1 attachments (58 KB)

Paradox Valley EIS Comments 02192020.pdf

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**From:** paradoxeis@usbr.gov On Behalf Of Mohamed, Dylan

**Sent:** Wednesday, February 19, 2020 5:41:37 PM (UTC-07:00) Mountain Time (US & Canada)

**To:** BOR WCAO DL Paradox EIS

**Cc:** Shields, Tina L

**Subject:** [EXTERNAL] Comments on Paradox Valley Unit Draft EIS

Dear Mr. Warner,

IID appreciates the opportunity to comment on the Draft EIS for the Paradox Valley Unit salinity control replacement project. IID's comments are attached for your consideration. Please contact me if you have any questions regarding IID's comments.

Thank you,

Dylan Mohamed

Dylan Mohamed  
Water Conservation Data Technician I  
System Conservation  
Imperial Irrigation District  
(760) 339-9256  
djmoahmed@iid.com



# IID

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February 19, 2020

Mr. Ed Warner, Area Manager  
U.S. Bureau of Reclamation  
445 West Gunnison Avenue, Suite 221  
Grand Junction, CO 81501

Dear Mr. Warner:

**Subject: Paradox Valley Unit Draft EIS Comments**

Imperial Irrigation District appreciates the opportunity to submit its comments on the draft Environmental Impact Study for the Paradox Valley Unit of the Colorado River Basin Salinity Control Program, where the DEIS analyzes the possible alternatives to the current Paradox Valley Unit in anticipation of this unit being inoperable in the coming future.

IID has reviewed the draft EIS and has the following comments/concerns:

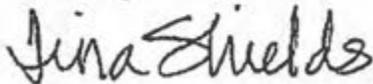
1. IID believes that pursuing one of the "Action" alternative outlined in the DEIS is preferable to the "No Action" alternative for the reasons described below:
  - a. The Paradox Valley is a particularly effective location on the Dolores River for a salt control project, with the current Paradox Valley Unit preventing approximately 95,000 tons of salt from entering the Colorado River via the Dolores River. No other projects or groups of projects are currently being considered to remove an equivalent amount of salt should the PVU cease operations, meaning that 7 percent of the total salt control that is being performed on the Colorado River would be lost.
  - b. The "No Action" alternative is a step back in salinity control efforts in the Colorado River Basin and hinders the obligations that the United States has under the 1974 Colorado River Basin Salinity Control Act.
  - c. The IID takes delivery of its water at the end of the Colorado River. Should the "No Action" alternative be recommended, IID will be among the most impacted in regards to the damages incurred by the increase in salinity levels on the Colorado River. Currently, those below Imperial Dam on average incur about \$251 million worth of damages due to the salinity levels in the Colorado River. The "No Action" alternative will only increase this

number going forward with an estimate of \$23 million on average of additional economic damages per year.

- d. The "No Action" alternative calls for the closing of the PVU, which would remove the possibility of running the current unit at even a reduced capacity in the future. Running the PVU at a reduced capacity could be beneficial going forward, considering that the alternatives recommended in the draft EIS have considerable lead-time before they are operational and would begin preventing salt from entering the Colorado River.
2. IID believes that an alternative that would continue to reduce the salinity levels in the Colorado River is the best course of action. Whether that alternative is a new deep injection well, evaporation ponds, or zero liquid discharge, IID believes that the continued pursuit of the objectives set out in the 1974 Colorado River Basin Salinity Control Act is best for all those that rely on the Colorado River.
3. If possible, IID supports the continued operation of the current PVU, at a reduced capacity, in tandem with a scaled down version of one of the "Action" alternatives (i.e. Alternatives B, C, or D) that are analyzed in the DEIS.
4. The alternative chosen should be designed to maximize the amount of salt control that is possible in the Paradox Valley.

Should you have any questions, please do not hesitate to contact Dylan Mohamed by phone at 760-339-9256 or e-mail at [djmohamed@iid.com](mailto:djmohamed@iid.com). Thank you for the opportunity to comment on this matter.

Sincerely,



Tina Shields, P.E.  
Manager, Water Department

FW: [EXTERNAL] COMMENT: PARADOX VALLEY UNIT OF THE COLORADO RIVER BASIN SALINITY CONTROL PROGRAM DEIS

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Wed 2/19/2020 1:23 PM

To: McCarter, Molly E <mmccarter@blm.gov>

**COMMENT LETTER 268**

1 attachments (395 KB)

DEIS Comment-final.pdf

From: paradoxeis@usbr.gov On Behalf Of Doyle McClure

Sent: Wednesday, February 19, 2020 1:21:00 PM (UTC-07:00) Mountain Time (US & Canada)

To: BOR WCAO DL Paradox EIS

Cc: McWhirter, Lesley A.

Subject: [EXTERNAL] COMMENT: PARADOX VALLEY UNIT OF THE COLORADO RIVER BASIN SALINITY CONTROL PROGRAM DEIS

Dear Mr. Warner:

Thank you for the opportunity to comment on the subject DEIS, see attachment.

I would appreciate a confirmation upon receipt of same.

Thanks again,

James D. McClure  
PO Box 718/2006 Hillside Ave  
Dolores, Colorado 81323  
303-408-2785

--

To: Ed Warner, Area Manager, Bureau of Reclamation  
445 West Gunnison Ave, Suite 221, Grand Junction, CO 8150

From: James D. McClure,  
2006 Hillside Ave (Mail: PO Box 718)  
Dolores, CO 81323

Date: February 18, 2020

Subject: Comment on Paradox Valley Unit of the Colorado River Basin Salinity Control Program DEIS

Thank you for the opportunity to comment on the subject DEIS. The purpose of this comment is to request delayed adoption of the proposed DEIS action-alternatives pending improved understanding of the complex hydrology of the Paradox Valley that governs induction of salt brine into the Dolores River. This requested delay is motivated by the failure to consider results of recent hydrological research that expose important features of this complex hydrology, as well as the need for extension of such research to better understand alternative options that might reduce the large costs and risks associated with DEIS-proposed disposition of large volumes of ground-water brine.

Section I to follow describes results of existing research exposing a major deficiency common to all proposed actions, namely, failure to consider options to reduce or exclude injection of salt into the river other than extracting brine groundwater. Section II suggests additional research needed to better delineate saline configurations and transport, as well as project alternatives that might substantially reduce costs, risks, and/or habitat destruction relative to the DEIS proposed actions. A closing statement is given in Section III.

I Saline Brine Intrusion into the Dolores River in the Paradox Valley

I-1 Basis for Design and Operation of the Existing and Proposed PVU Facility

The existing and proposed alternatives in the DEIS are all based on one common assumption; namely, that the only effective approach to reducing salt intrusion into the Dolores River as it flows through Paradox Valley is by removing salty ground water (brine) adjacent to the river. This section describes results of hydrological investigations underlying both these and alternative approaches.

The existing PVU facilities, consisting primarily of a group of brine-collection wells spread along the river corridor in the valley and a deep-earth injection well in the upstream canyon, were conceived and implemented on the basis of early geomorphical and hydrological studies such as those of Cater and Konikow, et al, ( Refs 1 and 2). Despite major advances in understanding the relevant hydrology, which is far more complex than initially envisioned, the action-alternatives in the DEIS fail to consider other brine-suppression approaches, focusing only on various means to process and/or dispose of large volumes of extracted brine.

268.01

This earlier concept, described in Ref 2, was/is based on reduction of salty-brine intrusion into the river by reducing the level of the fresh-water/brine interface to depths below the river bed via near-by

extraction of underlying ground-water brine. This facility has achieved a moderate degree of success in reducing the intrusion of salt into the river through the valley reach but has proven to be a costly bandaid, leaving a substantial fraction of salt intrusion into the river and lasting only 20 +/- years before closure in 2019 due to increasingly severe earthquakes generated by the large volume of brine injected into the deep well. Furthermore, lowering the upper brine level by pumping is, to some degree self-defeating, since it can lower the associated hydrostatic pressure inducing inflow of replacement brine.

The technical basis for design of the existing facility, which also pertains to all proposed action-alternatives in the DEIS, is illustrated by Figures 2, 3, and 4 of Ref 2. The associated 'concept model,' envisions a thin fresh-water 'lens' overlying a much deeper brine layer, these permeating the alluvium and fragmented cap-rock structures overlying the deeper salt formation, resulting from the collapsed anticline and subsequent deposition of wind- or water-borne soil. The cited Figure 4 suggests pumping brine from collection wells distributed along the river corridor could suppress the brine layer by several hundred feet on the west side of the river and by 100 feet or more under the river bed, this resulting from an estimated removal of ~ 2.5 cfs of brine from 30-60 such wells. The authors recognized these concepts and envisioned flow characteristics would need to be validated by future ground-truth measurements.

Chafin, Watts, and Mast (Refs 3, 4, and 5) have variously reported the Dolores River salt loads and effectiveness of the existing PVU brine-extraction facility over various time periods from 1980-2015. The PVU facility was brought into full operation in mid-1996 with typical collective brine pump-rates of 200-240 gallons/minute (~ 0.5 cfs) .

Associated reduction in salt-gain from the river, derived from measurements at the entry and exit locations in Paradox Valley, is cited in these reports as 90%, 60%, and 70% for the various periods considered, ending respectively in 2001, 2009, and 2015.

The proposed brine-extraction rates for the various action options in the DEIS vary from 200-300 gallons/minute (0.45-0.67 cfs). Although these are seemingly modest instantaneous flow rates, the corresponding annual volume of brine is 14,191, 200 to 21,129,120 cu-ft/yr (326-485 acre-ft/yr). These large volumes of brine to be processed, or otherwise disposed of, underlie the major costs, risks, and/or environmental hazards associated with the DEIS-proposed options.

268.02

## I-2 Improved Understanding of Complex Hydrology in Paradox Valley

### I-2.1 Aquifers and ground water throughout the valley

Although the generic concept models of Ref 2 provide a qualitative description of the valley hydrology, an improved (though still incomplete) description has been reported by Mast and Terry (Ref 6) based on both their work and that of Ball et al (Ref 7). The associated hydrological model might be characterized a two-layer aquifer (or two interacting aquifers), the upper fed by fresh-water from surface flows and direct precipitation throughout the valley and the surrounding highlands, this bounded below by a mixing-layer interface with the lower brine-infiltrated layer extending through deeper alluvium and/or fragmented cap-rock to the salt formation below.

As might be expected from the strong temporal variations in river/stream flows and local precipitation, as well as the spatial inhomogeneity of permeability and fluid capacity of the underlying ground structures; aerial, ground, and river surveys in Refs 6 and 7 indicate strong variation in both space and time of the fresh water and brine subsurface configurations and concentrations.

Subsurface resistivity measurements in Ref 7, taken in aerial surveys along NW-SE transits approximately parallel to the valley centerline (see Figures 5 and 7 therein), indicate a high-concentration, subsurface brine ‘pool,’ extending ~ 100 meters or so below the river bed and transversely into the adjacent, lower-elevation regions. Intermediate resistivity (brine concentration) values are shown to extend to 150-200 meter depths from the land surface along the upsloping valley, both to the NW and SE from the river. Scattered patchy areas of higher brine concentrations 20-30 meters or more below the surface occur along the upsloping valley NW from the river..

These results are consistent with the known close-proximity of the high-concentration, ground-water brine under the river and the adjacent lowlands. The intermediate resistivities in the subsurface regions at the higher valley elevations indicate (perhaps long-term) dispersion of salt concentrations throughout the underlying cap-rock and ground layers in the upland regions. However, the degree to which the infiltration of fresh-water from precipitation throughout the watershed drives the upwelling of the higher concentration (and density) brine underneath the river, as suggested by the early concept models, seems highly uncertain. Ref 6 and cited references therein suggest the brine at depth might be as much as 10,000 years in age, suggesting a deep, stably-stratified and largely-stagnant, ‘pool’ below the river.

## I-2.2 Fluctuations of Dolores River stream flows and daily salt gain in Paradox Valley

### i. Inverse (anti-) correlation of salt intrusion and brine height with streamflow/gauge height

Refs 5 and 6 document the extreme variability of river stream flow (along with gauge height) and salt gain (river uptake passing through the valley, usually expressed in tons of salt) by day, month, and year. Figure 4 of Ref 5 shows a strong anti-correlation between mean monthly streamflow (cfs) and upstream/downstream changes in salt concentration through the valley (averaged over years 1987-1993 before implementation of the PVU facility).

More importantly, Fig 9 of that report shows the seasonal variation of daily, total salt gain (tons per day) through 2015. Comparison of these results with the corresponding monthly-averaged stream flows from Ref 8 shows a similar anti-correlation of salt gain with stream flow, which truly shows change in river salt uptake, not simply possible concentration dilution. As discussed below, this anti-correlation corresponds to suppression of brine elevation with increased fresh-water, water-table height.

The measured subsurface profiles of conductivity (directly related to salt concentration) of Ref 6, Figures 4 and 5, show explicitly the inverse correlation of upper brine level (height) along the river with river streamflow in 2017; compare low- flow March profile, high-flow May profile, and low-flow September profile (seasonal stream flows shown by Figure 7A). The following Figure 6

illustrates the complex spatial variation of sub-surface brine and fresh water, both in directions along and transverse to the river. This is complemented by the mapped subsurface brine extent under low-flow conditions in Figure 9, which shows a rapid increase in brine area with increasing depth from ~ 1.5 meters to ~ 5 meters for years 2011 and 2017.

Figure 8 of Ref 6 illustrates the seasonal variation of total dissolved solids (mainly salt) at both upstream/downstream locations and net gain throughout 2017. With reference to stream flows from the preceding Figure 7A it is clear that the suppression of brine height in the high-streamflow months completely shuts down the salt-intrusion into the river. Figure 13 shows the explicit inverse relationship (anti-correlation) between monthly salt gain and streamflow throughout WY 2017 and early WY 2018 (Oct 2016-early 2018).

#### ii. Rapid fluctuations in streamflow (gauge height) and salt intrusion

Although the large seasonal and annual variations in both streamflow and salt gain are complex and somewhat erratic, careful comparison of annual salt gain with corresponding annual stream discharge exposes another important correlation factor (see Ref 5, Figures 10 and 11). Successive years of highly-fluctuating, inter-annual streams flows (1997-2000 and 2005-2010) appear to induce increased salt uptake.

It is also noteworthy that, with the exception of a couple of upticks in the 2005-2010 and 2017-2018 periods, these data along with those of Figure 14 of Ref 5 and Figure 13 of Ref 6 show both stream flow and salt gain have trended downward during the period, 1997-2018, subsequent to implementation of the PVU brine extraction facility, salt gain dropping from about 75,000 to 25,000 tons per year. On average, corresponding river flows (Figure 11) drop from ~ 600 cfs to less than 100 cfs.

During the low-flow winter period of 2017-18 Figure 15 of Ref 6 clearly reveals a strong anti-correlation between measured diurnal variations in Dolores River streamflow/gauge height and associated Paradox Valley stream conductance (salt concentration). Variations in streamside water-table height due to fluctuations in estuary or stream flows resulting in turn from various processes such as tidal or diurnal snow-melt fluctuations are well known (Ref 9). The subject stream flow variations appear to induce a large increase in salt load as shown by Figure 16 of Ref 6. Although the small daily fluctuations in salt load follow the usual inverse correlations with streamflow, more importantly the average value of salt load increases by a factor of four or more over several months even though the average streamflow is relatively constant. Ref 8 displays variations in streamflow and conductance/salt concentration throughout 2018, 2019, and early 2020. Although the variations are complex, rapid fluctuations in streamflow again appear to induce larger average values of salt concentration than would be expected from associated average streamflow values.

### I-3 Summary of known Paradox Valley hydrology

The results of recent hydrological research reviewed above clearly establish or, where indicated, suggest the following:

i. The existence of a subsurface ‘pool’ of concentrated salty brine infiltrating alluvial soil and/or fractured cap-rock, ~ 100 m or more deep, and of several miles extent along and transverse to the Dolores River. Depending on river-flow conditions upper brine levels reach to or slightly below the river bed.

ii. Higher river streamflows and gauge heights feed the fresh-water aquifer, beneath and/or adjoining the river, which as expected from increased hydrostatic pressure, can depress the upper brine level and completely suppress salt intrusion into the river. Conversely, lower stream flows reduce the fresh-water aquifer, and raise the brine level such that increased salt intrusion occurs.

iii. Extracting large amounts of salty ground-water, via the existing PVU facility, can also reduce the intrusion of brine by 60% or more but has introduced other unacceptable hazards.

iii. Evidence suggests that repeated streamflow fluctuations (pulsing) on both short and longer time scales (day to month to year?) increases salt injection above that by longer-term average flow effects per ii above. Figures 4 and 5 of Ref 6 as well as Figures 5 and 7 of Ref 7 suggest this effect might well be due to flushing pockets of otherwise stagnant ground-water brine from the inhomogeneous soil/rock structures below and/or adjacent to the river.

iv. The scattered but largely disconnected patches of higher-conductivity areas (at 20-30 m or larger depths) in Figure 5, Ref 7, and the vertically-striated strands of such areas separated by strands of lower conductivity shown by its Figure 7, in both West and East Paradox Valley, do not necessarily support the existence of large-scale flow fields such as visualized in the concept models of Ref 2, which proposed deep, subsurface flows draining the valley-wide, precipitation-induced input of fresh water to the underlying salt formation with continuous upwelling below the river. Figures 5 and 7 of Ref 7 do, however, show relatively short stretches (up to 2-3 km extent) of shallow salty ground water, both at higher and low-lying elevations (the latter essentially connected to the river).

v. Figure 5 of Ref 6 also exhibits inhomogeneous, vertically-striated regions of interleaved high-low conductivity, spread along the river and extending to depths of 10 m or more. The following Figure 6 also indicates complex configurations of interleaved fresh and brine regions, extending to depths of 20 m or more. Both show high-concentration brine regions in direct contact with the river under low-flow conditions.

vi. Despite several short-term variations, annual streamflow (river discharge) and salt gain exhibit large overall decreases through the 1997-2018 period.

## II Paradox Hydrology Research and Alternative Methods for Reduction of Dolores River Salt Loads

The following approaches to reduce salt loads have the potential to reduce the huge costs, risks, and environmental damage associated with the action-alternatives proposed in the DEIS. Further hydrological research would, however, be required to evaluate viability and efficacy of various possible alternatives.

## II-1 Hydrological Research to Better Define Subsurface Brine Conditions

Despite major advances in defining the locations, extent, and relative concentrations of subsurface salt-water brine throughout Paradox Valley and, especially, the river-flow conditions associated with induction of salt brine into the river, knowledge of key factors governing the subsurface-brine configurations and flows is still missing. Perhaps the most critical unknowns are the amount of upland, precipitation-driven ground water that feeds the brine pool underlying the river, and whether that is due to relatively shallow salty aquifers or from extensive infiltration to the deep salt formation below. These are key factors determining relative effectiveness of flow-management alternatives described below.

Suggested research methods to address these and related issues are as follows:

- i. Continue data collection at the Bedrock/near Bedrock stations to determine whether the overall declines in annual streamflow and salt load, noted above for the 1997-2018 period, have continued to persist after termination of brine collection/removal through 2019 to the present. Such decreases have the potential to greatly reduce the scale of any required extraction facilities.
- ii. Extend subsurface conductivity mapping as described in Ref 6 to establish variation of conductivities at depth in transects both transverse to and along the river corridor for both low- and high-flow conditions. Such measurements are essential to establish the degree of change since 2017 and to better define brine configurations and concentrations along the river corridor.
- iii. Extend aerial resistivity mapping, described in Ref 7, in both upland and lowland transects to define locations, configurations, and relative concentrations of salty aquifers or pooled brine as they may contribute to salt uptake in the river.
- iv. Install pressure probes to depths of 20-50 meters located on transects transverse and along the river corridor to measure hydrostatic-pressure fields that could serve to define fresh-water and brine flow fields, and/or to ground-truth flow modeling, beneath the river and in the river corridor.

Locations of such measurements should be coordinated with mapping results above to better establish spatial conditions where major brine flows might be expected. The measurements should also be coordinated with streamflow variations. For example, subsurface measurements should be made over periods extending from high- to low-streamflow conditions associated with the recovery from depressed to higher brine levels when/where brine flows may be strongest and, most importantly, indicative of principal sources of brine flow into the river corridor.

Although mapping sub-surface hydrostatic pressures described above would be informative for determining expected brine-flow characteristics, extremely low flow velocities may be better defined using dye markers, see alternative vii. below.

- v. Conduct subsurface-pressure measurements (see vii below) along selected uplands transects in conjunction with mapping results above to quantify possible salty aquifer flows, whether shallow and

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directed downslope toward the river or in more vertical configurations resulting in deep brine infiltration.

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vi. Conduct subsurface-pressure measurements (see vii below) located around existing brine-collection wells, both under active pumping and quiescent conditions to define whether existing wells are optimally located relative to brine flow fields or expected brine-transport paths.

vii. Consider subsurface dye-tracer injection and monitoring as alternative or adjunct to suggested pressure measurements in iv-vi above for brine flow-field definition.

## II-2 Management of Dolores River Flow Characteristics

Sufficient increase in fresh-water depths and hydrostatic pressure at the river bed maintained throughout the Paradox Valley, as induced by increased streamflow and/or gauge height, if sustained without large fluctuations over time has the clear potential to reduce or exclude associated salt gain. Several possibilities to achieve these conditions include:

i. Management of flow releases at the McFee dam to maintain higher streamflow with reduced temporal fluctuations, this subject to the magnitude of upstream flows in the undammed river.

ii. Provide financial incentives to area water users to support reduction of the extensive water diversions from the McFee Reservoir or the lower river.

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iii. Provide a dam, or a series of smaller check dams (weirs), in the Paradox Valley reach of the river to maintain increased and less-variable hydrostatic-pressures levels, thus reducing effects of variations in streamflow. Although this approach would be limited to development in Paradox Valley and avoids destructive development in critical natural areas in the Dolores River Canyon and/or the mesas above, adverse impacts on river values might well be of concern. Mitigation via weir design could accommodate fish bypass and passage of recreational boaters.

## II-3 Management of Paradox Valley Surface and Aquifer Flows

i. Guided by subsurface concentration mapping (II-1 iii above), provide facilities for management of precipitation-induced surface water, including water-transport features to reduce groundwater infiltration and/or production of saline brine in upper valley locations. Collected fresh water might be provided to local users, released directly into the river, or into fresh-water streams.

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ii. As in II-2 ii. above, provide financial incentives to local water users to reduce uses that underlie infiltration into salty aquifers.

## II-4 Optimize Locations and Design of Collection Wells to Minimize Brine Pumping Volume

Although flow-management options above have the potential to greatly reduce the large volumes of extracted brine proposed in the DEIS, continued use of collection/extraction wells and pumps may be required to reduce salt loads to acceptable values. Existing subsurface mapping reported in Refs 6 and 7, along with extended mapping and hydrostatic measurements described in II-1 above, can

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provide data for optimized location and design of collection-well arrays to most effectively extract salty brine, minimizing any unnecessary extracted brine-volume due to fresh-water dilution, or to larger-than-necessary suppression of brine levels below the river bed.

### III Conclusion

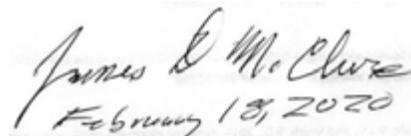
Proposed action alternatives in the DEIS focus on massive engineering proposals for processing, or disposal, of large volumes of salty brine in the range 15-20 million cubic feet per year. Associated program costs range from 100s of millions to possibly billions of dollars, and incur major risks and/or destruction of critical natural areas.

It is evident that Paradox Valley hydrology as related to salt intrusion into the Dolores River is far more complex than earlier studies suggest. It appears that proposed DEIS action-alternatives derive from those earlier simplified concepts that do not consider the complex effects of temporal variations in streamflow nor of the highly inhomogeneous spatial variations of substrate permeability, etc., which result in complex brine and fresh-water aquifer configurations.

Although existing studies reviewed above demonstrate major advances in understanding relevant hydrology, there are still important outstanding uncertainties, resolution of which could support significant new or modified approaches to reducing the salt intrusion to acceptable levels.

Specifically, quantitative knowledge of the partitioning of valley-wide precipitation between brine production and evaporation, fresh-water runoff, and/or fresh-water aquifer recharge could have major impacts on choice, sizing, and design of appropriate facilities. Similarly, a better understanding of local brine flows and configurations both in upslope areas and along the river corridor can provide major benefits in choice and design of brine-reduction facilities..

In view of the foregoing considerations, I urge you to forgo adoption of all DEIS action-alternatives, and to undertake actions to acquire the necessary knowledge to develop improved alternatives.



James S. McClure  
February 18, 2020

### FIGURES

All Figures referenced in this comment can be accessed via the corresponding links in the References listed below.

### REFERENCES

1. Cater, F.W., 1970, Geology of the salt anticline region in southwestern Colorado, with a section on Stratigraphy, by Cater, F.W., and Craig, L.C.: U.S. Geological Survey Professional Paper 637, 80 p.

2. Konikow, L.F., and Bedinger, M.S., 1978, Evaluation of hydrogeologic aspects of proposed salinity control in Paradox Valley, Colorado: U.S. Geological Survey Open-File Report 78–27, 56 p. [Also available at <https://pubs.usgs.gov/of/1978/0027/report.pdf>.]
3. Chafin, D.T., 2003, Effect of the Paradox Valley Unit on the dissolved-solids load of the Dolores River near Bedrock, Colorado, 1988–2001: U.S. Geological Survey Water-Resources Investigations Report 02–4275, 6 p.
4. Watts, K.R. Estimates of Dissolved-Solids Load of the Dolores River in the Paradox Valley, Montrose County, Colorado, 1988 through 2009; Administrative Report, U.S. Department of the Interior, U.S. Geological Survey, Reston, Virginia 2010
5. Mast, M.A., 2017, Estimation of salt loads for the Dolores River in the Paradox Valley, Colorado, 1980–2015: U.S. Geological Survey Scientific Investigations Report 2017–5059, 20 p. [Also available at <https://doi.org/10.3133/sir20175059>.]
6. M. Alisa Mast and Neil Terry Controls on Spatial and Temporal Variations of Brine Discharge to the Dolores River in the Paradox Valley, Colorado, 2016-18; Scientific Investigations Report 2019-5058 <https://doi.org/10.3133/sir20195058>
7. Ball, L.B., Bloss, B.R., Bedrosian, P.A., Grauch, V.J.S., and Smith, B.D., 2015, Airborne electromagnetic and magnetic survey data of the Paradox and San Luis Valleys, Colorado: U.S. Geological Survey Open-File Report 2015–1024, 19 p. <https://pubs.er.usgs.gov/publication/ofr20151024>.
8. USGS Water Data: USGS 09169500 DOLORES RIVER AT BEDROCK, CO; USGS 09171100 DOLORES RIVER NEAR BEDROCK, CO [https://waterdata.usgs.gov/co/nwis/uv/?site\\_no=09169500&PARAMeter\\_cd=00065,00060](https://waterdata.usgs.gov/co/nwis/uv/?site_no=09169500&PARAMeter_cd=00065,00060); [https://waterdata.usgs.gov/co/nwis/uv/?site\\_no=09171100&PARAMeter\\_cd=00065,00060](https://waterdata.usgs.gov/co/nwis/uv/?site_no=09171100&PARAMeter_cd=00065,00060)
9. Loheide S.P., and Lundquist, J.D., 2009, Snowmelt induced diel fluxes through the hyporheic zone: Water Resources Research, v. 45, no 7, April 1, 2019, <https://doi.org/10.1029/2008WR007329>



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February 19, 2020

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Area Manager  
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445 West Gunnison Ave, Suite 221  
Grand Junction, CO 81501

Re: Intrepid Potash-Moab, LLC Comments on the Paradox Valley Unit of the Colorado River Basin Salinity Control Program Draft Environmental Impact Statement and Supporting Documents

Dear Mr. Warner,

Intrepid Potash - Moab, LLC (IPM) is submitting these comments addressing the "Paradox Valley Unit of the Colorado River Basin Salinity Control Program, Draft Environmental Impact Statement" (EIS) (December 2019) and supporting documents. We appreciate this opportunity to provide the U. S. Bureau of Reclamation (BOR) our extensive expertise in the design, permitting and commercial operation of solar ponds. IPM has worked with the Colorado Salinity Control Group for over 15-years and looks forward to developing a partnership with BOR to help reduce salinity in the Colorado River.

IPM has concluded that Alternative C, Solar Ponds, is the best approach for controlling salinity and protecting water resources in an economically sound manner. IPM's review has identified a significant number of shortcomings in the evaluation of Alternative C, which when corrected will greatly reduce the overall cost of Alternative C and will provide a substantial amount of socioeconomic benefit to the regional and national economy. IPM has also recalculated the solar pond size and operational strategies. This analysis has identified that the pilot ponds and concentrator ponds are not needed and that the size of the crystallizer ponds (evaporation ponds) can be reduced by 40 to 50-percent. IPM also believes that the costs for the Alternative B – Deep Disposal Well and Alternative D – Zero Liquid Discharge are underestimated. These shortcomings should be considered before the final EIS is prepared and a Record of Decision (ROD) is issued.

#### **INTREPID POTASH BACKGROUND**

Intrepid Potash, Inc. (Intrepid) is one of the nation's largest operators of solar ponds for the production of a wide range of salt products. Intrepid commercially operates over 14,000-acres

of solar ponds at three locations: 1) IPM in Moab, Utah has 450-acres of solar ponds and 85-acres of salt tailings ponds; 2) Wendover, Utah has 13,000-acres of solar ponds and 450-acres of harvest ponds; and 3) Carlsbad, New Mexico has 550-acres of solar ponds and 1,350-acres of salt tailing ponds. Intrepid's operations include multiple large-scale processing mills, rail and truck loading facilities, landfills, wells for injection, extraction and recovery of brine, pipelines, and on-site laboratories.

In addition to surface solar ponds, Intrepid operates multiple solution mining caverns in various salt formations. In Moab, Utah, IPM has constructed and operates four deep solution mining caverns in the Paradox Formation, covering approximately 1,100-acres (500 acres in the 5<sup>th</sup> ore zone and 600-acres in the 9<sup>th</sup> ore zone). The caverns are permitted under the U.S. Environmental Protection Agency (USEPA) underground injection control (UIC) program which is administered by the State of Utah Division of Water Quality (UDWQ). The facility's UIC permit requires comprehensive mechanical integrity testing (MIT) of the cavern's injection and extraction wells as well as continuous monitoring of injection and extraction rates in each cavern. Intrepid Carlsbad also operates multiple solution mining caverns.

The IPM facility has been in operation since 1964. Originally, salt was mined from underground workings from 1964 to 1970. The solar ponds were constructed in 1970 and became operational in 1971. The facility routinely samples and monitors surface salt tailings ponds, brine recovery wells, and Colorado River parameters. During this time IPM's laboratory has analyzed a vast number of samples which allows a thorough understanding of the salts in the Paradox Formation.

IPM personnel have the design, permitting, operation, maintenance, testing, repair and reporting expertise for successfully conducting these operations in an environmentally sound manner in full compliance with state and federal regulatory requirements. In 2012 IPM completed a multiyear permitting process, including an EIS, for the 450-acres of solar ponds in Carlsbad, New Mexico and is well versed in conducting the types of modeling and evaluations for design, permitting, and operations of these type of facilities.

IPM's Moab facility is located approximately 86.5-miles by road from the proposed PVU solar pond site near Bedrock, Colorado. There is a Class A railroad spur and siding on property owned by IPM adjacent to U.S. Highway 191 approximately 8-miles north of Moab. IPM has recently rebuilt several solar ponds in work permitted by UDWQ. This rail access and pond construction work, along with IPM's extensive experience has allowed us to identify multiple additional cost saving measures for pond construction and operation. IPM also has access to a national salt market and economically viable transportation methods.

IPM was formed by an experienced petroleum engineer and business associate who together formerly owned Intrepid Oil and Gas, Inc. They have an extensive history with all aspects of drilling deep oil, gas, and saltwater disposal (SWD) wells, including geologic exploration, uncertainty analyses, well design, drilling, completion, and operations.

## COMMENTS - PARADOX VALLEY UNIT OF THE COLORADO RIVER BASIN SALINITY CONTROL PROGRAM DRAFT ENVIRONMENTAL IMPACT STATEMENT<sup>1</sup>

### Alternative B - Deep Injection Well

The risk of an unsuccessful well is very high for this alternative. Even though best practices would be used for drilling and completing a deep injection well, it is not uncommon for a borehole to intersect a lower permeability zone than originally thought, which may require that the borehole be sidetracked, converted to a directional borehole, or plugged and abandoned, and a new borehole drilled. Any issue with drilling and completion could easily increase the budget by millions of dollars. There are many risks to drilling deep wells, such as caving formations, poor cement jobs requiring the casing to be perforated and cement squeezed into the borehole-casing annulus, failed well MIT, twisted-off and lost direction drill strings, etc. IPM feels the EIS does not adequately address these risks.

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The costs shown in the EIS Appendix L - Socioeconomic Analysis indicates the entire construction costs as \$16,051,539 for Option B1 or \$25,715,476 for Option B2. If the first borehole failed and a new location was chosen, an additional \$12,000,000 to \$15,000,000 would be required<sup>2</sup>. The new costs could easily greatly exceed the cost of Alternative C - Solar Ponds. In addition, an injection well has a limited life and comes with other negative impacts such as increased seismicity. BOR requires the estimated life be at least 50-years. However, the previous injection well experienced significantly reduced capacity since it began operations in 1996. The solar ponds at IPM have been in operation for approximately 50 years and are expected to operate for at least another 50 years.

The Mississippian Leadville Limestone is the target formation for the replacement injection well(s). Additional 3D seismic work will have to address the "hidden layer" problem of the velocity contrast between the many layers of bedded salts and clastic units. This problem has complicated geologic interpretations of the 3D-seismic program implemented at IPM. The reliance on geophysical data and only a few actual wells does increase the risk of drilling a deep injection well that does not have the desired injection capacity. The 1982 report<sup>3</sup> which

<sup>1</sup> U.S. Department of the Interior, Bureau of Reclamation, Upper Colorado Region, Western Colorado Area Office. "Paradox Valley Unit of the Colorado River Basin Salinity Control Program. Draft Environmental Impact Statement, Volume 1 and 2". December 2019.

<sup>2</sup> Intrepid Potash is currently involved with saltwater disposal wells in the Permian Basin in New Mexico and is aware of current drilling costs. Intrepid has previously completed its own geologic, engineering, and costs analysis for drilling its own saltwater disposal well to support its New Mexico operations, as well as creating solution mining caverns by utilizing deep oil well directional drilling techniques.

<sup>3</sup> Williams Brothers Engineering Company. "Final Report, Deep Well Injection of Brine. Paradox Valley Unit". Prepared for the U.S. Department of Interior, Bureau of Reclamation, Denver Colorado. April 1982.

reviewed the available geophysical data and well logs indicated that a disposal well could inject up to 900-gpm, which was never achieved during actual operation of the PVU disposal well.

In summary, the costs for Alternative B are difficult to estimate because of the high amount of risk due to processing and interpreting 3D seismic data, problems associated with drilling and completing deep wells, and not knowing what the permeability and porosity of the injection zone will really be.

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### **Alternative C – Solar Ponds**

Alternative C is the best alternative for controlling salinity and protecting water resources in an economically sound manner. However, there were several shortcomings in the analysis of this alternative that, when corrected, will greatly reduce the cost of Alternative C and will provide a substantial amount of socioeconomic benefit to the regional and national economy. Those shortcomings include:

- The EIS discussion does not adequately highlight the potential economics of the commodity. The EIS is focused primarily on landfilling rather than removal of salt for sale. IPM's experience is that most or all the salt and bitterns can be sold or constructively used without having to landfill the salt. This would greatly reduce or eliminate the visual impact of a 100-ft tall salt landfill.
- Table 2-7 "Summary of Other Alternatives Considered and Reason for Elimination" provides a flawed conclusion that artificially impacts the selection of Alternative C, Solar Ponds. Private companies such as Intrepid would be interested in collaborating with BOR for the operation and use of all or most of the salt produced. The concern was artificially narrowly focused on the impacts to the Colorado River. IPM sells road salt nationwide from the Moab facility, beyond the Colorado River Basin. Regardless of where the salt is sold, states and municipalities will continue to use salt mined from other sources to supply their needs if the salt from the Paradox Valley Unit is landfilled instead of marketed.
- IPM was not contacted for information, discussion, or assistance during the preparation of the EIS and supporting documents, while numerous companies that are more distant from the site, are less experienced, and lack the expertise to operate solar ponds were used to support this alternative. Since Intrepid is one of the nation's largest operator of solar ponds, with locations in multiple areas including one 86.5 miles from the project, our critical expertise should have been sought to develop, analyze and review a constructive alternative.

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- Alternative C fails to consider constructing the evaporation ponds in a phased approach. Evaporation ponds are often constructed in phases, which reduces initial construction costs and reduces or mitigates other potential impacts such as dust and traffic. As an example of actual pond construction costs<sup>4</sup>, IPM replaced 20.2 acres of ponds in 2019 at an actual cost of \$91,522 per acre. IPM learned from this effort that a protective layer of salt can be created with brine alone and that laying down a layer of solid salt was not necessary. This would have further reduced the actual cost of pond construction to approximately \$81,000 per acre.
- The 30-percent design preparation for the EIS fails because the conceptual design is fundamentally flawed. The EIS assumes 100% of the salt precipitated is landfilled, which minimizes harvesting the commodity, and arbitrarily restricts commodity sales to a single product (road salt) in a limited regional market (Colorado and Utah). IPM sells multiple salt products to many industries (road and deicing salts, animal feed, oil and gas, metals smelting and recycling, water softeners, etc.) across the nation. Currently, IPM's annual sales of salt exceed 100,000-tons nationwide and IPM does not maximize production to meet requests for additional product. Historically, IPM has sold as much as 400,000-tons of salt annually. The positive benefits of the solar pond alternative in the EIS are therefore substantially reduced, which could result in the selection of a less desirable option for the final design and inclusion in the ROD (see page 2-1, EIS December 2019). This must be corrected before the EIS is finalized and the ROD issued.
- IPM believes that salt produced from the PVU project will meet IPM current sales specifications.

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In summary, the cost for this alternative includes the cost of closing the evaporation ponds after 50-years. IPM has been operating its solar ponds since 1971 (49-years) and does not anticipate closure for another 50-years. Since the PVU is addressing naturally occurring salinity impacts of shallow groundwater flowing across a salt anticline, the production of salt impacted groundwater is not going to decrease for the foreseeable future. Thus, a long-term solution such as Alternative C is the best alternative since it is the least expensive option, removes the most salt, and its anticipated operational life far exceeds the 50-year planning duration the BOR is using.

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<sup>4</sup> These are Intrepid's cost to rebuild ponds. The actual cost to construct new ponds will be different.

### **General Pond Construction and Operation**

Based on IPM's actual experience of building, operating, and maintaining solar ponds, the overall cost of Option C - Solar Ponds is significantly overestimated and the proposed operation is inefficient and contains unnecessary steps. Some of IPM's preliminary findings include:

- The proposed 364-acres of ponds (concentration, crystallizer, and bittern) is greatly overestimated and can be reduced by approximately 40 to 50-percent to approximately 230-acres of ponds. A 40-percent reduction in pond size would produce a commensurate reduction in pond construction and operation costs, further supporting Alternative C as the most desirable option.
- The pond operational strategy is incorrect. A preconcentration pond is unnecessary and adds to the processing cost. Brine should be added directly to the solar ponds as Intrepid does at its Moab and Carlsbad operations. The EIS analysis does not account for solubility curve dependence on temperature, which can cause salts to precipitate and fill the concentrator pond with solids.
- The EIS suggests adding water to move brine out of the concentration ponds. This counteracts the goal of maximizing evaporation and decreasing operating costs. Adding water requires additional labor and energy costs, wastes scarce high-quality groundwater resources, introduces a source of error and inefficiency into the process, and increases the volume of brine that must be evaporated.

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### **FEASIBILITY AND COST ANALYSIS FINDINGS AND RECOMMENDATION REPORT, PARADOX VALLEY UNIT BYPRODUCTS DISPOSAL STUDY<sup>5</sup>**

IPM's comments for this document are focused on identifying the deficiencies in the economic analysis in the following areas: 1) the parameters used for calculating the economics of the solar ponds, 2) speculations on product sales markets and production methods 3) solar evaporation pond design, construction and operation. IPM's expertise suggests that different parameter values can legitimately be used, which would decrease the cost of solar pond operation, increase harvest efficiencies, and diversify marketable products. These changes, which can appear minor for a single parameter, can greatly decrease the cost of Alternative C, and support its final selection in the ROD.

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<sup>5</sup> Amec Foster Wheeler Environmental & Infrastructure, Inc. "Final Feasibility and Cost Analysis Findings and Recommendations Report, Paradox Valley Unit Byproducts Disposal Study". Submitted to Wastren Advantage, Inc. Piketon, Ohio. January 2017.

#### **Section 4.2 Potential End Products**

One flaw in the study is the exclusion of the option of selling bagged material. However, IPM owns and operates all the equipment necessary to manufacture, dry, bag, warehouse, distribute, and sell the salt for various product lines. When these options are included, the net cost of Alternative C is significantly reduced.

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#### **Section 5.0 Determination of Product Quantities and Qualities**

A pilot pond series recommended in the EIS is not necessary. IPM's solar ponds, less than 50 miles away, serve as a pilot project. The removal of this step will further reduce construction timeline and overall projected costs of Alternative C. The brines from the PVU project site are relatively simple compared the wide range of brine chemistry Intrepid manages at its other locations in Carlsbad and Wendover. IPM's extensive knowledge of brine chemistry allows us to predict how the system will operate with a high degree of confidence. The Moab plant has extensive laboratory equipment and can manage brine and solids analysis daily with existing equipment and employees. IPM's onsite laboratory includes a camsizer particle size analyzer, XRF chemical analyzer, two liquid ion chromatographs, HPLC organic analyzer, TIC TOC carbon analyzer, XRD crystal lattice analyzer, and Inductively coupled plasma (ICP) chemical analyzer.

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IPM Moab facility manages saltwater-brines from multiple members of the Paradox Formation. This allows IPM to have a good understanding of the salt brine chemistry expected at the PVU project. These sources include the following:

- Salt 2 is the upper most salt member of the Paradox Formation at both the IPM and the PVU project site. Shallow recovery wells at the Moab facility intercept groundwater that has dissolved salt from Salt 2 as the regional groundwater flow moves toward the Colorado River.
- Salt in the original underground mine works in the Salt 5 member covering approximately 500-acres.
- Salt in the Salt 9 member where IPM has 600-acres of solution mining caverns. When Intrepid expanded its solution mining operation with the development of the deeper Salt 9 member, the operation was able to easily integrate these operations without difficulties. Samples have been collected from the surface to the base of Salt 9 during all IPM drilling programs. This data is part of IPM's data set.

## **Section 7.2 De-icing Salts**

IPM is a local producer of salts and could take the salt from the PVU for final processing and national distribution.

## **Section 8.0 End Users**

IPM agrees that the PVU site could reduce the amount of salt imported into the country. Local production, processing, warehousing, marketing, sales, and distribution would reduce the US dependence on foreign mineral production and contribute to the gross domestic product (GDP), rather than the negative aspects of trade imbalance and the impacts from transnational rail and ocean-going cargo shipments. However, the analysis failed to identify Intrepid as a producer of MgCl products (page 8-5). Intrepid's Wendover, Utah facility produces and sells approximately 120,000 to 300,000-tons of a MgCl bittern product each year.

The study (page 8-7) minimizes IPM salt production capabilities and the conclusion (page 8-8) misstates the value of selling the salt as a commodity. As stated, previously, Intrepid currently sells 100,000-tons of salt annually and has historically sold up to 400,000-tons of salt per year from the Moab facility alone. IPM is a fully permitted and established large scale solution mining, harvesting, processing, storage, and loading facility that currently operates at less than 50-percent capacity. IPM facilities were originally designed to process 1.5-million tons per year from a conventional underground operation and processing mill. However, since the conversion to a solution mine and solar pond operation in 1971, the mine has significant idle production capacity that could be efficiently utilized to process the annual salt production from the PVU solar pond in approximately 80-days.

The scale of economies for IPM to operate the PVU solar ponds for processing and selling into the national market all the salt produced would be significant. Moreover, IPM offers a strategic advantage of being supplied with low cost power and natural gas, having a prime location near well-maintained roadways with low traffic volumes, established rail loading facilities, and access to an economical labor force. These competitive advantages allow IPM to sell products at far greater distances than the AFW economic analysis estimated. IPM's actual shipping information for 2019 are summarized below:

- 40,220-tons of salt were trucked from the facility in 1,616 truckloads over 1,208,430 one-way truck miles, averaging 692 miles per truckload.
- 60,212-tons of salt were shipped via rail in 602 rail cars at a distance totaling approximately 632,000-miles, averaging 1,049-miles one way. At the destination rail unloading facility, the salt is transferred from rail car to trucks for additional transportation cost to the final facility.

## **Section 10.0 Transportation of Salt Products**

Transportation costs are a concern when selling salt products. However, rail transportation is very cost efficient. IPM commonly ships salt to Alaska, California, Louisiana, Kansas, North Dakota, Wyoming, Montana, Nebraska, Missouri, Colorado, and New Mexico. Transportation and disposal costs discussed in Section 10.1 (page 10-2) were based on either transporting to local landfills or to Grand Junction. Moab's main plant is approximately 86.5-miles by road from Bedrock, Colorado, which is closer than the 170-miles for the Grand Junction Colorado option, which passes both of IPM's two railroad sidings. Clearly, using Intrepid facilities would decrease transportation costs. Furthermore, IPM successfully economically ships salt across the country. Therefore, many more markets for salt are available than were considered in the study. If bitterns were harvested, Intrepid is one of the nation's largest providers of that commodity and could economically sell the product.

IPM's bulk density of product shipped ranges from 75 to 77-pounds per cubic foot, which is denser than the 70-pounds per cubic foot the economic analysis relied on. Using the correct density of salt will decrease transportation costs.

The economic analysis should use IPM's rail facilities for calculating transportation costs as well. The economic analysis needs to include the wide variety of end users and markets IPM sells to.

## **Section 11.1 Price of Salt Products**

IPM has warehousing and stockpiling capabilities so salt production is not limited by storage concerns as suggested by the economic study on Page 11-1. IPM agrees with the economic studies statement that salt as a commodity is an attractive option for BOR. The BOR mission statement encourages this type of economic utilization as a socioeconomic positive, which adds to the societal value of operating solar ponds.

## **Section 11.12 Liquid Bitterns Salt**

Intrepid currently harvests 120,000 to 300,000 tons per year of bitterns from its Wendover Utah facility. Intrepid sells to Envirotech Services as well as other clients such as mining and oil and gas operations.

## **Section 12.00 Storage of Solid Salt**

The economic analysis is basing salt management on a yearly basis. IPM has large scale storage facilities including an 85-acre salt tailings pond which is used for creating a salt saturated solution for injection into the underground caverns. As the solution mining caverns dissolve more open space, a saturated brine solution is desired to fill the void. IPM has almost completely dissolved the pile of salt tailings that was generated during the original conventional underground mining operations in the 1960's. IPM would use the salt produced by the PVU project which would eliminate the need for landfilling.

### **Section 12.1.2 Naturally Occurring Radioactive Material (NORM) in solid Salt Products**

IPM is successfully mining the same paradox formation and has not had an issue with NORM.

## **Section 12.2 Methods and Issues for Handling**

The economic analysis used a loader with relatively small capacity for harvesting. Large volume scrapers are used at all of Intrepid's facilities for harvesting salt. Intrepid has successfully implemented laser-GPS controlled equipment to control the depth of harvesting. A large loader typically has a capacity of 12 to 17-cubic yards while a scraper can move 25 to 28 cubic yards of material at a much faster land speed than a loader. The correct selection of harvesting and handling equipment would greatly reduce these costs by 40 to 50-percent.

### **Section 12.3.1 Broad Canyon Landfill**

Landfill disposal is not required because the salt products can be successfully transported and sold into the market or injected in the Moab mine.

## **Section 12.4 Independent Salt Storage Facility Associated with Ponds**

IPM has storage facilities. IPM manages salt storage in multiple ways which eliminates the need for either landfilling or independent storage. IPM stores salt in a large warehouse, outside stockpiles, a tailings pond, and within the solar ponds themselves occasionally. Salt added to the tailings pond is dissolved and injected into the solution mining caverns to replace salt dissolved during the solution mining process as the caverns are incrementally enlarged.

Costs associated with design, permitting, operating a solid waste landfill facility at the mine should be removed from the economic analysis since a landfill is not required because all the salt could be utilized.

### **Section 13.0 Recommendations**

The primary issues with the recommendations include the following, which when addressed will greatly reduce the cost of operation and salt utilization discussed for Alternative C:

- Pilot ponds are not required.
- Concentration ponds are not required.
- There are more viable salt products than just road salt. As stated previously in these comments IPM sells salt for animal feed, smelting, and the oil and gas drilling operations.
- IPM sells and ships salt products nationwide from its Moab facility.
- IPM was not contacted during the development of the EIS.
- Periodic removal of the salt for disposal is not realistic. The total volume of salt produced could be sold. All costs associated with landfilling including design, permitting, transportation, and disposal should be eliminated from the economic analysis.

269.07

### **Appendix Comments**

Some parameters used in the model provided in Appendix D, are inaccurate and lead to higher pond construction and operation costs.

- The bulk density for salt is listed in Appendix C is listed as 75-pounds per cubic foot. However, in the Excel™ model, a value of 70 was used. The model should be consistent with the 75-pounds per cubic foot.
- The pond efficiency estimates are grossly inaccurate. We believe higher rates of evaporation will be achieved than those estimated in the EIS model.

269.08

**POND OPERATIONAL STRATEGY REPORT – POND OPTIMIZATION STUDY 2<sup>6</sup>**

IPM has conducted an evaluation of the PVU Pond Optimization Study 2. IPM’s comments are organized by sections of the AFW report. Pond size and input calculations have been an important part of Intrepid’s successful operational strategy. The following discussion provides IPM’s analysis which was primarily focused on evaluating precipitation data and brine chemistry to calculate a realistic pond size.

**Section 2.1 Inputs and Pond Sizes**

**Precipitation.** The EIS report initially states the precipitation amount as 16-inches a year, which is assuming a high precipitation year. IPM has reviewed the US Climate Data for both Bedrock, Colorado and Moab, Utah. According to the data provided in the analysis, the average annual precipitation in Bedrock is 13.33-inches per year. According to the same source Moab has an average annual precipitation of 9.49-inches per year. IPM has an onsite weather station that records precipitation. IPM experiences even less precipitation than what is recorded in Moab. Below is the six-year summary for the three locations:

Year	Bedrock, CO	Moab, UT	IPM
2014	11.44	11.62	7.49
2015	17.85	13.15	11.32
2016	10.71	10.59	6.94
2017	6.31	7.17	6.29
2018	8.59	7.54	7.87
2019	14.13	9.95	6.22
6 yr. Avg.	11.51	10.00	7.69

- According to the data collected by AFW, the rescaling of the long-term median at Yellow Jacket station to an empirical correction, yields a model with Bedrock median cumulative precipitation of 13.2-inches with an inter-annual standard deviation of 2.8-inches for 2014 to 2016.
- A maximum precipitation of 16-inches was used for modeling (Figure D4 in Appendix D)<sup>5</sup>. IPM assumed a maximum precipitation of 17.85-inches and an average precipitation of 13.3-inches to account for the worst-case scenario of higher than anticipated precipitation for its analysis.

<sup>6</sup> Amec Foster Wheeler Environment & Infrastructure, Inc. “Final Pond Design Strategy Report, Pond Optimization Study 2”. Submitted to Wastren Advantage, Inc. Piketon, Ohio. February 2018.

269.09

- IPM's design and operation experience has demonstrated that high precipitation years can be accommodated with deeper ponds, while the AFW evaluation assumes excess precipitation must be accommodated with more surface area.

### **Brine Chemistry Analysis and PHREEQC Analysis.**

There were discrepancies regarding chemical concentrations in the AFW report. In the report, Appendix A<sup>5</sup> listed concentrations in ppm and Appendix D<sup>5</sup> listed concentrations in g/L. Comparing brine densities to historical brine data from our location, it was determined that the reported units in both Appendix A<sup>5</sup> and D<sup>5</sup> are incorrect and should be mg/L. IPM used PHREEQC Version 3, a U.S. Geological Survey computer program for speciation, reaction-path, advective transport, and inverse geochemical calculations to evaluate PVU brine chemistry and compare it to IPM brine chemistry. PHREEQC analysis supports this conclusion. Due to the conflicting data in the AFW report, we suggest the chemistry of the initial brine be determined again.

If our conclusion is correct, we have been able to replicate the simulation indicated in the AFW report for the PHREEQC analysis. Our calculations and analyses can be adjusted with the information from the second analysis

<b>Component Units</b>	<b>Ca mg/L</b>	<b>Mg mg/L</b>	<b>SO4 mg/L</b>	<b>K mg/L</b>	<b>Na mg/L</b>	<b>SG</b>
Bedrock Brine	1,780	1,652	6,378	4,846	95,340	1.1725
Intrepid Salt Brine	1,000	3,900	5,300	5,600	93,300	1.1854
Intrepid Inject Brine	1,700	500	1,400	10,100	92,600	1.1722

### **Acreage Analysis**

**Crystallizer Ponds.** The acreage for the PVU solar ponds was calculated using two different methods. The first method used the data from AFW to evaluate required acreage. The second method utilized historical data from the IPM solar ponds.

For the first analysis, an evapotranspiration rate (ET) of 63 in/yr was used for Bedrock which does match the ET used in the report. The calculations converted the fluid volume from 300-gpm to 5,811 Acre-inches per year (AI/yr). The remaining brine for the bittern's pond was calculated to be roughly 368 AI/yr. This would require 93.7% evaporation in the crystallizer ponds. The inches evaporated per year was calculated by using the ET of 63 and multiplying it by an evaporation factor of 0.4818. There were different factors listed in the AFW report between section 2.1 (pan evaporation factor 0.73, well brine evaporation factor of 0.72,

saturated brine evaporation discount factor 0.76) and Appendix D<sup>5</sup> (concentrator evaporation 0.74, main stage evaporation 0.66, and bittern evaporation 0.55). IPM used a pan evaporation factor of 0.73 and a main stage evaporation factor of 0.66 to conservatively obtain the combined evaporation factor of 0.4818 used IPM’s analysis. The inches evaporated per year was estimated to be 30.4-inches.

Assuming an annual precipitation of 13.3-inches, the needed acreage to evaporate 5,442 AI/yr is between 170 acres and 180 acres.

Acres	AI evaporated/yr	AI precip/yr	Inches Needed	Inches during storage
140	4249	1866	22	38
150	4553	2000	19	35
160	4857	2133	17	32
170	5160	2266	15	29
180	5464	2399	13	26
190	5767	2533	12	24
200	6071	2666	10	22
210	6374	2799	9	20
230	6981	3066	7	17

If we use an annual precipitation of 17.85-inches, the model shows that the 170 to 180-acre range will still be able to hold the required volume at a slightly higher depth.

Acres	AI evaporated/yr	AI precip/yr	Inches Needed	Inches during storage
140	4249	2499	26	43
150	4553	2678	24	39
160	4857	2856	22	36
170	5160	3035	20	33
180	5464	3213	18	31
190	5767	3392	16	29
200	6071	3570	15	27
210	6374	3749	13	25
230	6981	4106	11	22

The second check was to compare the historical evaporation experienced at the IPM ponds to obtain an estimate for the required acreage. At the Moab facility, about 417 million gallons of brine are evaporated each year on average. Assuming the Bedrock crystallizer ponds need to evaporate 93.7% of the brine, the Bedrock location will need an annual evaporation of 147.8 million gallons. The Bedrock evaporation volume is roughly 35.4% of that of IPM. The annual net evaporation at the IPM facility is about 43-inches. per year. The annual net evaporation for Bedrock, CO was 17.1-inches. (30.4-inches of evaporation minus 13.3-inches of precipitation). Based on these data, in order to have an average annual depth of 22 to 30-inches in the crystallizer ponds, this method predicts 188 to 210-acres are needed.

Crystalizer Depth (in)	Evap Acres	
	Moab	Bedrock
-3	383	343
8	300	269
12	280	251
18	250	224
22	235	210
30	210	188
34	200	179

**Bitterns Pond**

IPM also ran an analysis on the required bittern pond area. We took the evaporation factor used above (0.4818) and multiplied it by the bittern evaporation of 0.55 to get a combined evaporation factor of 0.26499 which lead to an annual evaporation of 16.7-inches. We calculated that we need to concentrate up the bitterns by about 8x the original volume (368 acre-inch/yr). The target evaporation was around 322 acre-inch/yr. According to the calculations, we determined about 20-acres are needed which is slightly less than the acreage estimation in the original study (30 to 40-acre).

269.12

Acres	AI evaporated/yr	AI precip/yr	Inches Needed
5	83	89	75
10	167	179	38
15	250	268	26
20	334	357	20
25	417	446	16
30	501	536	13
35	584	625	12
40	668	714	10
45	751	803	9
50	835	893	9

**Surge Pond and Concentrator Pond**

It was determined that 188 to 210-acres with a depth of 33-inches would be sufficient for brine volumes during the storage season (September 15 to February 1), even during a high precipitation year. Consequently, a surge pond and concentrator pond will be unnecessary.

269.13

Based on the acreage analysis, we recommend the crystallizer pond acreages of approximately 190 to 210. Fluctuations in precipitation and evaporation can be accommodated by increasing pond depth. We also ran an analysis on the required bitterns and determined that about 20-acres will be sufficient. Since a concentration pond is determined to not be necessary, the final acreage estimation becomes 210 to 230-acres for evaporation. This is roughly 40-percent smaller than the initial AFW estimation of 364-acres for the concentrator, crystallizers, and bittern pond. Increasing depth slightly and reducing area, will have significant lowering impact on the costing for this project.

### **Section 3.1 Storage**

A concentrator is not required. IPM pumps brine directly to individual evaporation pond. The elimination of a concentrator pond will significantly decrease overall construction and operational cost, which makes Alternative C - Solar Ponds the desired alternative for the ROD.

### **Section 3.4 Summary and Section 4.3 Management of Concentrator**

IPM strongly disagrees with the need for a concentrator pond. IPM's real world experience has shown that a shallow concentrator pond is not necessary. A shallow concentrator will cause premature salt laydown because during cold temperatures brine will reach saturation and salt will precipitate out (cold cracking). A concentrating pond will greatly increase operational and maintenance costs. In addition, the concentrator pond may fill with gypsum ( $\text{CaSO}_4$ ).

The AFW pond design will not have the desired flow rates through the ponds and therefore it cannot be operated efficiently. The theory of transferring the brine to the crystallizer ponds just before salt precipitation is extremely difficult to perform in actual operations. Transferring is likely to require the addition of water to dilute the brine to allow the brine to be pumped, siphoned, or gravity drained to the primary evaporation ponds. The addition of freshwater will require: 1) additional water rights and water consumption and 2) decreases the overall salt production.

The relatively shallow depth of 18 to 24-inches is not supported by data. Actual data and a thorough discussion of these depths was not provided to support their design of the facility. A sloped bottom is not required. Simple berms within the ponds are adequate for directing and managing flow path length.

IPM is more concerned with temperature fluctuations to manage discharge rather than the precipitation of salt at the discharge point. IPM would not characterize this as a standard practice. Controlling discharge is greatly influenced by ambient temperatures and using salt precipitation and specific gravity measurements as the primary indicator for managing

discharge is fundamentally flawed. Fluid flow is typically stratified because of fluid density; therefore, a dilute brine will not efficiently dissolve a salt layer.

#### **Section 4.4 Management of Crystallizers**

Limiting depth to less than 24-inches is not an efficient design. IPM ponds are approximately 10 to 20-inches deep. Recently, when IPM rebuilt several ponds they were constructed to a depth of 40-inches. IPM data indicates that this has improved pond operating efficiency. Research conducted by U.S. Department of the Interior demonstrates that pond depth appears to be only a minor factor and ponds can be efficiently operated at deeper depths.

#### **Section 4.6 Requirements for Fresh Water**

IPM has found that the volume of freshwater required to dilute brine for brine transfer is directly related to flow rate and concentration of the brine being transferred.

#### **Section 5.1 Harvest Timing and Temporary Salt Storage**

A 24-inch salt blanket covering the bottom is not required. IPM uses a 15-inch base of salt for protecting the pond liner. Also, IPM uses a global positioning system (GPS) and laser-based system to control the depths a scraper will cut into the salt during harvest, which further protects the base liner. This greatly improves pond efficiencies. IPM is not familiar with any studies that support a 24-inch minimal base layer.

Storage of salt for the deicing market can also be accomplished by building mounds in the ponds, rather than storage on a pad for drainage.

#### **Section 5.2 Permanent Disposition of Solid Salt**

IPM believes that a large enough market is available for each year's salt production to be sold. However, if the market is temporarily down, the salt can be either left in the ponds (another reason for deeper ponds) or dissolved and used for injection brine into the solution mining caverns at IPM.

**FW: [EXTERNAL] Dolores River**

SOL, BOR-SHA-UC <bor-sha-uc-sol@usbr.gov>

Thu 1/16/2020 7:26 PM

To: McCarter, Molly E <mmccarter@blm.gov>

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From: paradoxeis@usbr.gov On Behalf Of Alex Mickel  
Sent: Thursday, January 16, 2020 7:25:07 PM (UTC-07:00) Mountain Time (US & Canada)  
To: BOR WCAO DL Paradox EIS  
Subject: [EXTERNAL] Dolores River

Hello,

Please Please do not intrude on one of the last unspoiled and special canyons of the Colorado Plateau.

Sincerely,

Alex Mickel  
Mild to Wild Rafting and Jeep Trail Tours, Inc.  
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